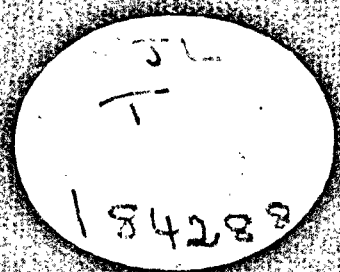
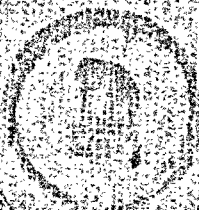


Supplement to the

Mathematics Journal

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SUPPLEMENT

TO THE

MADRAS JOURNAL OF EDUCATION

CONTAINING THE

PAPERS SET AT THE UPPER SECONDARY, HIGHER ARTS,
SCHOOL MANAGEMENT, PLEADERS' TEST, AND
SPECIAL TEST EXAMINATIONS.

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SUPPLEMENT

300

TO THE

JOURNAL OF EDUCATION.

UPPER SECONDARY EXAMINATION, 1890.

BRANCH I—ENGLISH GRAMMAR AND LANGUAGE.

Time—Two hours.

I. Re-write the following sentences changing in each the subordinate clause into a phrase :—

- (a) This appears so absurd that it cannot surely be true.
- (b) When it is proved true, I will believe it.
- (c) Though it appears absurd, it is quite true.
- (d) In order that I may prove it true, I will show the absurdity of the opposite.
- (e) The more you examine its apparent absurdity, the more will you be convinced of its truth.
- (f) It was finally proved true, so that unbelievers were surprised.

Expand into clauses the words in italics :—

- (a) A *walking* stick.
- (b) A *reliable* friend.

II. (1) Analyse the following sentences in the usual tabular form :—

- (a) What did they kill each other for?
- (b) Give me to drink.
- (c) Who are you?

(2) Parse and give the construction of the words in italics :—

- (a) I made him read *on*.
- (b) He was *passing* rich on forty pounds a year.
- (c) *Full* many a rose is born to blush unseen.

III. Make six compound sentences, introducing one of the

following combinations into one of the clauses of each :—make away with—make up for—fall in with—take up with—make up to—put up with.

IV. Re-write each of the following sentences as directed, changing the form but not the meaning :—

(a) Beyond all streams Clitumnus is to the herdsman dear.—(1) using 'dear' in the comparative degree : (2) using 'dear' in the superlative.

(b) His freedom was taken from him.—using instead of 'take' the verb 'deprive'—(1) in the active voice, (2) in the passive.

(c) Is the system good? Extend it. Is it bad? Abolish it.—as a compound sentence with two principal and two subordinate clauses.

(d) Tender-handed stroke a nettle, and it stings you for your pains.—as a complex sentence.

Correct the errors in the following sentences :—

(a) Be kind enough as to do him homage.

(b) I learnt my alphabets at that school.

(c) The family whom I visited has gone to the country.

(d) No sooner I heard those news, I set out for Madras.

(e) Next New Year's day I shall be at school three years.

(f) Scarcely he had uttered the fatal word than he disappeared.

(g) There cannot be among you such a boy who would tell that black is white.

(h) There is no one who can help but think this answer similar with that.

V. Distinguish in meaning between—

(1) Whether—weather—wether—whither.

(2) Pear—pair—pure—pier—peer.

(3) I have something to say and I have to say something.

(4) An English map and a map of England.

The following sentence is ambiguous; give both the meanings of it :—He wants books.

VI. State what in each case the pronoun or pronominal word in italics stands for :—

(1) He said that he was innocent, but *this* he could not prove.

(2) For those that fly may fight again, *which* he can never do that's slain.

(3) Some students, as I have heard, trust more to their memory than their judgment.

(4) I will not obey that tyrant's order; go and tell him so.

(5) Howe'er it be, it seems to me 'tis only noble to be good.

VII. Of the verb *strike* give in the negative-interrogative form the second person singular future indicative active; and give the three persons singular and plural past subjunctive of the verb 'be.'

VII. Write the following in the indirect form of speech, supplying appropriate introductory verbs in the past tense :—

Miser.—"Tell me, my dear, to what cause is it I owe this unexpected visit."

Mouse.—"Fear not, good fellow, for your hoard : I come to lodge, and not to board."

BRANCH I—HANDWRITING.

Time—Half an hour.

I. On Tuesday, April 4th, 1876, and following days, an examination of Candidates will be held in London. At this examination not fewer than 30 Candidates will be selected, if so many shall be found duly qualified. Of these, 20 will be selected for the Presidency of Bengal, [10 for the Upper Provinces and 10 for the Lower Provinces], 7 for that of Madras, and 3 for that of Bombay.—Notice will hereafter be given of the days and place of examination.

II. Any person desirous of competing at this examination must produce to the Civil Service Commissioners, before the 1st of February 1876, evidence showing :—

(a) That he is a natural-born subject of Her Majesty.

(b) That his age on the 1st March 1876 will be above 17 years and under 21 years.

[N.B.—In the case of Natives of India this must be certified by the Government of India or of the Presidency or Province in which the candidate may have resided.]

(c) That he has no disease, constitutional affection, or bodily infirmity, unfitting him, or likely to unfit him for the Civil Service of India.

(d) That he is of good moral character.

III. The examination will take place only in the following branches of knowledge :—

	Marks.
English Composition...	500
History of England—including that of the Laws and Constitution	500

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	Marks.
English Language and Literature	500
Language, Literature, and History of Rome ...	750
" " " " Greece ...	750
" " " " France ...	375
" " " " Germany ...	375
" " " " Italy ...	375
Mathematics (pure and mixed) ...	1,250
Natural Science: that is, (1) Chemistry, including Heat; (2) Electricity and Magnetism; (3) Geo- logy and Mineralogy; (4) Zoology; (5) Botany	1,000
** The total (1,000) marks may be obtained by adequate proficiency in any two or more of the five branches of science included under this head.	
Moral Sciences: that is, Logic, Mental and Moral Philosophy	500
Sanskrit Language and Literature ...	500
Arabic Language and Literature ...	500
Candidates are at liberty to name, before February 1st, 1876, any or all of these branches of knowledge. No subjects are obli- gatory.	

BRANCH I—SPELLING.

Time—Half an hour.

This paper is to be read to the candidates THREE TIMES. During the first reading they are not to write but should remain standing. Then the candidates should be directed to sit down, and the Superintendent will dictate the word or words, as marked, ONCE ONLY, sufficient time being allowed to examinees to write down what is read out. The third reading, more rapid than the first or second, is to give the candidates an opportunity of correcting errors or supplying omissions.

It is not surprising | that the old-fashioned spelling-book | has fallen into disrepute : | but, while ample provision | has of late been made | for the reading-lesson, | the necessity for a thorough course of discipline | in the general difficulties, | no less than in the orthographic anomalies, | of the English language | has not commanded | the attention it deserves. | Reversing the order of importance, | the modern teacher | for the most part | affiliates the spelling | to the reading-lesson : | but, desirable as this expedient | unquestionably is, | all the later experiments | in written examinations | have revealed its inadequacy | as the only means of obviat-

ing | so fatal a shortcoming | as bad spelling. | It is now freely conceded | that a systematic course | of special training | is indispensable for the attainment | of even average proficiency. |

Separate ; beneficial ; repetition ; prevalent ; accommodation ; discipline ; disappointed ; deceitful ; beggarly ; character.

BRANCH I—ENGLISH PARAPHRASE AND COMPOSITION.

Time—One hour and a half.

I. Paraphrase :—

Who would bless
The landscape, if upon his morning walk
He greeted not the feathery nations, perch'd
For love or song, amid the dancing leaves ;
Or wantoning in flight from bough to bough,
From field to field : ah ! who would bless thee, June,
If silent, songless were the groves,—unheard
The lark in heaven ? And he who meets the bee
Rifling the bloom, and listless hears his hum,
Incessant ringing through the glowing day ;
Or loves not the gay butterfly that swims
Before him in the ardent noon, array'd
In crimson, azure, emerald, and gold ;
With more magnificence upon his wing—
His little wing—than ever graced the robe
Gorgeous of royalty—is like the kine
That wander'd the flowers which gem the meads,
Unconscious of their beauty.

II. Write a letter to your father or guardian describing the buildings, the furniture, and the play-ground of any school you have attended, and making suggestions for the improvement of them.

III. Give an account of any feast or festival.

BRANCH I—TRANSLATION (FIRST PAPER).

Time—Three hours.

Translate into your vernacular :

I. Little need be said in reference to the increased efficiency which is given to labour by education. There is scarcely an industrial process which does not require a mental as well as a physical effort. It has until recently been generally assumed that agricultural operations vary so little from year to year, and that the implements with which the land is cultivated are so simple, that education is of little importance either to a farmer or to his labourer. But

gradually the truth is beginning to dawn even upon farmers themselves, that agriculture, as much as any other industry, requires skill and intelligence; that, in order to realise satisfactory profits, costly and complicated implements must be used, and that these cannot with safety or advantage be entrusted to rude and ignorant workmen.

A not less important influence is, however, indirectly exerted by education upon the efficiency of labour and upon the prosperity of industry. Ignorance almost invariably implies premature employment. Millions in this country are unable to read and write; not because there were no schools within their reach when they were young, but because their parents, through either ignorance, poverty, or selfishness, sent them to work at too early an age. Frequent allusion has been made to the deplorable ignorance of our rural labourers; yet it is well known that there are few of them who were not at school when very young. A child, however, who is taken from school when eight or nine years old, rapidly forgets almost the whole of the little he has learnt. Widespread ignorance therefore is a sure indication that a considerable proportion of the population has had inflicted upon it the manifold evils that result from premature employment. Health is sacrificed, physical vigour is diminished, and strength often becomes exhausted at an age when men ought still to be in the prime of life. The mischief which thus results is not confined to the labourers themselves; the whole community suffers a severe pecuniary loss if the industrial efficiency of those by whom wealth is primarily produced is impaired. Many who are thus made prematurely old have to be maintained at the public expense at a time of life when they ought still to be productive labourers. In this way the burden of taxation is seriously increased.

II. (1) He hardly gave himself time to think of fame and the future.

(2) I will give you the scaffolding as well as I can, you must build the house.

(3) One can conceive easily for oneself, what from that moment would begin to happen.

(4) The sages of the East were teaching wisdom beneath the palms; while the Greeks were making the earth fair by their art.

(5) All that he had loved, and all that had loved him, were there; and few eyes were dry when he was laid in the gravel bed.

(6) Look here! I shall never consent to pay without looking into the accounts; look in tomorrow with them.

BRANCH I—ADVANCED COMPOSITION (FIRST PAPER).

(FOR EUROPEANS AND EURASIANS ONLY.)

Time—Three hours.

Write an essay on one of the following subjects:—

The career of Olive;

or

A walk by the sea-shore;

or

An eclipse of the sun or moon.

BRANCH I—TAMIL TRANSLATION (SECOND PAPER).

Time—Three hours.

Translate the following into English:

I. நகரத்திரகனும் நரபாலனும் நடக்கும் வழியில் வீரபாகு மதமயக்கத்தால் தட்டித் தடுமாறிக்கொண்டே எதிர்வந்து நின்று கொடுமனமுடைய நகரத்திரகனை நோக்கி “ஏன் உரத்துக்கூவுகின்றனை? வினாவுவார் இன்றி ஏன் விளித்து வினாவு விளம்புகின்றனை? மிக உயர்ந்து பருத்து மகாபருஷன் போல் நெடுங் கையனாகிய நான் யாவன்? நீ ஏன் தூலால் கட்டி யழுக்கின்றனை? மறையாமல் உன்மை உரை” என குறைய, முனிமானாகிய கிளந்து அரும்பை யிடைவிட்டு, “நீ புலையன்; யானே வேதியன்; உன்னோடு பேசல் எனக்கு இயலாது; ஒன்றும் பேசாமல் வாய்ப்புதைத்துச் செல்; இராஜ கிங்கரர்கள் என்னோடு நீ பேசக்காணில் என்னையும் இழித்து உன்னையும் தண்டிப்பார்கள்; துலையில் விலகச்செல்” என்று மொழிந்தான். அது கேட்டு வீரபாகு நகரத்து நகரத்திரகனை நோக்கி “நீதான் இன்று புதிதாய் இம்மொழிகூறக் கேட்டேன்; என்னிடம் அறியாய்போவும், என்னென்று உன்னிடம்? இந்நகரில் தீயொழுக்கமுடையோரைப் பிடித்துத் தண்டினை செய்கையும் நல்லொழுக்கமுள்ள சான்றோரைக் காக்கையும் மேற்கொண்டு அறமும் மறமும் ஆராய்ந்து அறவோரை அளித்து மற்றவோரை மட்டின்று ஒதுத்து நகரம் காப்பவன் யான் அல்ல சண்டாளன்; ஒன்று புரட்பவன் கேள். அந்தணனுத்ப் பிறந்தானானான் அவ்வந்தணர்க்குரிய அறுதொழிலும் அறம் திறம்பாது ஆற்றுவனானான் அந்தணனும், யுத்தஞ்ஞெய்யுற அரசாளுகை முதலிய ஈரச்செய்கை யுணரின் கூத்திரியனும், புவனம்புகுந்து யானின்கம் இயற்றல் முதலிய வணிகர் வினை புரியின் வைசியனும், மேழிபற்றி மண்ணை யழுத்து பண்படுத்திப் பைங்குழி போற்றல் முதலியவராம் உழுதொழில் முதலிய சூத்திரத்தொழில் இயற்றின் சூத்திரனும், உயிர்க்கொலை முதலிய சண்டாளன் இருத்தியும் செய்தால் சண்டாளனும், ஆவான்; அன்ன வண்ணமே மற்றுமுள்ள குலவரும் அவரவர் சாதிமுறை ஒழுக்கங்கள் கடந்து உயரப்பிரியினும் இழியப்பிரியினும் அவர்களே கரும் சண்டாளர்கள்; புலையனாயினும் தன் குலத்தொழில் புரிந்து ஒழுக்குவனாயின் அவனே உத்தமன்” என்றான்.

II. மகப்பெய்தின் மீளானை வசிப்பதற்கு வெகு செளக்கியமானவிடத்தில் அமைத்திருந்தது. அவ்விடம் நிலவளம், நீர்வளம், சோலைவளம் முதலியவை குறைவற்ற அமைந்தது. அங்கு இளங்காற்று இனிமையாக வீசியது. இதற்குத் தீர்வடந்தம், அவ்வலங்கார மானிகையின் அணைசுவர், கபோதகம், குறதி, திரிணை முதலிய விடங்களில் வளமான சந்து பொந்து பார்த்துத் தூக்கணங்குருவிகள் கூடுகட்டிச் சுகித்திருப்பதேயாம். அப்பமாயினும் காற்று நலமில்லாத இடங்களிலே அத்தேசத்துக் குருவிகள் வசிப்பதில்லை. அந்தச் சிவ் காரமானிகையின் கீழ்த்து, அதன் அமைப்பையும் அழகையும் எண்டு மன மகிழ்ந்த அரசன், சிறித்த முகமும், செந்நிறமொழியும் கடுகிவதும் கக்கும் அகமுமுள்ள மகப்பெய்த் பெருமாட்டி செய்த வாக்குபசிராம், மாயநம்பு, ஒப்பா சாரங்களால் ஆனந்த பரவசனாயினான். அம்மாதாக்கு அடிநாக்கு நஞ்சும் அனினாக்கு அமுதமுமல்லவா.

III. Translate into English the following stanzas :

- (1) கலஞ்சுரக்கு நிதியங் கணக்கிலா
நிலஞ்சுரக்கு நிறைவள நன்மணி
பிலஞ்சுரக்கும் பெருதம் கரியதங்
குலஞ்சுரக்கு மொழுக்கங் குடிக்கெலாம்.
- (2) "வாரிகையின்று கொடுத்திழன் மாற்றத் தன்
னிரியாவர் நருவார் நிதியிற்
"சிரியாயெனை நமிகச் சிறிதின்
யாரியாரஞ்சு லென்பவ றென்றான்.
- (3) தன்னதென்றுரை சாற்று வனவெலா
தின்னிதென்றனை நின்னிடத்தே தந்தே
விண்ணெனென மிடமுறக் கூட்டினுற்
பின்னை யுய்கிலன் பேதைய னுவினே.
- (4) எல்லார்க்கு நன்றும் பணித லவருள்ளுந்
செல்வாக்கே செல்வந் தகைத்தது.
- (5) இன்னு செயிலும் விடம்பால ரல்லாணப்
பொன்னுகப் போற்றிக் கொளல்வேண்டும் - பொன்னொடு
ரல்லிற் சிதைத்ததி நாடோறு நாடித்தம்
இல்லத்தி லாந்ருத் லால்.

IV. Render the following idiomatic sentences into English:

- (a) அவர் சொல்வது விளையாத பேச்சாயிருக்கின்றதே ; அதுகள்ளமா வெள்ளமா, ஏன் இப்படி மனதிற்பச் செப்கிறார்?
- (b) சுவரின்மீ தோரொழுத்திருக்கின்றது; அதை ஒருவனுக்கும் பன்னிப் பன்னி வாசிக்கவும் தெரியாது ; கழியும் கற்றறிமோழையா யிருக்கிறார்கள்.
- (c) அந்தச்சுனியில் பள்ளப்பாணை கல்லொன்றைப்பட அதில் பொன் னிருத்ததாகச் சிலர் நனைத்தார்கள் ; அவர்விண்ணெனெல்லாம் பொய்யே.
- (d) அவன் கவிபாடினால் பட்டிப்போன மாமும் தளிர்க்கும் என்கிறார்களாதலால் நாம் அத்தகையேடுகத்தகும்.
- (e) இந்த ஊர் நெருப்புப்பட்டு வெந்துகொண்டிருக்கையில் திருடர் சிலர் இதுதல்ல சிமீமென்று எண்ணி விடுவாராமல் திருடத் தலைப்பட்டுப் பற்பல பொல்லாங்கு செய்தனர்.
- (f) வழிவிடப்போனதனால் தூக்கம் கெட்டதும், அக்கே மரர்கள் அகசெறினாலும் பட்சைப் பாய்கிறதாலும் சுவர் நீர் சல சலவென்றே குதி

வதினாலும் மனக்களிப்படைந்து, மதுநாள் கிழக்கு வெருக்கிறபொழுதுதான் விட்டுக்குத் திரும்பினோம்.

(g) பண்ணின் குற்றம் ஒத்துக்கொண்டால் பாதிக்குற்றம் பறந்துபோகும்.

(h) தான் படுகிற வருத்தம் பிறருக்குத் தெரியாது.

(i) அள்ளாமற் குறையாது சொல்லாமற் பிறக்காது.

BRANCH I—TELUGU TRANSLATION (SECOND PAPER).

Time—Three hours.

Translate the following into English :—

I. ఇట్టిదరు రాజులును యుద్ధసన్నద్ధులయి యెక్కిసెకరు కడియగా, ఈ యసేనల నాయకులును మనస్సులం గొంతయైన జవలతనెండక చిరకాలముపోరాడిరి. ఆయుధమును వేడుకొజూడ సంతరిక్షమున గుమికూడిన సురసిద్ధసాధ్య విద్యాధరులు మొదలగువారికొకట వీరిలో జయకరాజయముల నిర్ణయంపు నలవకొకుంటే, ఇట్లు జరగెడి యుద్ధమున నుభయస్థిరలలోని భటులును పెక్కుండు స్వర్ణక నివాసములైరి. కడపల మాళవరాజు దండెంతయు రాజహంసుని కైనికల భజనార్చనకుం దాళలేక నుడిసిపోయెను. అప్పుడు మానవంతులలో సగ్రహిణ్యుడైన మానసారుండును బ్రాణములొక దన శత్రువులేతక జిత్రును. జయకాలియును రాజహంసుండును శత్రువు మనలేతక జిత్రులొకదానిని గర్హించి యాయన నవమానమునకు, యతనియందు గరుడించి నిర్బంధమునుండి విడిపించి మునునటవలెనే యతనిరాజ్యము నతని నేలుకొమ్మనెను. ఈ విధమున నా రాజహంస చక్రవర్తి మణియు ననేకరాజ్యములను దన మేలుబడికి లోపలనుకొని యేకవృత్తాధిపతిగా బ్రభుత్వమునెయుచుండెను. ఇట్టి మైవ్వర్యము నొందియుండినను ఆయనకుం దనకొక వంశాంకురములేదనునది మన స్సునక బెద్దకొదవగానుండెను. దానికొక ఆయన నిరంతరము దైవమును ప్రార్థించుచుండెను.

II. థారికి యీ సుత్తమును తెలిసికొని, "ఈ విషయమున మనము ప్రవేశించిన తరువాత నా యభిప్రాయము" అని చెప్పెను. దానిని విని గణదాసుండు "నాకవమానమువచ్చునట్లు చేయుట జేరగానికి భద్రమా!" అని కొంచెము నెచ్చుకొనెను. అంత గొలిఱుండు థారికితో, ఈ సాహసవాయులకు సంబంధ మూరక యెలయాయవలె? పొట్టేల్లవలె పొట్టాననిమ్మి; భవేదుకమాతము," అనగా "దాని కామి, "నీవేమి కలహాద్రియుండొకానున్నావు" అనెను. అప్పుడు రాజుగారు పండిత కొంకింజూచి, "జరగవలసిన కార్యమును నిర్ణయింపుము" అనగా "నామి "లోకములొక గొండ్లకు నమకుం జక్కని పాండిత్యముండినను బాధించుటయందు శక్తి తక్కువగానుండును ; కొందలు దమకంత తెలియునొ యంత నితరులకు బాధించ సమర్థులుగానుండును ; రెంటియందు శక్తిలేనవానినే శక్తి క్రాగ్రాణ్యులని చెప్పవలయును ; వీరువురి విద్యయును దమకుం దెలిసినదే గజుక యింక వీరియొద్ద నాభ్యమునేర్చుకొనువారిని పరీక్షించి వారివ్యూలమున వీరికి శక్తియందుగల నేర్పును తెలిసి

(Faint handwritten notes at the bottom of the page)

(2) இரண்டாவது பாட்டி உள்ள உம்மைகள் எவ்வெப்பொருளில் உரு

III. (a) அடியில் வரும் பாட்டுக்குப் பதவுரை யெழுதுக :—
கோதமன் நன் பன்னிக்கு முன்னையருக் கொடுத்த திவன்
பொதுகின்ற தென்பொலிந்த பொலன்கழற்காற்பொழிகண்டாய்
காதலென்ற ஹயிர்மேலு முக்கரியோன் பாலுண்டால்
நதிவன்றன் வரலாறும் புயவலியு மெனவுரைத்தான்.

- (b) இப்பாட்டு யாரால் எவருக்கு எச்சமையத்திற் சொல்லப்பட்டது?
(c) கோதமன், பன்னி, பொலன் - இவை யெவற்றின் திறிபுகள்?
(d) பொதுஎன்னவாகுபெயர்? காரணஞ்சொல்லுக.

IV. (a) அடியில் வரும் பாட்டுக்குக் கருத்துரை யெழுதுக :—

அடங்கி யகப்பட்ட வைந்தினைக் காத்துத்
தொடங்கிய மூன்றினுள் மாண்மண-பிடம்பொழியச்
செல்லும் வாய்க்கமஞ் சிறுகாலைச் செய்தாரோ
கொல்லிமேற் கோட்டுவைத்தார்.

- (b) இப்பாட்டிற் குறிக்கப்பட்ட ஐந்தும் மூன்றும் எவை?
(c) மாண்டு, கோட்டு, இவற்றிற் கிலக்கணங் கூறுக.
(d) கொல்லி - என்றுலென்ன? அதெங்குளது?

V. அடியில் வரும் பாட்டுகளை வசனக்கிரமமாக எழுதுக :—

(a) இன்சொ லினிதின்றல் காண்பா னெவன்வொலோ
வன்சொல் வழங்கு வது.

(b) மோப்பக் குழையு மணிச்ச முகந்திரிந்து
நோக்குக் குழையும் விருந்து.

(c) கெய்வாசி வையா தலக நடுவாக
நன்றிக்கீட் டங்கியான் ருழவு.

(d) ஈத்துவக்கு மின்ப மறியார்கொ ருமுடைமை
வைத்திழக்கும் வன்கணவர்.

(e) மோப்ப, விருந்து, காண்பான், வழங்குவது, கெடு, நன்றி; இவற்
ற்றிற் கிலக்கணங்கூறுக.

VI. (a) நீதிநெறி விளக்கத்தில் எவ்வாச் சலியாத கற்பதருவாவொன்று
சொல்லியிருக்கிறது?

(b) வள்ளன்மை யில்லாதான் செல்வத்தின் மற்றையோன்
நல்குரவே போலு நனிகல்ல - ஏன்?

(c) அலிசுண்டேல் பொன்மலர் நாற்றமுடைத்தி—எஃதுண்டேல்?

(d) கூலிக்குச் செய்துவிடுவது - எது?

(e) எது குறுநரிக்கு நல்ல நாராயன் கொளலை யொக்கும்?

(f) எது நாய்பெற்ற தெய்வப்பழத்தை யொக்கும்?

(g) இருசலைக்கொள்ளி யென்பார் யுளவர்?

VII. அடியில் வருவனவற்றிற் கு அர்த்த மெழுதுக :—

- (1) அவப்பொழுதினார் தவப்பொழுது; (2) வெந்தாகிய ஆசனம்;
(3) தறுகணன்; (4) இருபொருள் சினவி; (5) சிலேஷோத்தி; (6) அபிநவம்;
(7) ஆனாதற்கு அஞ்சி; (8) அனுரூபம்; (9) பர்ணசாலை; (10) அந்தரவனம்.

VIII. (a) வழக்கியல் எவை? என்னுற் சூத்திரத்தோடெழுதுக.

(b) ஆறாம் வேற்றுமை எயக்குதற்குக் சூத்திரத்தை யெழுதுக.

எழுதி என்னுமெழுத்திற் றெவ்வகை” இச்சூத்திரத்தை முழுமையும்
எர்த்தமெழுதுக.

கேடே. “குறிலிணைவில்லா ணனக்கள் வந்த-நகரத்திரிந்துழி நன்னுங்
சூத்திரத்திற் குதாரணங்குளெழுதுக.

(e) செய்யுள் விகாரங்களெவை? உதாரணங்களோடு தெரிவிக்க.
செய்யுள் விகாரத்திற்கும் மற்ற விகாரத்திற்கும் பேத மென்ன?

(f) வலுக்கும் வியங்கோளுக்கும் இலக்கணபேதமென்ன?

(g) சிலேஷோத்தி, மகோத்தி, சராசரம், சோநேசர், இவை என்ன
சந்தி? விதிக்க.

IX. (a) “ஆங்குக் கண்டேன்,” “இங்குக் கண்டேன்” - இவற்றில்
ஒன்று யிருந்ததற்கு நன்னுற் சூத்திரமெது? இவற்றை யார் எவரைப்பற்றி
எச்சமையத்திற் சொன்னது?

(b) நீதிநெறி, ஆதிமமதி; இவற்றில் நகர மகர வொற்றுக்கள் எதனால்
வந்தன?

(c) செத்தான், செற்றான், சென்றான், கற்றான், நன்றான், இறுதி,
ஏற்றி, ஏற்றான், பற்றி, ஆனால்; இவற்றின் பகுதிகளைத் தெரிவிக்க.

(d) அபேஷை, ஜனனம், ஆசை, பெருமை, நீதி, லக்ஷணம், லக்ஷியம்,
மூலம்; இவற்றிற் செதிர் மொழிகளெவை?

X. (a) மகப்பெத்தின் னதையைச் சுருக்கிப் பத்துவரிகளுக்குச் சுதிகப்படாம
லெழுதுக.

(b) அபர்த்தன், அருமியன், பெர்த்தினுந்து இவர்களு யார்?

XI. அடியில் வரும் வாக்கியங்களைச் சுலபமான விராத்திகளால் எழு
துக :—

(a) கூற்றத்துக்கொப்பாய அக்கூற்றத்தைக் கேட்டு.

(b) நாளொருமேளியும் பொழுதொரு வண்ணமுமாக வளர்ந்தான்.

(c) அப்பொழு திழைக்கத்துணிந்து கொடுஞ் செயலுக்கஞ்சி யக்கினி
கூட்டினே யச்சலானகலினின்று மொதுங்கியதுபோலும். இப்பொல்லாப்
பொருள்களுக்கு செயல் புரிய வஞ்சி யிரக்கமுற்றன. அனைத்தையு மழிக்கின்ற
அழிக்கல்லினும் கடிய விரும்பு, இவைகட்கு முன்னின்று யிரக்க மதிக்கமாகியது.

(d) இந்நாளைய நட்டி நம்பிக்கையு முடையனவாகிக் கணப்பொ
ழுதேன்குறிமையினி யெப்பொழுதுங் குளிர்த்து நோக்கி நம்மைப்பெற்ற
தந்தையிற் பெரியோனாக நாடிய நயனங்களை நீசமத்கொண்டு நாசமுறுத்து
வது நாஸத்தி லொவ்வாதென நன்னுணர்நிதி, அக்கொடுஞ்செயல் செய்வதற்
காகவே யிரமமாக வந்த கருவிதனுயி அச்செயலுக்குத் துணியாமல் சார்தமா
யினவென்தையுஞ் சிந்தையிலொந்தனன்.

BRANCH II—TAMIL HANDWRITING.

Time—Half an hour.

Copy the following in a perfectly legible running hand :—

“மகாநாவோ! உம்முடைய புத்திரன் தேர்மேலேறி விதியிற் போம்
பாழுது, ஒரு பச்சைக்கு அத்தேர்க்காலில் அகப்பட்டிருந்தது. அதன் ருயர
யிழைப்பைத் தீர்த்து ஆராய்ச்சி மூலியைத் தன் கொம்பினால் அடித்தது”

என்று மந்திரிகளுக்குள் ஒருவன் வணங்கிவிட்டு விண்ணப்பஞ்செய்தான். அதுசேட்ட மனுநீதி கண்ட சோழர் பெருந் துயரங்கொண்டு இரங்கி ஏங்கி, “என் செங்கோன் முறைமை நன்று நன்று” என்பார்; “இது யாதுசெய்தாற் றீரும்” என்பார்; கன்றையிழந்த தாய்ப்பசுவின் முகத்தைப்பார்த்துச் சோர் வார். மந்திரிகள் அது கண்டு அச்சோழருடைய பாதங்களை வணங்கி நின்று, “மகாராஜாவே! மனந்தளர்ந்தருளுவது இதற்குப் பரிகாரமாகாது; உம்மு டைய புத்திரனைக்கொண்டு கோவதைக்குத் தருமதூல்களில் விதிக்கப்பட்ட பிராயச்சித்தத்தைச் செய்விப்பதே தருமம்” என்றார்கள். அதற்கு மனுநீதி கண்ட சோழர் “நீங்கள் கூறும் பிராயச்சித்தம் சன்றையிழந்ததும் இப்பசு வினது நோய்க்கு மருந்தாகுமா? நான் எனக்குத்திரி இழக்கின்றேன் என்று கருதி நீங்கள் எல்லோரும் சொல்லிய இவ்வார்த்தைக்கு நான் இசைந்தேனாயின் நடுவு நிலைமைப்படி தவிருதா? உயிர்களுக்குத் தன்னாலும், தன் பரிவாரத்தா லும், பகைவராலும், கள்வராலும், உயிர்களாலும் எய்தற்பாலனவாகிய ஐந்து பயத்தையும் நீக்கி அவைகளைக் காப்பவனன்றோ அரசனெனப்படுவான் - நான் என் புத்திரன் செய்த பாவத்தின் பொருட்டுப் பிராயச்சித்தஞ் செய்தற்கு உடன்பட்டுப் பிறனொருவன் செய்த பாவத்தின் பொருட்டு அவனைக் கொல் வேனாயின், ஆதிகாலத்திருந்த மனுவிருலே செய்யப்பட்ட தருமதூல் விதி இப்பொழுது மனுவென்னும் ஒரு சோழனால்க்கப்பட்டது என்னும் பழமொழி உலகத்திலே நிலைபெறுதா” என்றார்.

BRANCH II—TAMIL SPELLING.

Time—Half an hour.

This paper is to be read to the candidates THREE TIMES. During the first reading, they are not to write but should remain standing. Then the candidates should be directed to sit down, and the Superintendent will dictate the word or words, as marked, ONCE ONLY, sufficient time being allowed to examinees to write down what is read out. The third reading, more rapid than the first or second, is to give the candidates an opportunity of correcting errors or supplying omissions.

Write from dictation in a running hand the following passage:—

அதற் கவன் அம்மா | நீர் என் ஆபத்துக்குதவும் அன்னை யென்று | நும்மிடத்தையே யடைந்த யான் | என் விருத்தாந்தத்தை | நுமக்குரையா மலெங்குச் செல்வேன்; | அதற்குக் கிஞ்சித்து | அவகாசமும் தேக பலமும் | தைரியமும் மனோற்சாரமும் வேண்டும்; | என் நா | நீர்வறண்டு சமூல்கின்றது. | அன்ன முண்டு ஏறக்குறைய | இரண்டு தினமாகின்றமைபுரல் | விழிகள் பஞ்சடைகின்றன. | இருசெவியும் செவிடுறுகின்றன. | வார்த்தையாடச் சிறி தும் சுக்தியின்று, | என்னும் பொருளடங்கச் | சொற்குறியாலும் சைகையா லும் தெரிவித்து | மறுபடியும் திவத்திற் சீய்ந்தனன். | உடனே யான் | இல் லத்திற்க்கி | இச்செய்கையை யுருடனும் பன்னாமல் | இரவு மிகுந்திருந்த | அன்னமும் நீரும் உடையுந் கொணர்ந்து | அவனை உண்ணச்செய்து, இன் சொற்குறி உபசரித்துப் | பழைய உடையைக்களைவித்து | உமது ஆடையை உடுக்கச்செய்தேன். | அங்காலத்தில் அவள் முகாரவிந்தம் | குமுத நண்பனை வென்றது. | யான் செய்து | ன்சத்யேர்பசார மென்னும் | மழைத் தளிகளால் | அவனது சரீரமென்னும் | பூங்கொடி நிமிர்ந்து நின்றது. | “இன்சேரிலிளி தின்றல் | நான்பாணவன் கொல்லோ | வன்சொல் வழங்குவது.” | என்னும்

திருவாக்கின் | பெருள் புலப்பட்டது. | மேலும் | ஆன்ன மொடுங்கினால் அஞ்ச மொடுங்கும் | என்னும் பழமொழியின் கருத்து | அப்போதுதான் எனக்கு வெளியாயிற்று. | உபசாரத்தால் | எவரும் கைவசமாவானால் சத்தியம். | இவ்வுபசாரமே | யாவெடுத்த தேசத்தைக் | கடைத்தேறச்செய் தது. | இனி இவன் சரித்திரங் கேட்டலேயன்றி | வேறொரு தொழிலும் | இயற்றவாசாதேன எண்ணி, | அவனது உண்ட இளைப்பு | ஒருவாது ஒழிந்த பின்னர் | உசாவுவானமைகையில் | உணாக்கலுந்தனன்.

BRANCH II—TAMIL COMPOSITION.

Time—One hour and a half.

Particular attention should be paid to spelling, accuracy, and appropriateness of expression, as proficiency in Tamil composition and knowledge of idiom will be tested by this exercise.

I. Write a letter to your teacher on the “benefit of a sound education to the labouring classes.”

[ஹைதொழில் செய்து ஜீவனம் பண்ணுகிறவர்களுக்குக் கல்விப்பயிற்சி என்றுச் செய்விப்பதால் உண்டாகும் பயனைப்பற்றி, உம்முடைய உபாத்தியாயருக்கு எழுதுவதுபோல் ஒரு கடிதம் எழுதுக.]

II. Describe the celebration of the Royal Jubilee in your town or district in 1887.

[சென்ற 1887 ன்ருல் உமது நகரத்தில் அல்லது ஜில்லாவில் நடந்த மகாராணியாரது அரசாட்சியின் 50-ம் ன்ருத்து (ஜubilée) மகோற்சவத்தின் சிறப்புக்களைப்பற்றி எழுதுக.]

BRANCH II—TELUGU GRAMMAR AND TEXT-BOOK.

Time—Three hours.

I. పనుకటిలక్షణములకు లక్ష్యములను వ్రాయుము:—

- (a) కుష్టకము పరమగునపుడు ఈ కారమునకు గాగముంబగు.
- (b) పశ్యములు పరమగునపుడు మువ్వమునకు లోపపుర్ణముపులు విభాషనగు.
- (c) సంభాషమునకు బహిష్కరణమునకు ఆరగాగముంబగు.
- (d) బహువచనాంత కర్తృవచనమునకు క్రియాపదమును పికవచనాంతముగా నుండును.
- (e) కాలాభ్యుక్తులకు వ్రాయకంబగు ప్రథమమును.

II. ఈ క్రింద జంట్లగానప్పు వానికిగల యర్థవేదమును వ్యాకరణ సంకేతనామములను తెలుపుము:—

సహాయము & సహాయము; గరుడశయనండు - గరుడశయనండు;
వాడు వివాహమయ్యెను - వానికి వివాహమయ్యెను; మహాద్వైరము - మహా

ద్వైరము;

క్రయము - క్రయము; సంఘటిం చెను - సంఘటిల్లెను;

కొంతసేపటికి - కొంతకాలమునకు.

III. (a) తేలు - పాలు - వాలు - పేలు తొలు - ఖోలు:—ఇవి నామములైన
నర్థమేమి? క్రియలైన నర్థమేమి? ఇంగ్లీషు పర్యాయ పదములతో
ప్రాయము.

(b) కరము, పరము, వృక్షభము, ఆలు:—ఇవి పదములైనచో నర్థమేమి?
ప్రత్యయములైన నర్థమేమి? ఉదాహరణములతో తెలుపుము.

(c) విద్వాంసుండు - మాతులుండు - దేశర - మూలండు:—వీని స్త్రీవాచకము
లను, కూర్చు - విలుచు:—వీనికి కృదంతములను వ్రాయుము.

(d) అసేయము & అస - కరము:—ఇవి సంస్కృతపదములైన అర్థమేమి?
అచ్చికములైన నర్థమేమి?

IV. (a) ఈ క్రింది ఛాంద్యములలో క్రింద గీతలుగలవానికి ప్రతిగాఢ మెక్కొక్క
చూట కూర్చుచు ఛాంద్యము చెడకుండ వాని త్రిప్పి వ్రాయుము:—

(1) నీకీర్తి భూమికిని ఆకాశమునకును నడుమనుండు ప్రదేశములందంతట
నిండియున్నది,

(2) నీ ప్రవర్తనమునకు పురమునందున్న మనుష్యులెల్ల సంతసించిరి.

(3) వాని ఇంద్రజాలవిద్య చూడవచ్చిన జనులకు నెల్లవేడుక పుట్టిం
చెను.

(4) ఈ నీతులు వినుటకు ఇచ్చి యింపఁగనని.

(5) ఎల్లవారికిని నీ స్త్రీహము అపేక్షించుటకు అర్హమా.

(b) శయము—దీనికి అర్థమువ్రాసి దీనితో త్రి, ఆ, స, అను ఉప
సర్గలును;

* కరము—దీనికి అర్థముదెలిపి దీనితో ప్ర, ని, ఆ, పరి, అనునవియు;
శ్వాసము—దీనికి అర్థముదెలిపి ఆ, ఉ, వి, ని, అనునవియు;
చేరునప్పటి యర్థము సయితము వరుసగా వ్రాయుము.

(c) ఆనతి, ఏకతత్వము, దాస, సైయ్యము, మెకము, చిత్తరువు, దీవియ,
చౌయ, కయ్యము, కబ్బురము:—వీనికి తత్వమరూపము లేవి? మాతృర్యము, భీక
రము, రక్షా రత్నము, బృహద్రము, అక్షయీగ్గు:—వీనికి తత్వము లేవి?

- V. (a) i. “మిమ్ముఁజూడ క్షత్రియులని తోచుచున్నది.”
ii. “త్రౌపదిని చూడవలయును.”
iii. “కర్ణుండు చూడ నారసిపుత్రుని శిరము సరితెను.”
iv. “కౌతమునిఁజూడఁబోయి.”

పై వాక్యములయందు “చూడు” అనుపదమునకుగల అర్థభేదమును స్పష్టముగ
దెలియనట్లు ఇంగ్లీషున భాషాంతరిక్రమమునీ కనుపఱపుము.

(b) కౌరవము, ఉపవసము, పిర్రాసము, కారణము, వాతూలము, ఆనతి,
నియతి:—వీనికి అర్థములను, వీని మొదటియక్షరమును విడిచిన ఏ ధర్మము పదముల
కర్ణములను వ్రాయుము.

(c) పురుషసంహారు - స్త్రీరత్నము, రాజేశ్వరుడు - వేల్పులతల కట్టు:—
ఇట్టి పదములు మఱికొన్నివ్రాయుము. ఇట్టివి లోకవ్యవహారమున ఏ గుణగుణము
లను తెలుపుటకై వాడుకొనబడుచున్నవి?

VI. (a) పద్యరూపమున ఛాందరమాణము లెన్నియున్నవి? వానికిగల భేద
మేమి? తిక్కన అను పేరుగల అన్నదమ్ములు ఎందరు? వాకు ఏ రోజుసంస్థానమున
సందిరి? వారి పిరుకు పేర్లు తిప్పి? మీరు చదివిన రామాయణమున్న రచించినవా
డెవ్వడు?

(b) ఇంద్రజిత్తు అను పిరుదాంకమును పొందినవాని మొదటిపేరేమి? వాడు
దైవతిరస్కారము చేయనివాడని ఏ పద్యమువలన స్ఫురించుచున్నది? వాడు బ్రహ్మ
వలన పొందిన వరమేమి?

(c) మీరు చదివిన హరిశ్చంద్ర చరిత్రమునకు ఉపాఖ్యానము అనుపేరు
రాసే? హరిశ్చంద్రునిపై విశ్వామిత్రునకు పక్ష్యంబుగట్టుకుం గారణమేమి?

(d) వేటిసంహారము - మాళవికాగ్నిమిత్రము-అను నామములకు అర్థమేమి?
ఇవి యేభూర్వగ్రంథములనుబట్టి వ్రాయఁబడియె?

VII. i. కోపంబారినఁజంకవాపిధరసిం గూర్చుండఁగాఁజెట్టిని
పాపొల్లొసకటాక్షమల్లమెలయం ప్రాథస్థితజ్యోత్స్వల
జ్ఞాపూర్వతత్త్వభూజ్ఞముల సాంద్రంబుగాఁజూపిని
ర్యాపూరామరసుందరీప్రకర గర్భస్రావణరావణుఁ.

ii. “వీరిఁగిరంబుహంగికడ్డు సేకష్ణమిట్టగు చక్షువోనతం
దెలుగఁకయండ్లకట్టుకొనియే పడఁగించెదనంచుమృత్రులం
దఱకుఁజూయంగఁజెప్పకొని దానవుండున్నకుండై చనంగన
త్తేటినరుణాశ్రమస్థిమయ భారలతోగ్ధివిత్థించెముంచఱుఁ.”

iii. ఘనబాణాసనమెక్కువెట్టివటు ధోర్వర్యంబుభర్వరముగా
వసధిద్వానముకంటెమించుగూని స్నానంబీగాయించియు
బుద్ధససేగ్ధన్యనభీకరాశుగల తుల్కుంభాన్యపుంభంబుగా
వసజాతాక్షకులగ్రహణ్యండు మృగప్రాతంబులం గూలఁగె.

(a) మొదటిపద్యమునకు ప్రతిపదార్థమును, రెండవదానికి పూర్వముగ తాత్పర్యమును, చూడవచ్చునది దండనయమును వ్రాయుము.

(b) మొదటిపద్యమున అలంకారమెట్టిది? ఆ పద్యమునందు అన్వయము ముగిసి యున్నదా? లేదేని, దాని పూర్ణాన్వయముగల క్రియను కనపఱపుము.

(c) పాపిష్టి - పాపాపరామర - ఉన్మద - దోర్లర్లము :—ఈ సంధులను విడదీసి ఆయాశబ్దములను చెప్పుము.

(d) రెండవపద్యమున “మత్రలందఱికు” అను దానిలో మొదటిపదమునకు ప్రథమరాశిల?

(e) కడు + ఏక :—ఇది ఇచ్చట కట్టేక అని యుండవచ్చునా? ఏల - సూత్రసహితముగా వ్రాయుము.

(f) కావించు - అగుచున్నచో - నీనికి ప్రకృతి ప్రత్యయ విచారముచేయుము.

(g) అత్తఱి - భీకరాశుగము - క్షితజ్యోతిష్ - ముఖజ్జము - గర్భస్రావణం? పుంభానుపుంభము - ఆరుణాభ్రము - లతాంగి - శుభాశుభములు :—ఈ సమాసములకు విగ్రహము వ్రాయుము.

VIII. (a) దుష్టాచారతాపము - నర్తకోద్విగతతీ గర్జనావేదము-ఉద్భిత్ విక్రమశుభ్రణ - అజ్ఞాతవాసము - స్త్రీగర్భజనము - కృతార్థభూత చేరస్మృతులు - జనకజగారంభము :—వీనిని ప్రతిపదార్థము వ్రాయుము; కదపటిపదాంత విచారముచేవ్వక మగు అర్థమేమి?

(b) “కన్యకాదేవి దుర్యోధనుడేమి” :—ఇందలి ఏమి శబ్దముయొక్క సారస్యమును చెలుపుము.

(c) వంశము - ఆరి - కోటి - లోకము :—వీనికి సాగ్రసాములు చెలిపి, యేదైన రెంటిని ఉదాహరణములుగా ఒక్కొక్క చోక్కములలో వ్రాయించి చూపుము.

(d) ఆసుగ్రహము ఆనుమానము - ఆరోహణము - సుకరము - పతి - సుకృతము :—వీని విరుద్ధార్థకపదములను వ్రాయుము.

(e) అంగీరస్సు - పూజ్యము - ఓడించు - మిత్రుడు :—వీని రూపాంతరము లెవ్వి?

IX. (1) తారక కాత్తికేయలగ్నిభంబున నాబల నిర్జ్వరేశ్వరా కారతనమ్మురా మృతుల కైవడికి.

(2) తమతమ దుష్కృతంబు సుకృతంబును నాకద్యుక్త శుభంబునైతముం దలమైనది బాండునది దప్పనే.

(a) మొదటి వాక్యము ఏ స్తందర్భమున నెన్నరికి ఉపమానముగా చెప్పబడియె? రెండవది చెప్పినది యెవడు? అతడెట్లు చెప్పవలె?

(b) విభజించుచు ల్లిచ్చువునికి పోవునప్పుడు క్రోధములు ఉపదేశించిన నీలిమార్గము లేవి?

(c) ఇంద్రునకుడు - సూర్యసూనుడు - వాయుపుత్రుడు - గౌతముడు :—ఈ పదములతోడ బరగువారు వేదీసంహారమున నెవ్వరు - ఉత్తరశ్రీమా యణమున నెవ్వరు?

X. వెనుకటిస్థంవాదమును ప్రశ్నోత్తరములు లేకుండ, అనావశ్యకపదములు వదలి కావలసిన మాటలుచేర్చి కొని భూతకాల ప్రథమపురుష క్రియలను వ్రాయించి కథా శైలిని ఏకవాక్యముగ సవరించి వ్రాయుము :—

రాజు - ఈ వివాదము పండితకౌకియే తీర్చవలెను. దేవి గారి యభిప్రాయమెట్టిది?

రాజి - ఈ విషయమున మనము ప్రవేశింపకగదని నా యభిప్రాయము.

గణదాసుడు - తల్లి నాకమహిష్మము తోడుదు. నాశక్తిని రాజుగారిని చిత్తగింప నను గ్రహించుడు.

రాజి - మీరు రాజుగారిని మెప్పించ నీదే సమయము కాదు. ఇప్పటికీ నీ మాను కొందు.

గౌతముడు - ఔసయ్యా - వీవు గెలువలేవు - ఊరక అపమానమేల పడుచువు - లభ్యులైనచు హాయిగా పరుండుము.

రాజి - అయ్యయ్యా! ఇంతటి వెట్టి యాచార్యునికి రోషము సాచ్చించుచున్నాడుగదా! భద్రము గుమి.

గౌతముడు - తల్లీ! నీవమును చెప్పితిని - క్షమించుచుడు.

BRANCH II—TELUGU HANDWRITING.

Time—Half an hour.

Copy the following in a perfectly legible running hand :—

ఇట్లుండ మాచ్యుం దిట్టిట వనించుటంబట్టి యిట్టి దొంగులు పొంగుచున్నవని కొన్ని నిదర్శనంబులుగూపి, కానాతికుడు చంద్రగుప్తుని నగరంబు వెల్లవరించి పది యామడ దప్పుగ వర్ణమానంబును సుక గ్రామంబున నేతని స్వాతంత్ర్య నీధికై నిలిపె. మఱియుం బందగుప్త పక్షపాలయగు శబరపతి యరుమతంప పుడమిపేలు పడచిత్ర ప్రేలిమికం దొడరుచున్న పాండని కొన్ని సూచనలగ్నిచ్చిన భూపాలురు కోపావేశం బగ్గ లింప నాపులింప జీవనంబెల్ల హరించుటంబొచ్చి చంద్రగుప్తుడు గుప్తముగ బైత్తుకవి త్తంబు గొంత యుతనికి జీవనంబుగా సుసంగి గారవించె. దానంజేసి బల్లికుండ్లయిన శబరపల్లభుడు మాచ్యుని వశవర్తియయ్యె. అట్టిటి బిత్తసఖులు మఱి కొందలు దగు సజ్జనంబులతో నతని చెల్లికారంబునీడెనీరి. పాండీండుశర్మను వీడ్కొనిన పిదపఁ బుష్పపురికి సుత్రధాగమున శతయోజనదూరమునందుండు వక్త్రవంశుడను స్థావ్య రాజు తోడ జెలిమింజేసి నిజబుద్ధి బలంబున వానికి విశ్వాసంబుగొల్పి కర్తవ్యంబెల్లు పాత్రుచ్చె. మిత్రుడాయెను నంద నరపతి కృతావమతిం చూడమిని రోషబుద్ధి వెల్లునం దన్నుండ రాజ్యంబెల్ల మార్చున కొంగుగదనని ప్రతిస వలికితి.

BRANCH II—TELUGU SPELLING.

Time—Half an hour.

This paper is to be read to the candidates THREE TIMES. During the first reading, they are not to write but should remain standing. Then the candidates should be directed to sit down, and the Superintendent will dictate the word or words, as marked, ONCE ONLY; sufficient time being allowed to examinees to write down what is read out. The third reading, more rapid than the first or second, is to give the candidates an opportunity of correcting errors or supplying omissions.

ఇంతలో యుద్ధభూమియందు | భీముడు దుశ్శాసనుని పట్టుకొని | పూర్వ
మతండు చేసిన | తప్పల నుగ్గడించుచు | అతని వారికందఱుకు | హెచ్చరిక చేయు
చుండు | సందడి వినవచ్చెను. | దానిమీద | అశ్వత్థామకన్యనితో | ప్రజ్ఞలు నడికి
లివే, | నీ భుజులము నిప్పుడుచూపుము, | అని పరిహాసముగాచెప్పి | అతడు
చూపనేచూపుదునని | యుద్ధభూమికి పోగా | యర్యోధనునితో | భీష్మద్రోణులు
పడిపోయిరిగదా | భీమాన్యులు చెలరేగి | మన నేనను | చీకాకు పలుచుచుం
దురు; | ఇటువంటిసమయమున | కర్ణుడే సేతమ్ముని | రక్షింపఁజూడని | నమ్మియుం
డకుము. | అని చెప్పెను. | అంత యర్యోధనుఁడును | అర్థాంగకారముగా | సార
భని రస రథమును | ధ్రువుద్ధామి దగ్గఱకు | తోలుమని చెప్పెను, | అన్యట నెక
సందడి వినఁగా | అశ్వత్థామ ఆప్రక్క నిక్కి-చూచి | అన్యుఁడు దానివ
ర్తము | కురియించుటను తెలిసికొని | కృపాచార్యునితో | తాను కర్ణునిమీద |
కోపముచేల్చిచేసిన ప్రతిజ్ఞ వలన | మంచి సమయమందు | యర్యోధనునకు ఉపయోగపడ
కపోయిని | అనిచెప్పి నింటించెను. | అశ్వత్థామ | ఈ వ్యర్థపుమాటలేయనెను.

BRANCH II—TELUGU COMPOSITION.

Time—One hour and a half.

1. Write a letter to your master on the benefit of educating the labouring classes.

పనిచేయువారికి విద్య నేర్పఱుపఱునది గలుగునీ ప్రయోజనములను గుఱించి మీ యుపా
ధ్యాయకు కొకజాబు వ్రాయుము.

II. Write a description of the celebration, in your town or district, of the Jubilee of the accession of the Empress Victoria.

విక్టోరియా రాజిగారు స్థాపనసమయమున దేరించిన వ్యవస్థాపనము మీ పట్ట
ణమందైనను మీ జిల్లామండలమున కొనియెడిది నవి ఘటమును వివరించి వ్రాయుము

BRANCH II—LATIN GRAMMAR AND TEXT-BOOKS.

Time—Three hours.

- I: (a) Define the words 'stem,' 'character' and 'root,' and give an example of each.
(b) Decline in the singular the Latin for a cough, a shower, a knee, change, a spar.
(c) (1) What is the peculiarity about the comparative of *malus*?
(2) What the superlative of *senex*; *dubius*; *magnificus*; *scelus*; *ipse*.
(3) Give two examples of adjectives of position which spring from prepositions; give the prepositions and compare the adjectives.
(4) Distinguish between the meaning of *iste*, *ille* and *ipse*; *quidam*, *aliquis* and *quisque*.

II. (a) Give an example of the perfect tense being formed (1) by adding *ui* to the stem; (2) by adding *si* to the stem; (3) by prefixing a reduplication.

(b) Give an example (in a short sentence) of (1) the perfect infinitive; (2) the plural perfect infinitive, (3) the future infinitive active.

(c) Write down (1) an inceptive verb formed from another verb, (2) formed from a noun; (3) the perfect tense of *gaudeo*, *fido*, and *soleo*.

(d) Give all the parts in use of the verbs *fari* and *memini*.

(e) Give an example of (1) an impersonal verb of the first conj.; (2) an impersonal verb denoting a change of the season or weather; (3) an intransitive verb used impersonally in the passive voice, and (4) the neuter gerundive used impersonally to express necessity.

III. Translate the following rules of syntax, and write down under each a Latin sentence illustrative of it:—

- (1) Verba quaedam rogandi finis admittunt accusativos, alterum rei, alterum personae.
(2) Dativus habetis adjungi potest cum notione quaedam commodi vel incommodi.
(3) Genitivus adjungitur verbis et adjectivis, quibus significatur damnatio, oblivio, &c.
(4) Supinum in *u* pro ablativo respectus est.
(5) Ablativus regunt *fungor*, &c.; adjectiva *præditus*, &c.; substantiva *opus*, &c.

IV. Translate—

(a) Quo tantum mihi dexter abis? huc dirige gressum;
 Litus ama, et lævas stringat sine palmula cautes;
 Altum alii teneant! dixit; sed cæca Menoetes
 Saxa timens proram pelagi detorquet ad undas.
 'Quo diversus abis?' iterum, 'pete saxa, Menoete!
 Cum clamore Gyas revocabat; et ecce Cloanthum
 Respexit instantem tergo, et propiora tenentem.
 Ille inter navemque Gyæ scopulosque sonantis
 Radit iter lævum interior, subitoque priorem
 Præterit et metis tenet æquora tuta relictis.

(b) 'Vestra,' inquit, 'munera vobis
 Certa manent, pueri, et palmam movet ordine nemo;
 Me liceat casus miserari insontis amici.'
 Sic fatus tergum Gætuli immane leonis
 Dat Salio, villis onerosum et unguibus aureis.
 Hic Nisus, 'si tanta,' inquit, 'sunt præmia victis
 Et te lapsorum miseret, quæ munera Niso
 Signa dabis? primam merui, qui laude coronam
 Ni me, quæ Salium, fortuna iniqua tulisset.'
 Et simul his dictis faciem ostentabat et udo
 Turpia membra fimo.

(c) Consiliis pare, quæ nunc pulcherrima Nautes
 Dat sanior; lectos juvenes, fortissima corda
 Defer in Italiam; gens dura atque aspera cultu
 Debellanda tibi Latio est. Ditis tamen ante
 Infernas accede domos et Aversa per alta
 Congressus pete, nate, meos.

(d) O nimium cælo et pelago confise sereno,
 Nudus in ignota, Palinure, jacebis arena.

(e) Accedebat, quod suos ab se liberos abstractos obsidum
 nomine dolebant, et Romanos non solum itinerum causa, sed etiam
 perpetuæ possessionis cùmina Alpium occupare conari et ea loca
 finitimæ provinciæ adjungere sibi persuasum habebant. His
 nuntiis acceptis Galba, cum neque ævus hibernorum munitionesque
 plene essent perfectæ, neque de frumento reliquoque commætu
 satis esset provisum, quod deditione facta obsidibusque acceptis
 nihil de bello timendum existimaverat, consilio celeriter convocato
 sententias exquirere cepit.

(f) Disiectis, ut diximus, antennis cum singulas binæ ac ternæ
 naves circumsteterant, milites summa vi transcendere in hostium
 naves contendebant. Quod postquam barbari fieri animadvertunt,
 expugnatis compluribus navibus, cum ei rei nullum reperiretur
 auxilium, fuga salutem petere contenderunt. Ac jam conversis in
 eam partem navibus, quo ventus ferebat, tanta subito malaciâ ac
 tranquillitas exstitit, ut se ex loco commovere non possent.

(g) His rebus adducti non prius Viridevicem reliquosque
 duces ex concilio dimittunt, quam ab his sit concessum, arma uti
 capiant et ad castra contendant. Qua re concessa laeti ut explorata
 victoria, sarmentis virgultisque collectis, quibus fossas Romanorum
 compleant, ad castra pergunt. Locus erat castrorum editus et
 paulatim ab imo adhevus circiter passus mille.

(h) Prima luce productis omnibus copiis duplici acie instituta,
 auxiliis in mediam aciem coniectis, quid hostes consilii caperent
 expectabat. Illi, etsi propter multitudinem et veterem belli gloriam
 paucitatemque nostrorum se tuto dimicaturus existimabant, tamen
 tutius esse arbitrabantur obsessis viis commætu intercluso sino
 nullo vulnere victoria potiri et, si propter inopiam rei frumentariæ
 Romani sese recipere cœpissent, impeditos in agmine et sub sarcinis
 inferiore animo adoriri cogitabant.

BRANCH II—LATIN TRANSLATION.

Time—One hour and a half.

I. Translate:

Sub vesperum Cæsar portas claudi militeque ex oppido exire
 jussit, ne quam noctu oppidani ab militibus injuriam acciperent.
 Illi ante inito, ut intellectum est, consilio, quod deditione facta
 nostros præsidia deducturos aut denique indiligentius servaturos
 crediderant, partim cum his, quæ retinuerant et celaverant, armis,
 partim scutis ex cortice factis aut viminibus intextis, quæ subito,
 ut temporis exiguitas postulabat, pellibus induxerant, tertia vigilia,
 qua minime arduus ad nostras munitiones ascensus villebatur,
 omnibus copiis repentino ex oppido eruptionem fecerunt. Celeriter,
 ut ante Cæsar imperarat, ignibus significatione facta ex proximis
 castellis eo concursus est, pugnatumque ab hostibus ita acriter est,
 ut a viris fortibus in extrema spe salutis iniquo loco contra eos, qui
 ex vallo turribusque tela jacerent, pugnari debuit, cum in una
 virtute omnis spes salutis consisteret. Occisus ad hominum milibus
 quattuor reliqui in oppidum rejecti sunt. Postridiæ ejus diæ refractis
 portis, cum jam defenderet nemo atque intromissis militibus nostris
 sectionem ejus oppidi universam Cæsar vendidit.—Cæsar, II. 33.

II. Translate into Latin:

(1) The Helvetii, on hearing that Cæsar had suddenly arrived
 at Geneva, asked him to allow them to pass through the Roman
 province, promising to do no injury. Cæsar, who as yet had only
 a small army, said that he would soon be able to reply. After a
 few days Cæsar, having collected a great army, said that he would
 not allow them to pass, and that, if they attempted to go, he would
 prevent them by force.

(2) Do not give better gifts to your sons than to your
 daughters.

(3) He said that he was unwilling to marry the General's sister.

(4) Clodia, one of the hostages, having eluded the guards by night, swam across the Tiber.

(5) A boy once met an old woman driving asses. "Good morning (*Salve*), good mother of asses," said the boy. "Good morning, my son," replied she.

BRANCH III—ARITHMETIC.

Time—Three hours.

I. Add together (without copying out) the numbers in each horizontal row, and write down the three totals:—

9,472	6,984	3,201	1,786	432	95,841
742	8,968	9,002	3,785	14,681	2,930
3,456	7,890	123	45,678	9,012	3,456

II. Simplify:—

$$(1) \frac{\frac{1}{3} + \frac{2}{3} \text{ of } \frac{2}{3}}{\frac{7}{3} + \frac{1}{2}} \times \frac{4 + \frac{1}{3}}{\frac{1}{4} + \frac{1}{2}}; (2) \frac{11\frac{5}{7} - 7\frac{5}{11}}{3\frac{1}{7} - 3\frac{1}{11}}$$

III. Add together 1.326, .0614, 2.013 2.239.

IV. Divide 2.20864 by .07266, and 1.13, by .000132.

V. Find to within an inch the length of the side of a square field whose area is four acres.

VI. A merchant selling goods at a certain price loses 5 per cent., but if he had sold them for Rs. 48 more he would have gained 3 per cent.; what did the goods cost him?

VII. State correct to two places of decimals the number of inches in a metre.

A train takes 31 minutes to pass through a tunnel 11,220 metres long; find the speed of the train, in miles, per hour.

VIII. One of two clocks, which both indicate the true time at noon, gains a second an hour, and the other loses three seconds in two hours. When will they next both indicate the same time? When will they next both indicate the true time?

IX. What sum will amount to £15,379 in 3 years at 4 per cent. per annum compound interest?

X. A sum of £350-13-11d. is remitted from Madras to London, the rate of exchange being 1s. 5½d., and commission being charged at the rate of ½ per cent. Find the cost of the remittance in rupees.

XI. A merchant in Madras owes £1,000 to a merchant in London. Find whether he gains or loses, and how much (in rupees), by sending it through France, the course of exchange being Rs. 7 for 13 francs, 25.4 francs for £1, and 1s. 5½d. for Re. 1.

XIII. If a man buys equal amounts of 3½% stock and 4½% stock with his capital, his income is £1,880. If he invests so that his income from each kind of stock is the same his income is £1,872. Find what his income will be if he invests half his capital in each of the two stocks.

BRANCH III—ELEMENTARY GEOMETRY.

Time—Two hours.

N.B.—Question IX is an exercise in drawing, and should be done upon the thick paper supplied.

I. (a) Distinguish (1) congruent and equivalent figures, and (2) axial and central symmetry.

(b) How many axes and centres of symmetry are there in a regular pentagon, two intersecting straight lines, two parallel straight lines, and a circle.

(c) Name all the symmetrical quadrilaterals and state in what respects they are symmetrical.

II. (a) A, B, are the centres of two circles, with radii a, b, respectively. What relations must subsist between the distance AB and the length a, b, if the two circles (1) touch externally, (2) touch internally, (3) intersect?

With a point inside a given circle as centre, describe a circle to touch the given circle. How many such circles can you describe?

III. (a) Show that any two sides of a triangle are together greater than the third side.

(b) Prove that the perimeter of a convex quadrilateral is less than the perimeter of any quadrilateral that encloses it.

IV. (a) When one straight line meets another, the two adjacent angles are together equal to two right angles;

(b) Six straight lines OA, OB, OC, OD, OE, OF, are drawn from a point O; if the angle AOB = DOE, BOC = EOF, and COD = FOA, all the angles being measured in the same direction, prove that AOD, BOE, COF are straight lines.

V. (a) If two triangles have one angle of the one equal to one angle of the other and if the sides that contain these angles be also equal, each to each, the two triangles will be congruent.

(b) If three isosceles triangles stand on the same base, show that the straight line joining the vertices of two of them passes through the vertex of the third and bisects the base.

VI. A straight line falls upon two parallel straight lines; state all the relations subsisting between the various angles formed by them.

VII. (a) Show that the lines joining the middle points of the sides of a quadrilateral form a parallelogram, and that the perimeter of the latter is equal to the sum of the diagonals of the quadrilateral.

(b) Prove that in a quadrilateral the straight lines joining the middle points of opposite sides and the straight line joining the middle points of its two diagonals all bisect one another.

VIII. Construct a triangle having given the base, the sum of the two sides and an angle at the base.

IX. (a) Two straight lines intersect in the point O , A , B , C , being three points taken in order in one and D , E , F , three points in the other. Join AD , AF , BD , BF , CD , CE and the point of intersection of AD and BD with that of CE and BF .

(b) Describe three equal circles touching one another, and enclose these with another that will touch them all.

BRANCH III—ALGEBRA.

Time—One hour.

I. Show that the expressions $a-(b+c)-(d-e)$ and $a-b-c-d+e$ are equivalent.

II. (a) Prove that

$$\left(\frac{b}{c} + \frac{c}{b}\right)^2 + \left(\frac{c}{a} + \frac{a}{c}\right)^2 + \left(\frac{a}{b} + \frac{b}{a}\right)^2 = \left(\frac{b}{c} + \frac{c}{b}\right) \left(\frac{c}{a} + \frac{a}{c}\right) \left(\frac{a}{b} + \frac{b}{a}\right) + 4$$

(b) Find the value of $x^4 - 2x^3y + 2xy^3 - y^4$ when $x = a+b$, and $y = a-b$.

(c) Show that, for certain values of n , the expression

$$(ma + b)^{2n} + a^{2n} - (a + mb)^{2n} - b^{2n} \text{ is divisible by } a-b \text{ or } a+b.$$

III. (a) Prove that if an algebraical expression be the G.C.M. of two other expressions, it is also the G.C.M. of their sum and difference.

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(b) Determine the H.C.F. of the expression $(a^2-2a)x^2 + 3(2a-1)x - a^2 + 1$ and $(a^2-a-2)x^2 + 4a+1$.

IV. Solve the equations

$$(1) \sqrt{x} + \sqrt{a+x} = 2a(a+x)^{-\frac{1}{2}}$$

$$(2) \begin{cases} bx + cy = a + b \\ ax\left(\frac{1}{a-b} - \frac{1}{a+b}\right) + cy\left(\frac{1}{b-a} - \frac{1}{b+a}\right) = \frac{2a}{a+b} \end{cases}$$

V. AB is a railway 210 miles long. Two trains start from A at 6 A.M., and 6-30 A.M. respectively, and a third train leaves B at 8 A.M. Supposing the speed of the trains is 25, 20 and 30 miles an hour respectively, at what distance from A and at what hour will the first train be equidistant from the two others?

BRANCH IV—MAP DRAWING.

Time—One hour and a half.

I. Draw a map of the Madras Presidency, showing the chief town in each district, the railway lines, and the position of Travancore and Mysore.

II. Draw a map of England, showing the course of the Thames, Mersey, Tyne, Severn and Humber. Mark on it two sea-ports on each coast (east, south and west), and the following towns.—York, Birmingham, Chester, Oxford, Northampton and Winchester.

[Maps of Madras Presidency and England and Wales were given in projection.]

BRANCH IV—GEOGRAPHY.

Time—Three hours.

I. Write a brief explanatory note on each of the following—the gulf-stream, the maelstrom, icebergs, lagoons, longitude, isotherms.

II. Where and what is each of the following?—Metz, Texas, Tabriz, Transvaal, Port Blair, Yokohama, Como, Ouse, Schwarzwald, Belfast, Clyde, Kattegat, Etna, Jiddah, Auckland, Suakim.

III. Describe the course of each of the following rivers, naming in order the countries or States through or between which it flows, its chief tributaries, and the most important towns upon it:—the Rhine, the Indus.

IV. Name—

- (1) The chief port of China.
- (2) The highest table-land in the world.
- (3) The University towns of Scotland.
- (4) The largest island in the Mediterranean.
- (5) The largest city in the United States of America.
- (6) The highest volcano in the Andes.

V. (a) Enumerate the various conditions which determine the climate of a country.

(b) Explain how it is that the seasons are so different in England and India.

(c) What are the monsoons and how are they caused?

VI. Enumerate (without enlarging on) the chief causes to which the study of the geography of England would lead you to attribute the present great commercial and industrial prosperity of that country.

VII. Describe (1) the route the Mails take from Madras to London, (2) the shortest route by which all travelling by land may be avoided, (3) the cheapest route by which heavy and bulky articles of commerce may be transmitted, when time is no object. The approximate time usually taken in each case should be mentioned.

VIII. What would the cargo consist of, in a ship sailing—

- (1) From Shanghai to London.
- (2) From Cardiff to Aden.
- (3) From Rangoon to London.
- (4) From Boston to Calcutta.
- (5) From Colombo to London.
- (6) From Tellicherry to Marseilles.
- (7) From Bombay to Liverpool.
- (8) From Melbourne to London.

IX. Name the chief centres of the gold-mining industry. What are the conditions requisite to make gold-mining pay, irrespective of the richness of a mine?

X. In what countries are the following articles obtained?—Coffee, wheat, sugar, kerosine-oil, wool, hides.

XI. (a) Point out the importance of the possession of Aden to England.

(b) To what foreign countries and to engage in what industries do native labourers emigrate from India?

BRANCH IV—HISTORY OF ENGLAND (FIRST PAPER.)

Time—Three hours.

I. Write a short account of the reign of Elizabeth. Remark on her character, and add a note on the literature of the reign.

II. (a) What was the Petition of Right, and what was demanded in it?

(b) Give a brief account of the events that occurred between it and the battle of Marston Moor.

III. (a) What were the events that led to the Prince of Orange being invited to England to assume the crown?

(b) In his Declaration he referred to his near relationship to the king. What was it?

(c) What attempts were made to restore the throne to the Stuarts, and how did each end?

IV. (a) The Bill of Rights is described as the third great Charter of English liberty. What was it (give the principal terms and the date)?

(b) What led to the Septennial Act, and in what year was it passed?

(c) What were the principal provisions of the Reform Bill of 1832?

(d) What was the next 'Reform Bill'? State some of the provisions of it.

V. (a) Write a brief account of the events which ended in the recognition of American Independence.

(b) Give the date and principal terms of the treaty of Versailles.

VI. State briefly the causes and the chief events of the Crimean War.

VII. Write a brief historical note, with dates on each of the following:—Lady Jane Grey, Nelson, and Wellington.

BRANCH IV—HISTORY (SECOND PAPER.)

THE BRITISH EMPIRE IN THE EAST.

Time—Three hours.

I. (a) Enumerate the stations or factories possessed by Great Britain in India at the end of the 17th century, with the dates at which they were acquired.

(b) Give an account of the history of any one of these up to the year 1700.

II. Give the dates of Plassey and Wandiwash and the names of the commanders on each side. What influence had these battles respectively upon the establishment of the British power in India?

III. When, and under what circumstances, was the Board of Control appointed? What was its constitution and what were its powers? When was it abolished?

IV. When, and from whom, was Ceylon first captured by the British? Describe the relations between the British and the native king, and the dates and results of the wars between them.

V. When and how was Singapore acquired by the British? When was its Government made independent of that of India? How is the possession of Singapore important to the Empire?

VI. What is meant by the Company's 'monopoly of trade'? What changes were made in the Company's trading rights in 1813 and 1833? When the Company ceased to make a profit from trade, how was it able to pay its expenses?

VII. Give the dates and state the causes of the three Burmese wars, and name the territories acquired by the British as the result of each.

VIII. Give an account of the events following on the death of Ranjit Sing that led to the annexation of the Punjab. Why was it important that the Punjab should be under British influence?

IX. Give an account of the administrative reforms introduced by Lord Dalhousie.

X. What is the Suez Canal and when was it constructed? How is the Canal of importance to the British Empire in the East, (1) commercially, (2) politically?

HIGHER EXAMINATIONS IN SCIENCE, ART AND INDUSTRIES, JUNE 1890.

SUBJECT 1—PURE MATHEMATICS (PRELIMINARY)— FIRST STAGE.

ARITHMETIC, GEOMETRY, AND ALGEBRA.

Note.—*Most answers must be given to the nearest pie.*

1. A ship is supplied with fresh water for 32 days at 2 gallons per head per day for a crew of 9 men. On the evening of the 8th day two full casks of 54 gallons each are stove in, and their contents lost. The crew are then put on a proportionately reduced allowance.

On the evening of the 14th day one man falls overboard and is drowned. Find correct to two decimal places the number of gallons which may thereafter be served out to the rest of the crew.

2. A bankrupt's debts are Rs. 39,427, and his assets are Rs. 12,034. What should a creditor for Rs. 137-12-0 receive?

3. What is the price of $4\frac{1}{2}$ per cent. Government Paper if it will yield 4 per cent. interest after a tax of 6 pies per rupee has been paid on income.

4. What is the cost of a bill on London for £47 13s. 4d. when exchange is 1s $4\frac{3}{4}$ d. per rupee.

5. Divide a given straight line into any given number of equal parts.

6. If $ABCD$, $EFGH$ are two given squares, construct a square equal to their difference.

7. The arc of a circle is divided into equal parts AB , BC , CD . Draw straight lines AB , AC , AD , and draw a tangent AT at A . Prove that the angles TAB , BAC , CAD are equal.

8. Find the square root of $\frac{a^2}{b^2} + \frac{b^2}{a^2} + 2\left(\frac{a}{b} + \frac{b}{a}\right) + 3$.

9. Find the factors of (1) $x^2 + 6x + 7$ and (2) $5x^2 - 26x + 5$.

10. Find the value, correct to three places of decimals, of

$$\frac{2-\sqrt{2}}{2+\sqrt{2}} + \frac{\sqrt{8}}{2-\sqrt{3}}$$

11. In an examination paper A gets 23 per cent. of the maximum marks, and is 8 marks short of the qualifying minimum; B gets 38 per cent. of the maximum, and is 7 marks over the minimum. What are the full marks for the paper, and what is the qualifying minimum?

SUBJECT 3—MENSURATION.

N.B.—*Part I alone of this paper is to be answered by candidates for the Agriculturist's group certificate who require to be examined only in the unbracketed portion of the Syllabus. Parts I and II are to be answered by candidates for the single-subject certificate who require to be examined in the full Syllabus. The answers to Parts I and II must be kept apart and given up separately.*

PART I—Two hours.

1. The chord of the arc of a circle is 100 feet long, and is equal to the radius of the circle. Estimate the length of the arc.
2. Wishing to ascertain the breadth of a river, I place myself at a point A on the bank just opposite a conspicuous tree X on the other bank. With the aid of a measuring tape, I set off AB at right angles to AX , and measure along it 150 feet to a point C and a further distance of 20 feet to B . At B I set off a right angle CBD , and move along BD and away from the river until I reach a point D where I am in line with the points C and X . The length of BD proves to be 48 feet 5 inches. What is the breadth of the river?
3. A quadrilateral plot of ground $ABCD$ has the following dimensions:— $AB = 23$ yards, $BC = 25$ yards, $CD = 29$ yards, $DA = 27$ yards, and the diagonal $AC = 32$ yards. Find its area to the nearest square yard.
4. A solid cylinder has a height of 14 feet and a diameter of base 7 inches. What is the ratio of its weight to that of a "similar" cylinder whose base is 5 inches in diameter? What is the height of the smaller cylinder?
5. A conical tent whose slant height is 12 feet requires 156 square feet of canvas. What area of ground does the tent cover?
If the canvas were cut along the slant height from apex to base, and spread out flat on the ground, what would be the shape of the canvas surface?
6. A log of squared timber tapering uniformly is 24 feet long, and measures 1 foot 8 inches broad by 1 foot 2 inches deep at one end, and 1 foot 5 inches broad by 11 inches deep at the other. How many cubic feet does it contain?
(The answers to Part I. must be given up at the end of two hours).

PART II.

7. A river measures 306 feet across its water surface. A rope is stretched across, and divided by 5 marks on it into 6 equal intervals. The depths at the marks are found to be 3.2 feet, 3.8 feet, 4.4 feet, 6.1 feet and 4.0 feet. Find the area of the water section.
8. Apply Guldin's properties to find—
(1) the volume of a right cone.
(2) the centre of gravity of a semicircle.
9. A piece of railway embankment is level at the top for 240 feet of its length. The top width is 20 feet, side slopes $1\frac{1}{2}$ to 1. The height of the bank at one end of the piece is 14 feet, but from there the ground rises uniformly 1 in 50 to the other end. Estimate the cost of the earth-work at 2 annas per cubic yard.

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SUBJECT 4—STATICS, KINETICS, HYDROSTATICS, HYDROKINETICS AND PNEUMATICS (PRELIMINARY).

Time allowed for full paper—Three hours.

N.B.—Part I alone of this paper is to be answered by candidates for the Agriculturist's diploma who require to be examined only in the unbracketed portions of the Syllabus. Parts I and II are to be answered by candidates for the single-subject certificate who require to be examined in the full Syllabus. The answers to Parts I and II must be kept apart and given up separately.

PART I—Two hours.

1. Explain clearly the meaning of mass, momentum, force, and the various units employed in the measurement of mass and force.
When 2 feet and half a second are the units of length and time, the momentum of a mass of 10 lb. moving with a velocity of 4 feet per second is the unit of momentum. Find the unit of mass.
2. Distinguish between force and power. When is force said to do work?
A block of stone weighing 112 lb. is to be raised to the top of a building 40 feet high. The man who is to raise it may do so either by carrying it up or by means of a rope passing over a pulley on the top of the building. Assuming that the man weighs 140 lb. and that all the work done in raising the stone by either method is work done against gravity, find what expenditure of work the man will save by using the pulley.
3. What is meant by (1) the moment of a force, (2) the moment of a couple? What is the axis of a couple? What is the effect of a couple on a rigid body?
4. State the conditions of equilibrium of a body turning about a fixed point or fulcrum. Describe and draw a diagram of a steelyard. Explain the operation of weighing with a steelyard.
5. Draw diagrams illustrating the various combinations of pulleys with which you are acquainted, indicating in each the tensions of the different strings.
6. How would you prove (1) that air has weight, (2) that air exerts pressure of the air measured?
7. Describe and draw a diagram of the air-pump in its simplest form. Explain the action of the pump. Give a drawing of a siphon gauge, pointing out on the figure the pressure indicated.

The answers to Part I. are to be given up at the end of two hours.

PART II.

8. Explain what is meant by *kinetic energy*. How is the kinetic energy of a body measured?

Masses of 17 oz. and 15 oz. are attached to the ends of a light string which is passed over a smooth pulley. After the system has been in motion for 4 seconds the string is cut. Find how far the smaller mass will ascend.

9. Explain what is meant by *simple harmonic motion*. What is the expression for the time of an oscillation of a simple circular pendulum of given length? Explain how the pendulum may be used to determine the acceleration of gravity.

10. State the amount and direction of the pressure exerted by a fluid on a body wholly or partially immersed in the fluid. What is meant by *specific gravity*? What quantity of cork (sp. g. 0.25) must be attached to one cubic foot of tin (sp. g. 7.5) in order that both may float wholly immersed in sea-water (sp. g. 1.025)?

11. What are the general distinctions between gases and liquids? State and explain Boyle's law.

Explain the action of a siphon. How is a siphon started?

SUBJECT 5th—APPLIED MECHANICS (PRELIMINARY).

Time—Three hours.

1. A tension-rod of round iron, in a roof truss, is estimated to bear a working load of 3 tons. What diameter would you give to the rod?

2. A wrought-iron column, 15 feet long, fixed at both ends, is made up of two tee-irons, each $5'' \times 4'' \times \frac{3}{4}''$, as shown in section in fig. 1 of the accompanying diagram. What is the greatest load you can place on the column so that the stress may not exceed 6 tons per square inch?

A balcony, 4 feet wide and weighing 40 lb. per square foot, is carried on teak cantilevers placed 4 feet apart. An additional 80 lb. per square foot is to be allowed as accidental load on the section of the cantilevers, the ratio of their depth being $\sqrt{2}$. Modulus of rupture f_b for teak = 13,500 lb. per sq. in.

What uniformly distributed load would you allow to be carried by a wrought-iron rolled beam of the section shown

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DIAGRAM

to accompany paper on Applied Mechanics (Preliminary).

FIG. 1.

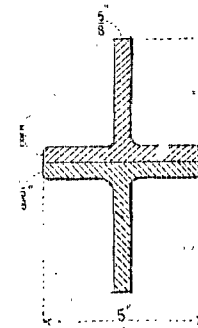


FIG. 2.

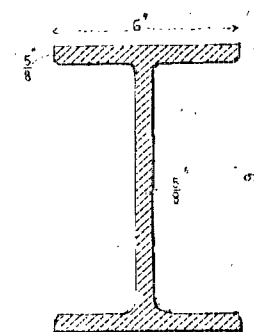
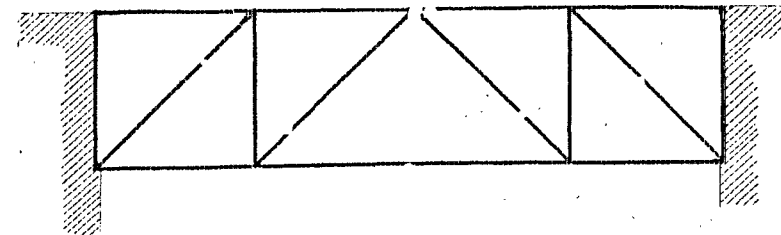


FIG. 3.



5. A king-rod truss is of 20 feet span and 7 feet rise, and bears a vertical load of 45 lb. per square foot of roof-covering. The trusses are 7 feet apart, the camber of the tie-rod is 8 inches, and the struts are parallel to the rafters. Find the stresses by the graphic method, using Bow's system of lettering.

6. A bridge frame is of the form shown in the accompanying diagram, fig. 3, and the roadway is carried on the upper horizontal member. Sketch the stress diagram, and indicate on the frame diagram the nature of the stress in the different pieces of the structure.

7. A masonry wall weighing 125 lb. per cubic foot is 24 feet high, 3 feet thick at top and 12 feet thick at bottom. It sustains water-pressure on its vertical face. Find graphically—

- (1) the point where the line of resistance cuts the lowest bed joint.
- (2) the amount and direction of the resultant pressure on that joint.

SUBJECT 5—APPLIED MECHANICS (ADVANCED).

Time—Three hours.

1. A room 18' x 36' carries a terrace roof weighing 100 lb. per square foot on teak joists 15 inches apart. Sketch a dimensioned section of the joist, taking the ratio of depth to breadth as $\sqrt{2}$; and estimate the cost of the timber in the roof at Rs. 3-8-0 per cubic foot.

Modulus of transverse rupture f_b for teak = 13,500 lb.
Factor of safety = 10.

2. A uniform cast-iron beam is to carry a load of half a ton per foot over a span of 16 feet. The stress in the tension flange is not to exceed $1\frac{1}{2}$ tons per square inch. Sketch a dimensioned section.

3. In estimating the resisting moment of irregular sections, a graphic method is employed to find the "area of equal resistance." Apply this method to find the resistance area of a tee-iron, head 3 inches, shank $5\frac{1}{2}$ inches (outside measure), thickness $\frac{1}{2}$ inch, having given that the centre of gravity of the section is $3\frac{1}{2}$ inches from the foot of the shank. Scale full size.

Thence calculate the resisting moment, the stress to nowhere exceed 4 tons per square inch.

4. A roof 22 span weighing 45 lb. per square foot is supported on trusses 8 feet apart of the following form—Two principals AB, AC at a pitch of 45° , a horizontal collar-beam DE joining the middle points of the principals, a king-rod AF from the ridge to the middle

point F of the collar, and two tie-rods FB , FC to the feet of the principals.

(Note.—The letters given above are not required in working the question.)

5. A railway plate girder is 72 feet long and 6 feet deep, and is to carry a load, including its own weight, of $1\frac{1}{2}$ tons per foot. Design the compression flange so that it may be approximately of uniform strength, the stress not to exceed 4 tons per square inch. Show the lengths of the different plates on a diagram of bending moments, scales 18 feet to 1 inch and 300 foot-tons to 1 inch.

Sketch a cross section through the flange at the middle of the girder, showing a portion of the web and stiffeners.

6. In the above plate girder, the web over the abutment is of $\frac{3}{16}$ inch plate. At what distance from the end of the girder must the first stiffener be put in, so that the web stress may not exceed 4 tons per square inch?

Make a sketch elevation of the end of the girder showing the stiffener.

7. A Warren girder, 80 feet long and 5 feet deep, with bracing at 45° , is loaded on the top flange, which is divided into 8 bays. The live and dead loads are 1 ton and $\frac{1}{2}$ ton per foot run respectively. Find the maximum stresses in—

- the fifth diagonal from one end of the girder.
- the third bay of the loaded flange.

SUBJECT C—HYDRAULICS AND HYDRAULIC ENGINEERING (PRELIMINARY).

Time—Three hours.

1. What is the greatest weight which can be supported by an empty 54-gallon cask, floating in water, the buoyancy of the wood forming the cask being neglected?

2. A stream having a bottom width of 2 feet, and side slopes 2 to 1, flows 18 inches deep with a mean velocity of 3 feet per second. Lower down the stream, owing to a greater bed slope, the mean velocity is found to be 4 feet per second. What will be the depth here, if the bottom width and side slopes are the same as before?

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3. Write down the expression for the velocity in a channel, and give the meaning of the symbols employed.

Suppose a channel is to irrigate 12,000 acres, what should be its capacity of discharge approximately?

Having decided on the necessary discharge, how would you assign a suitable velocity, and how would you secure that velocity approximately?

Within what limits can the bed slope be fixed; and how would you align the channel with reference to the surface slope of the ground?

4. At the head of a channel required to discharge 450 cubic feet per second, the full supply level is $6\frac{1}{2}$ feet above sill of head-sluiice, and the ancient crest is 0.36 foot higher. How many vents, each 5 feet high and 5 feet wide, will be required for the sluice? $c = .8$.

5. A tank has a waste weir whose crest is 3 feet above bed of surplus channel. The top of bund is 8 feet above the same level. Explain briefly how you would ascertain whether the length of the existing weir is sufficient.

Sketch a cross section, scale 4 feet to 1 inch, through the weir, figuring all dimensions, and showing full tank and maximum water levels.

6. Explain with the aid of a neat dimensioned sketch how the discharge from a distribution sluice is regulated in a tank whose M.W.L. is 10 feet above sill of sluice.

7. An irrigation channel with a bed fall of 1 foot per mile, and full supply depth of 2 feet, is to be made in ground of the following section:—

Distance, feet.	Depth below datum, feet.	Remarks.
0	1.0	Point A.
1,000	1.2	
2,000	2.6	
3,000	3.4	
4,000	4.9	
5,000	5.2	Point B.

Plot the section to scales of 1,000 feet to 1 inch horizontal and 5 feet to 1 inch vertical; and show on it the channel bed so laid out that the surface of the water may be everywhere below the natural ground surface, except at A and B, where it is to reach that surface.

SUBJECT 7—BUILDING MATERIALS AND CONSTRUCTION (PRELIMINARY).

Time—Three hours.

1. How would you distinguish between good and bad bricks and tiles, and between good and inferior lime?
2. What proportions of good shell or stone lime and sand are used in making mortar for brick-work? How would you know when the sand used is of good or inferior quality?
3. How would you distinguish a good piece of teak-wood from a bad one? In what respective positions in a building should teak-wood that is free from knots and wood that is somewhat knotty be used.
4. Suppose you were called upon to build a substantial grain or other shed, say, 50 feet long, 25 feet broad, and 20 feet mean height: materials used to be concrete foundations; brick and mortar basement and walls; gabled roof of Mangalore or patent tiles. Give a plan to scale with longitudinal and cross sections of such a shed, and note in figures the dimensions of the wood or iron work in roof.
5. Describe briefly how you would mark out such a shed on the ground; how you would excavate the foundations; and how prepare, mix, and lay the concrete.
6. Show by a neat sketch how the successive courses of brick-work in longitudinal and cross walls are joined.
7. Show by a sketch the joint used in framing the pieces of wood forming the curved head of a door frame. Give sketches of a "common dovetail" joint, and of a double "mortise and tenon joint."
8. Give a section to scale of a flat terraced roof 15 feet between supports. Note dimensions of wood-work in figures.
9. State how an asphalt floor is laid, giving proportions of material used. Also how common and plate glass are fixed to doors.

SUBJECT 8—PLAN-DRAWING FROM SPECIFICATION.

Time—Three hours.

Prepare a plan, front and side elevations and section to a scale of $\frac{1}{4}$ inch to the foot from the following specification for the erection of an office building. It is proposed to erect a room 30 ft. $\times$ 20 ft. inside dimensions with a door and two windows on either side in the front and back elevations and one window in each of the end elevations. The walls to be of brickwork 1'-6" thick with an offset of 3 inches to form a plinth. Height of plinth and floor level 1'-6" above ground level. Stone steps three in number each 6" rise and 12" tread to all doors; length of each step 5 feet. Foundations 4 feet deep including concrete. Concrete to be 4'-3" width and 1'-6" depth. Lowest course of footings to be 3'-3" $\times$ 6".

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Middle course 2'-9" $\times$ 6". Top course 2'-3" $\times$ 6". Basement from top of footings to ground level 1'-9" $\times$ 1'-0". Plinth 1'-9" $\times$ 1'-6". Superstructure 1'-6" $\times$ 12'-0". Joists 10" $\times$ 3" and 1'-6" from centre to centre. Roof ordinary terrace. Parapet wall all round 2'-10" height by 9" thickness. Two doors 8'-0" $\times$ 4'-0" venetianed and panelled; 6 windows 5'-0" $\times$ 3'-0" venetianed and glazed. Outside of walls to be pointed; inside of room plastered. Flat arches over all door and window openings 1'-6" $\times$ 1'-3". Flooring Cuddapah slabs over 3" depth of concrete. Steps granite stone 5'-0" $\times$ 1'-0" $\times$ 6" laid on a bed of concrete 9" depth. 4 rain-water pipes at the four corners. Brick cornice all round under parapet wall of 9" projection; all wood-work to be painted in three coats of oil color.

SUBJECT 8—ESTIMATE MAKING.

Time—Three hours.

Prepare a detailed estimate of the building specified in the question paper for "Plan-drawing from Specification" at the following rates:—

		Rs.	A.	P.
Earth filling per cubic yard	...	0	3	0
Excavation " " "	...	0	2	6
Concrete " " "	...	0	2	6
Brickwork " " "	...	0	4	6
Teak in joists per " " "	...	3	12	0
Cut granite stone " " "	...	1	8	0
Flat archwork per " " "	...	0	5	0
Plastering " 100 square feet	...	3	8	0
Pointing " " "	...	2	0	0
Cuddapah flooring " " "	...	21	0	0
Painting per " " "	...	3	0	0
Painting windows, each	...	2	8	0
" doors " " "	...	3	0	0
Rain-water pipes per running foot	...	0	4	6
Cornice " " "	...	0	4	0
Contingencies " cent. 2½	...	...	...	...

SUBJECT 9—SURVEYING, LEVELLING AND SETTING OUT (PRELIMINARY)—FIRST PAPER.

Time allowed for full paper—Three hours.

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PART I—Two and a quarter hours.

1. Plot the accompanying field notes of a chain survey. Scale, 100 feet to an inch; size of paper 13" x 9".

[illegible]

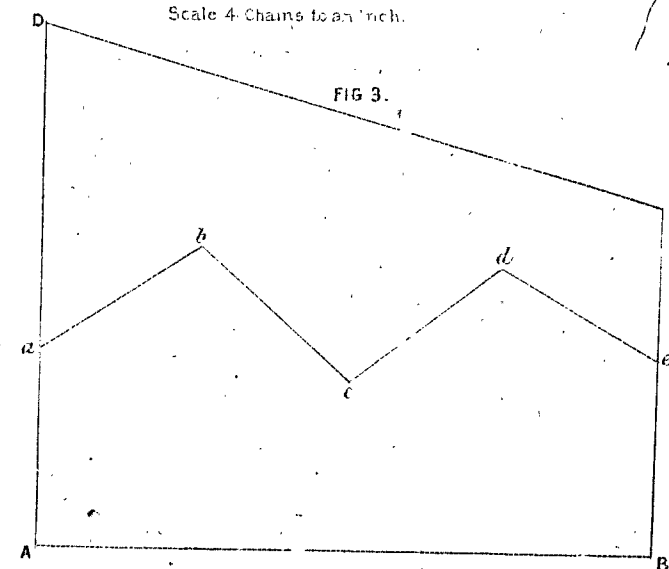
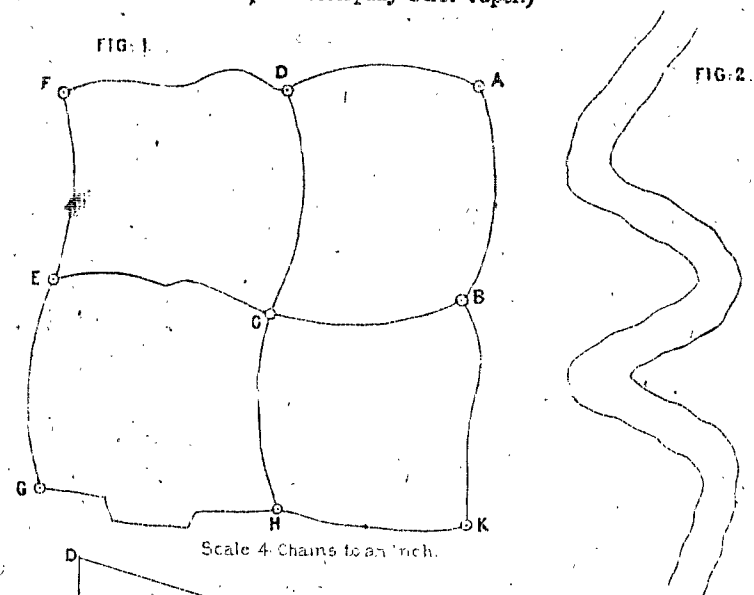
2. The accompanying diagram (fig. 1) is a plan of a small est of four fields. Find the areas of the four enclosures.

HIGHER EXAMINATIONS IN SCIENCE, ART AND INDUSTRIES.

JUNE 1889.

Surveying, Levelling and Setting Out.

(To Accompany First Paper.)



3. The accompanying diagram (fig. 2) represents (1st) a serpentine road and (2) a river. Show by dotted lines plotted on the figure how the required plan should be made in each case, by the aid of the chain only.

4. Draw an equalizing line through the accompanying diagram (fig. 3) so that the crooked fence $abcde$ may be straightened without altering the areas of the fields $ABea$ and $aDCe$. Describe your method.

(The answers to Part I must be given up at the end of 2½ hours.)

PART II.

5. What is meant by the "true bearing" of a line, and what by its "magnetic bearing."

6. On a base line AB , measuring 670 feet, the following angles are taken to two inaccessible objects O, W :—

$$\begin{array}{rcl} \text{At } A & \dots & \dots \left\{ \begin{array}{l} BAW = 40^\circ \quad 16' \\ WAO = 57^\circ \quad 40' \end{array} \right. \\ \text{At } B & \dots & \dots \left\{ \begin{array}{l} ABO = 42^\circ \quad 22' \\ CBW = 71^\circ \quad 7' \end{array} \right. \end{array}$$

Give the distance of the object O and W from each other, and from each of the points A and B .

7. Two stations A and C are fixed in a survey. The line AC bears 82° . Fix station B from the following bearings :—From A to B the compass reading is 128° and from B to C 63° .

SUBJECT 9—SURVEYING, LEVELLING AND SETTING OUT (PRELIMINARY)—SECOND PAPER.

Time allowed for full paper—Two hours.

N.B.—Part I alone of this paper is to be answered by candidates for the Agriculturist's and Forester's diplomas who require to be examined only in the unbracketed portions of the Syllabus. Parts I and II are to be answered by candidates for the single-subject certificate who require to be examined in the full Syllabus. The answers to Parts I and II must be kept apart and given up separately.

PART I—One and three quarter hours.

1. Fill in and reduce accompanying field levelling book. Show how accuracy of calculations can be checked. Plot columns 5 and 6 separately to any convenient scales :—

Datum 50 feet below starting point A.

Back-sight	Fore-sight	Fall.	Rise.	Reduced levels below station A.	Reduced levels.	Distance in chains	
1	2	3	4	5	6	7	
3.50	7.57	...	...	...	...	2.00	B. M. at starting point A.
5.04	7.39	...	...	...	...	4.00	
4.04	7.00	...	...	...	...	6.00	
6.10	5.93	...	...	...	...	8.00	
6.81	4.36	...	...	...	...	10.00	
7.30	6.55	...	...	...	...	12.00	
9.70	5.31	...	...	...	...	14.00	
5.23	6.45	...	...	...	...	16.00	
12.60	11.81	...	...	...	...	18.00	
9.36	9.73	...	...	...	...	20.00	
12.10	12.76	...	...	...	...	22.00	
7.23	5.31	...	...	...	...	24.00	
9.69	5.03	...	...	...	...	26.00	

2. State how you would take longitudinal and cross sections of a deep running stream.

3. What natural features should be particularly noted in taking the levels of a district?

4. What description of staff is most useful when using the "water-level?"

(The answers to Part I must be given up at the end of one and three-quarter hours).

PART II.

5. In taking levels through a plantation a swamp 148 chains in width occurred in the line. The level was placed at the edge of the swamp, and the back staff one chain behind the instrument. On being reversed, the instrument cut a notch in a post on the opposite edge of the swamp which was found to be 7.36 feet above the level of the swamp. Required the correction for curvature and refraction, and the corrected fore-sight.

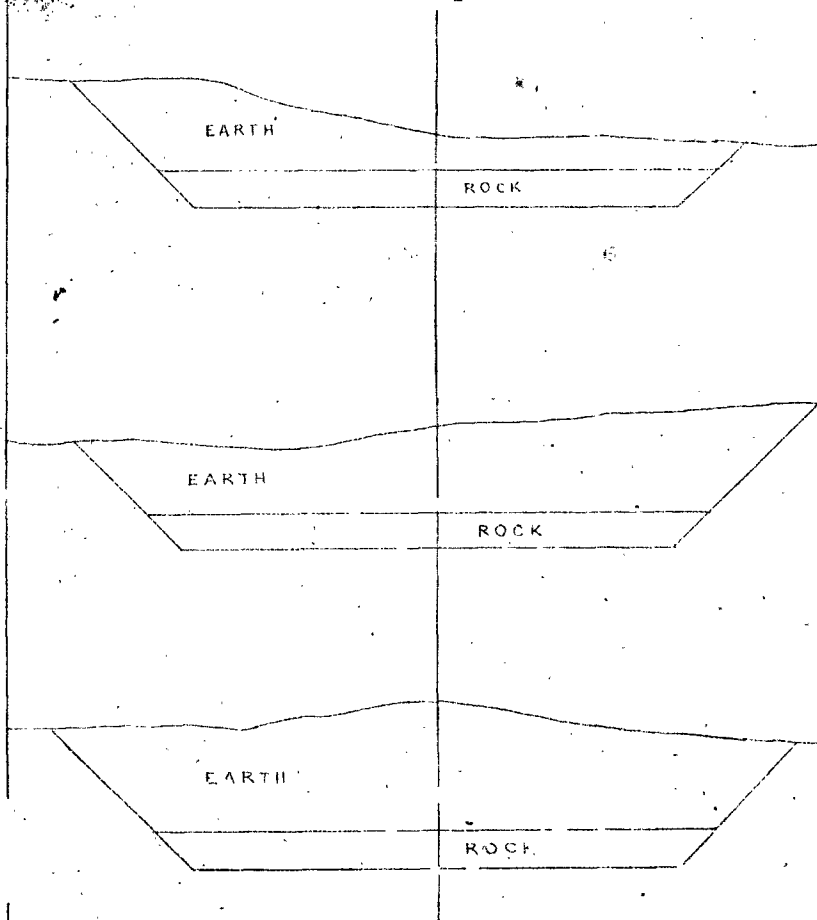
SUBJECT 10—EARTH-WORK, ROAD-WORK, AND RAILWAY-WORK (PRELIMINARY).

Note.—All drawings are to be made neatly and accurately,—in pencil, to a scale of 8 feet to an inch unless otherwise stated. No credit will be given for mere rough sketches.

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To accompany Paper on A. Earthwork.

CROSS SECTIONS
of
Proposed Cutting, 100 feet apart.
Natural Scale, 10 feet to an inch.
Base 26 feet, Slopes 1 to 1.



A. EARTH-WORK.

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Time—One and-a-half hours.

Marks, 30.

1. Calculate the cost of excavating 200 feet in length of a cutting the cross sections of which, 100 feet apart, are shown in the accompanying drawing, at Rs. 2 per cubic yard for brick and annas, 4 per cubic yard for earth.

2. Draw the cross section of a road-bank 15 feet high at the centre, 20 feet wide on top, made of good earth, on side-long ground having a slope of 1 in 6; and describe how it should be constructed.

If this road required to be widened 10 feet some years after being made, state how this should be done, and show on the section how you would join the new and old work together.

B. ROAD-WORK.

Time—One and-a-half hours.

Marks, 30.

1. A road 20 feet wide has to be made half in bank, half in cutting, along the side of a hill whose slope is 2 to 1.

Draw a working cross section of this, the earth on the upper and lower sides being supported by dry stone retaining walls.

Write a specification for this work.

2. Draw a working plan and cross section of a 4-foot flat-top stone masonry drain to carry a road 20 feet wide on the bank 10 feet high with slopes of 2 and 1, over a small stream whose bottom is 5 feet below ground, with good gravel foundations 2 feet deeper, floods rise 1 foot above ground.

Write a specification for the work in this, which is to be of good coursed rubble masonry.

3. Draw neatly, set the 1st th, and mark with figured dimensions, a mason's gauge to be used in building a retaining wall with a face batter of 3 inches to a foot, and explain how it should be applied to check the work during construction.

C. RAILWAY-WORK.

Time—Two hours.

Marks, 40.

1. The reduced levels of the ground at pegs 1 to 15, 100 feet apart, along the centre line of a proposed railway are as follows:—
51.10, 53.50, 59.30, 61.80, 62.70, 65.30, 66.90, 68.80, 68.90, 70.00, 60.70, 64.20, 62.80, 60.00, 50.70.

Formation level at peg 1 is 63.00; from this to peg 7 there is a rising gradient of 1 in 150; from peg 7 to peg 11 is level, and from that the line falls with a gradient of 1 in 200.

(a) Plot a section of the above to horizontal and vertical scales of 100 and 10 feet to an inch respectively.

(b) Draw in the formation line, and write, on the section, formation level and height of bank or depth of cutting at each peg.

(c) Draw a plan of the land required for the above portion of railway to a scale of 40 feet to an inch, supposing the slopes to be 2 to 1, and banks or cuttings 20 feet wide at F.L., and the boundary 20 feet beyond the extremities of slopes; and find the area of this land in acres.

(d) Draw a cross-section of the cutting at the deepest peg to a scale of 10 feet to an inch, and show thereon ballast and provision for drainage.

2. Show by a sketch what is meant by "gauge," and state what width this is on English railways, and standard broad and narrow gauge Indian railways.

Why are fishplates used? Sketch the best forms for flat-footed and double headed rail.

SUBJECT 11—BRIDGE-MAKING (PRELIMINARY).

Time—Three hours.

Marks, 100.

1. Design and draw neatly, in pencil, to a scale of 8 feet to an inch, working plan and sections of a stone arch masonry bridge 20 feet span, to carry a public road 20 feet wide in 15 feet of bank with slopes of 2 to 1, over a stream whose bottom is 10 feet wide, and 8 feet below ground, the banks having a slope of about 1½ to 1; floods rise to within 6 inches of ground level; from this to river-bed is clay, below which is 2 feet of gravel over sound rock.

Figure on dimensions, and write on the drawings the technical name of each part of the bridge.

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2. What are the chief considerations which would guide you in selecting a bridge site? Describe exactly the surveys, sections, and information required by an Engineer to enable him to design a bridge for a given site.

SUBJECT 12—MACHINE CONSTRUCTION (PRELIMINARY).

Time—Three hours.

N.B.—Drawings to scale are not required, but the sketches must be neatly made.

1. Briefly describe the following materials:—Cast-iron, wrought-iron, steel, brass, copper, gun-metal, phosphor, bronze.

2. An iron beam frequently consists of two flanges united by a vertical web. Explain the advantages of this section. What are the safe working stresses, in tension and in compression, of cast-iron, wrought-iron, and cast steel?

3. Briefly describe the operation of rivetting, and sketch a single rivetted butt joint with one cover plate.

4. Sketch an angle iron joint, such as is commonly used in fastening the flanges to the web of a plate girder.

5. Explain the use of keys, pins, and cotters.

6. Sketch a board and turned socket and spigot joint in cast-iron water-pipe, and explain how the joint is usually water-tight. When water-pipes are joined by flanges, how is the joint made water-tight?

7. Explain by a sketch how boiler tubes are fixed in the tube plates.

8. What are crankshafts, axles, journals, pedestals, and wall-boxes?

9. Name and briefly describe the two most ordinary methods of transmitting motion from one shaft to another.

When gearing wheels are run at high velocities, what change is usually made in the construction of the teeth?

10. What are the qualities necessary for an efficient lubricant? Sketch and describe an ordinary cylinder oil-cup.

SUBJECT 14—STEAM AND THE STEAM ENGINE.

Time—Three hours.

Note.—Drawings to scale are not required, but the sketches must be made neatly.

1. What is meant by the mechanical equivalent of heat? What is the equivalent in foot-pounds of the British thermal unit? How many thermal units are equivalent to one horse-power exerted for one minute?
2. What is the difference between *nominal* and *indicated* horse-power? Explain clearly how the latter is computed.
3. Draw an elevation and vertical section through its axis of a vertical tubular boiler; letter and name the different parts and fittings.
4. Draw a horizontal and transverse section of a Cornish boiler, showing the arrangement of the flues; letter and name the different parts and fittings.
5. Draw a horizontal section of the cylinder, piston, and valve-box of a horizontal single-cylinder high pressure engine; letter and name the different parts shown in the drawing.
6. Make a sketch of Galloway tubes in a boiler, and explain their use.
7. What purposes are served by providing an engine with a fly-wheel? On what conditions does the weight of a fly-wheel depend? What precautions have to be taken in the construction of such wheels?
8. What is the difference between anthracite and bituminous coal? What quantity of air is practically required for the combustion of a pound of coal? Compare the theoretical evaporative power of coal and casuarina wood in a Cornish boiler. Explain why in practice the evaporative power of fuel in boilers falls short of the theoretical efficacy.

SUBJECT 15—HEAT (PRELIMINARY).

Time—Three hours.

1. (a) Explain in detail the construction of the mercurial thermometer.
- (b) What corrections must be applied to it in order to obtain the true temperature.

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(c) Explain the construction and manner of using Leslie's differential thermometer.

2. Describe and explain *all that occurs* when heat is continuously applied to a vessel containing ice at 0°C . till the contents of the vessel are completely dissipated.

3. (a) What do you mean by the Dew-point?

(b) Describe how the Dew-point is ascertained by means of Daniell's hygrometer.

4. A gas occupies 1000 c.c. at 10°C . and 633 m.m. pressure of mercury: Find its volume at standard temperature and pressure.

5. (a) What is meant by the "maximum tension" of a vapour.

(b) Describe an apparatus for demonstrating its existence.

6. (a) Distinguish between *latent heat* and *specific heat*.

(b) A substance weighing 50 ounces at the temperature of 100°C . is immersed in 150 ounces of water, whose temperature is 18°C .; after the temperatures have become uniform, the temperature of the water is found to be 24°C . Find the specific heat of the substance.

7. How would you prove experimentally that bodies which are the best radiators of heat are also the best absorbers of heat.

8. (a) Define "the coefficient of linear expansion" of a substance.

(b) Describe a method by which the coefficient of linear expansion of a metal may be measured.

SUBJECT 23—INORGANIC CHEMISTRY (PRELIMINARY).

Time—Three hours.

1. Explain clearly, by means of examples, what is meant by the laws of (a) definite and (b) multiple proportions.
2. Describe by means of examples the formation of—
 - (a) Oxygen acids.
 - (b) Metallic hydrates.
 - (c) Oxygen salts.
3. State briefly the laws which relate to the mass, volume, temperature, pressure, and molecular weight of gases.
4. State fully the composition, properties, and mode of preparation of—
 - (a) Nitrous oxide.
 - (b) Nitric oxide.
 - (c) Ammonia.

5. (a) State fully all you know of the absorbent properties of Charcoal.

(b) How is Wood-charcoal prepared?

6. (a) How is Hydrochloric acid gas prepared?

(b) Mention its properties, both physical and chemical.

(c) Describe an experiment showing the composition of this gas.

7. Describe briefly the properties and uses of Lead and Copper.

SUBJECT 23—INORGANIC CHEMISTRY (PRELIMINARY)—PRACTICAL.

Time—Three hours.

1. Detect the base and acid contained in each of the two powders, A and B, writing out the exercises in full.

SUBJECT 23—INORGANIC CHEMISTRY (ADVANCED.)

Time—Three hours.

For the Agriculturist's and Forester's diplomas.

1. What is meant by saying that the specific heat of Sulphur is 202° , and explain the relation which is said to exist between the specific heat and atomic weight of an element.

2. Define "temporary hardness" and "permanent hardness" of water. How can a hard water be softened?

3. What weight and what volume (at standard temperature and pressure) of the constituent gases of water are theoretically required in order to produce by their combination 900 c.c. of water measured at the temperature of its maximum density?

4. (a) How may Chlorine be prepared and collected for study?

(b) Name and give the formulæ of the known oxides of Chlorine, and state how each may be prepared.

(c) Describe how the composition of Hydrochloric acid may be determined synthetically and analytically.

5. (a) Whence does the soil derive its supply of Phosphorus.

(b) What is formed, when Phosphorus is burnt in Oxygen, and what weight of it is obtained by burning one kilogram of Phosphorus?

(c) How can the three varieties of Phosphoric acid be distinguished one from another?

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(d) Write down the decomposition which occurs when microcosmic salt is heated.

6. (a) How is Silicon tetrafluoride prepared?

(b) Explain what takes place when this gas is led into water.

(c) How would you demonstrate that glass contains silica.

7. (a) Describe the "Bessemer process" for making steel from cast-iron.

(b) Give a brief account of the chemical changes which go on in the process of "refining" and "puddling" in the manufacture of iron.

(c) Give the reactions by which you can distinguish ferrous salts from ferric salts.

8. (a) What are the chief sources and properties of each of the alkali metals.

(b) What physical and chemical characters distinguish them as a group from other metals.

SUBJECT 23—INORGANIC CHEMISTRY (ADVANCED)—PRACTICAL.

Time—Three hours.

The following solutions do not contain more than two bases and two acids:—

Solution A.

Do. B.

The exercises are to be written out in full.

ARRANGEMENTS FOR THE ORAL AND PRACTICAL EXAMINATIONS IN INORGANIC CHEMISTRY (PRELIMINARY).

Each student will be required to test two powders in accordance with the syllabus, and in the *viva voce* examination the student's knowledge of the practical uses and handling of simple apparatus which are usually employed for preparing and demonstrating the substances included in the syllabus will also be tested.

INORGANIC CHEMISTRY (PRELIMINARY).

(November 1889.)

Time—Three hours.

1. (a) In what respects do Hydrogen and Oxygen resemble and differ from one another?

(b) As a general rule elements having like chemical properties do not, and those having unlike chemical properties do, readily combine with each other. How is this rule exemplified in the case of Hydrogen and Oxygen?

(c) Under what conditions do these two elements combine with each other?

2. (a) Distinguish between "physical change" and "chemical change"; and point out the physical and chemical changes which occur—

(1) When electric sparks are passed through a certain volume of Oxygen.

(2) When equal volumes of Ammonia and Hydrochloric acid gas are mixed.

(b) In the latter case, state whether the new product which is obtained is a mixture or a chemical compound; and give reasons for your answer.

(c) What weight of this new product can be obtained by mixing one litre of each of these gases measured at standard temperature and pressure.

$H = 1, N = 14, Cl = 35.5$.

3. (a) How are Oxides classified? Define and give examples of each class.

(b) What is a Hydroxide? Mention two ways in which a metallic hydroxide may be formed, and give one example of each.

4. Describe the changes which take place:—

(a) When sulphur is burnt in the open air; and

(b) When it is heated in a closed vessel having a delivery tube which opens into a cold chamber.

5. Name the oxides of Sulphur and of Carbon; indicate the acid-forming ones; name the acids which they produce when brought into contact with water, and state what kind of salts are obtained from these acids.

6. Mention some of the general characters, physical and chemical, which distinguish Metals from Non-metals; and indicate the special characters which serve to distinguish the following metals from one another:—

Sodium, Calcium, Iron, Mercury.

SUBJECT 24—ORGANIC CHEMISTRY (PRELIMINARY).

Time—Three hours.

For the Agriculturist's and Forester's diplomas.

1. (a) What evidence is there of the tetrad nature of Carbon?

(b) Explain graphically the manner in which the Carbon atoms are supposed to be linked in the Paraffin and Aromatic series.

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(c) What is meant by saying that Marsh Gas is a "symmetrical compound," and state in a general way upon what evidence this statement is based.

2. (a) What is an "alcohol," and show how far your definition is borne out by the chemical behaviour of ordinary alcohol.

(b) What member of the alcohol group is obtained by destructive distillation of wood, and how is it extracted in a state of purity from the crude product thus obtained?

3. (a) Give an account of the way in which country spirits are made from grain, such as rice.

(b) How would you ascertain the proportion of alcohol in such a spirit, also in a sample of beer?

4. Write a brief account of the phenomena of "fermentation" generally.

5. (a) What are the general characteristics of a "glucoside"?

(b) Mention some of the properties and uses of Tannin; also its sources and how it may be extracted therefrom.

6. (a) What is Cellulose, and what are its properties?

(b) What is the usual significance of the term "fibre" in an analysis of an oil-cake?

(c) Describe a method for ascertaining the amount of Cellulose in a feeding cake.

7. Describe the various methods of preparing Acetic Acid. How would you obtain the pure acid from a dilute solution?

SUBJECT 24—ORGANIC CHEMISTRY—PRACTICAL.

Time—Three hours.

1. The solution contains an organic acid; what is it?

2. What is the powder before you?

3. Seven grammes of a substance were burnt in the usual way and the products were received into 10 c.c. of sulphuric acid (1,000 c.c. containing 1 mol. wt. in grammes).

The acid together with the washings of the bulbs have been made up with distilled water to 200 c.c., 20 of which are in the beaker before you already tinted with litmus.

The burette contains test alkali solution of corresponding strength, diluted to the same extent as the acid.

Work out the percentage of Nitrogen contained in the substance.

SUBJECT 27—PHYSIOGRAPHY (PRELIMINARY).

Time—Three hours.

1. Of what shape is the earth? How do we know that it possesses this shape?
2. Distinguish between rain, fog, and dew; state the causes which lead to the production of each.
3. What is the mercurial barometer? Describe its construction with the aid of a diagram. How does the barometer enable us to foretell a change in the weather?
4. How does the bottom temperature differ from the surface temperature in the deeper parts of any of the great oceans? In what way can the difference in temperature be explained?
5. Describe the manner in which a river is formed. Whence does the river derive its solid matter held in suspension, and what eventually becomes of this?
6. Describe the physical features of a backwater such as is met with on the Madras Coast. How has such a backwater arisen?
7. What are coral reefs? Where are they found, and how do they arise? How is land formed by the agency of coral?
8. Give an account of the manner in which igneous and aqueous rocks have respectively been formed. Why are the latter stratified?

SUBJECT 29—AGRICULTURE (PRELIMINARY).

Time—Three hours.

Note.—Replies must treat the subject from a practical point of view and avoid chemistry as far as possible.

- | | Marks. |
|--|--------|
| 1. Write a short paper on the physical properties of soils. | 18 |
| 2. Write a short paper on ensilage. | 15 |
| 3. Describe the method of breaking bullocks to work, and state at what age they are considered fit for plough-work. | 10 |
| 4. Calculate the cost, per acre, of growing sugar-cane crop and preparing jaggery from the same; also give the yield of jaggery in lb. per acre. | 20 |

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Marks.

- | | |
|--|-----|
| 5. What is a fair average yield in lb. per acre of each of the following:—Clean cotton; cotton seed; ragi; cholam; tobacco, and castor seed. | 12 |
| 6. Name the more important native implements of tillage use in Southern India; and describe their uses. | 10 |
| 7. Enumerate the uses and state the method of applying lime in agriculture. | 15 |
| | 100 |

SUBJECT 29—AGRICULTURE (ADVANCED)—THEORETICAL.

Time—Two hours.

Marks.

- | | |
|---|----|
| 1. State what you know of the special functions performed by phosphorus, iron, lime, and silica in the economy of plant life. | 5 |
| 2. What special sources of nitrogen and potash are available for use in Southern India but not at present utilized? State their composition, value and method of use. | 10 |
| 3. Explain how the requirements of a soil for the profitable growth of crops can be determined experimentally, illustrating your answer by a concrete instance. | 10 |
| 4. Mention some stratified rock formation in Southern India, not quaternary or recent, from which soils are directly derived, and describe the characters and qualities of the soils so formed. | 10 |
| 5. Exemplify, by working at the rations for (1) fattening sheep, (2) young bullocks, (3) milch cows, the requirements of these several descriptions of stock. The rations must be stated in full detail, as to composition, and reasons for their adoption be fully stated. | 10 |
| 6. Estimate and explain the value of the manure obtainable from the several animals referred to in your answer to question 5. | |

SUBJECT 29—AGRICULTURE (ADVANCED).
ARABLE FARMING, LAND MANAGEMENT AND
FRUIT GROWING.

Time—Three hours.

Attempt any 5 of the questions only. Use as few words as possible.

	Marks.
1. Describe the preparation of the soil for a crop of paddy (irrigated), giving details of labour and time required for 5 acres, assuming that the field has recently given good crops of paddy and is in good condition	12
2. Describe the cultivation of cholam (<i>setaria vulgaris</i>), giving the quantity of seed, date of sowing three varieties, average outturn of seed and fodder, and the quantities for which three sorts are respectively valued.	12
3. Explain how "warping" is effected and the use of the process.	12
4. Describe a process whereby the valuable qualities of village sweepings, as manure, may be developed and retained; and state what must be specially guarded against in the preparation of the manure.	12
5. How many acres would 112,000 gallons of water irrigate once; the crop being sugarcane and the soil moderately retentive?	12
6. Describe the process of making hay and of sweet ensilage. Point out the special advantages and objections to the latter process.	12
7. Explain how the operation of grafting by inarching is effected; the use of the operation, and the essential conditions for success.	12
8. Enumerate the kinds of fruit trees that are propagated—(a) by grafting, (b) by cuttings, (c) by layers, (d) by seed, (e) by more than one of the above processes: the total of a, b, c and d not to exceed ten species.	12
Total for 5 questions ...	60

SUBJECT 29—AGRICULTURE (ADVANCED).
STOCK FARMING AND RURAL ECONOMY.

Time—Three hours.

	Marks.
1. Name and describe fully two well-known breeds of cattle found in Southern India, excluding the Nellores and Mysore (of any variety).	10
2. For what purposes are the Nellores and Mysore respectively valued? And in what parts of the presidency are they most largely utilized, excluding the breeding districts.	15
3. In what respects is the management of cows in the Ceded Districts usually defective?	10
4. Draw out an estimate showing—(1) the buildings, (2) the live stock, (3) the dead stock, (4) the regular labor, (5) the floating capital, required for starting and working a 30 acre farm of stiff <i>regada</i> soil lying in one of the southern districts.	25
	60

SUBJECT 29—BOTANY (PRELIMINARY).

Time—Three hours.

1. Describe the following kinds of inflorescences:—Umbel, panicle, corymb, and capitulum.
2. Define the terms suppression, tetramerous, staminate, polygamous, gynandrous and dimorphism.
3. Describe the various ways in which valvular dehiscence takes place, giving examples of each.
4. What are raphides structurally and chemically? In what orders are they prevalent?
5. What should be the condition of an ovule to be termed anatropal, orthotropal and campylotropal? State examples of such ovules.
6. State which of the fruits named below are—(1) apocarous; (2) superior; (3) dehiscent; (4) edible, and give the botanical names of the plants which yield them:—Brinjal, thornapple, groundnut, guava, apple, pomegranate, Indian gooseberry.

7. Describe the structure of the anther and mention the ways in which its lobes burst to discharge pollen.

8. Describe the reproductive organs of the fern order, and state what changes may be noticed whilst a spore is germinating.

9. What is transpiration? How does it take place? Mention the circumstances which either accelerate, retard or altogether arrest it.

10. How does the sacred lotus differ from the true water-lilies?

11. Give the character of the stamens in Malvaceæ, Melastomaceæ, Liliaceæ and Asclepiaceæ.

12. Describe in technical language the plants marked 1 and 2. To what natural orders do they belong?

SUBJECT 30—ANIMAL PHYSIOLOGY (PRELIMINARY)— FIRST STAGE.

Time for full paper—Three hours.

N. B.—Part I alone of this paper is to be answered by candidates for the Agriculturist's group certificate who require to be examined only in the unbracketed portions of the Syllabus. Parts I and II are to be answered by candidates for the single-subject certificate who require to be examined in the full Syllabus. The answers to Parts I and II must be kept apart and given up separately.

PART I—Two hours.

1. Describe the rete mucosum or pigmentary layer of the epidermis.

2. Describe the form and position in the body of the kidneys.

3. What kind of matter must be present in food in order that it may act as a permanent vital food-stuff?

4. How is the blood rendered impure?

5. What secretions, besides those of the proper intestinal glands, enter the intestine, and by what organs are they secreted?

6. What is the power that a muscle possesses of shortening in length called, and what is the effect of its action?

7. What characteristics are common to the blood corpuscles of all animals which suckle their young?

8. What are the principal functions of the brain and spinal cord respectively?

9. What is the retina, and what is its function?

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(The answers to Part I must be given up at the end of two hours).

PART II.

10. The body of an animal is burnt as thoroughly as possible; explain why it is that only a small quantity of ash is obtained. Of what substances is this ash composed?

11. What chemical elements occur in sugar, ghee, protein and urea respectively? Compare, having regard to their composition, sugar with ghee and protein with urea.

12. Describe the form, position and use of—

(1) the scapula and clavicle;

(2) the pelvis.

(3) the humerus.

SUBJECT 30—ANIMAL PHYSIOLOGY (PRELIMINARY)— SECOND STAGE.

Time for full paper—Three hours.

N. B.—Part I alone of this paper is to be answered by candidates for the Agriculturist's diploma who require to be examined only in the unbracketed portions of the Syllabus. Parts I and II are to be answered by candidates for the single-subject certificate who require to be examined in the full Syllabus. The answers to Parts I and II must be kept apart and given up separately.

PART I—Two hours.

1. Give an account of the bile, stating where and how it is formed, how it is stored up, when and how it is used, and what are its chief properties.

2. Describe the arrangement by which the nutriment which has been prepared by the action of the digestive juices passes into the blood. What becomes of it after it enters the blood?

3. Describe the way in which air is forced out from the lungs. What has the medulla oblongata to do with this movement, and how would you prove the truth of your statement?

4. Suppose you sit for some minutes in a room which is quite dark and then come out into the light, the pupil of your eye gets larger. What is this due to, and why is it called a reflex action?

5. Suppose you have cut a kidney in half, transversely to its long axis, what would be the appearance of one of the cut surfaces?

6. Give some account of the uses of nerves in the body.

(The answers to Part I must be given up at the end of two hours.)

PART II.

7. The temperature of every part of your body is about 98° Fah., and remains so although you may be sitting in a room the temperature of which is 105° Fah. Explain this.

8. Give a general account of the structure of an eyeball.

SUBJECT 32—VETERINARY SURGERY AND MEDICINE (PRELIMINARY)—FIRST STAGE.

Time for full paper—Three hours.

N.B.—Part I alone of this paper is to be answered by candidates for the Agriculturist's diploma who require to be examined only in the unbracketed portions of the Syllabus. Parts I and II are to be answered by candidates for the Veterinarian's certificate who require to be examined in the full Syllabus. The answers to Parts I and II must be kept apart and given up separately.

PART I—Two hours.

1. A sick animal refuses all food; nourishment is absolutely required; what would you give, and how would you administer it?

2. Describe the operation of amputation, and for what disease is it performed?

3. How are the digits of the foot of the ox connected?

4. What do you understand by the "antiseptic treatment" of wounds?

5. Describe the various kinds of sutures used in veterinary surgery.

6. With what objects is castration performed on domesticated animals.

7. What is super-fetation, and what do you understand by extra-uterine foetation?

8. How are ointments prepared, and what precaution should be taken to keep them of a proper consistency and to prevent rancidity?

9. What are the actions, and uses and doses for, the ox of the following drugs:—Gentian, sulphate of iron, spirits of nitrous ether, and tincture of opium?

10. Enumerate the bones of the knee of the sheep.

(The answers to Part I must be given up at the end of two hours.)

PART II.

11. On returning to the stable after a tiring journey how should a horse be cared for?

12. What are the attachments of the flexor pedis perforans tendon within the hoof, and what is the use of the navicular bone?

13. When a cow is about to calve describe what should be done with regard to her location and care.

14. Is there any objection to breeding from a bull that has a deformed limb, the result of an accident when a calf? State your reasons.

SUBJECT 32—VETERINARY SURGERY AND MEDICINE (PRELIMINARY)—SECOND STAGE.

Time—Three hours.

N.B.—This paper is to be answered by candidates for the Veterinarian's group-certificate.

1. How long would you leave the dressings on a rather bad case of broken knees, and if you found they were adhering to the wound, what would you do?

2. Give the treatment for sprain of the back tendons in a horse and in an ox.

3. State the position of the calf in a normal presentation.

4. State the alkaloids obtainable from cinchona bark.

5. What are the actions and uses of liquor zinci chloridum?

6. In suspected cattle-poisoning by white arsenic, describe the method you would pursue to enable you to confirm your suspicions.

7. How is the plant called *Mudag* (*Calotropis Gigantea*), used by Indian cattle-poisoners to poison cattle?

8. Describe what sanitary measures you would recommend to be adopted at a hospital pound erected outside a village infected with a communicable disease among its cattle? (The pound is occupied by sick cattle.)

9. At a large native festival about 10,000 head of cattle are brought together; no precautions have been taken to prevent diseased cattle being brought to the festival and an outbreak of rinderpest occurs and begins to spread very quickly. What should be done to stop its progress?

10. What defects would you look for in the forelimb of a horse you were examining for soundness?

11. What points would you consider necessary in a bullock to be used for quick draught purposes?

12. Reference: Madras Act II of 1866.

Are hospital pound-keepers empowered to enter any house or cattle-shed for purposes of inspection?

SUBJECT 34—FORESTRY (PRELIMINARY).

Time allowed for full paper—Four hours.

N.B.—Part I alone of this paper is to be answered by candidates for the Agriculturist's diploma who require to be examined only in the unbracketed portions of the Syllabus. Parts I and II are to be answered by candidates for the single-subject certificate who require to be examined in the full Syllabus. The answers to Parts I and II must be kept apart and given up separately.

PART I—Three hours.

1. Give an account of the classification of South Indian forests according to relative humidity, altitude and soil.

2. What is "jardinage," and in what cases is it most necessary to apply that treatment? How can it be modified in a particular forest of, say, 3,000 acres, so as to allow of grazing being permanently permitted over $\frac{1}{2}$ of the area.

3. Define the following:—"Normal forest," "annual yield," "rotation," "leaf canopy," "cleaning."

4. What is the difference between "simple coppice" and "coppice under standard," and with what object is either system of treatment usually adopted? How are compartments usually arranged in a forest treated under simple coppice, and what chief precautions have to be taken to protect the young growth from wind?

State the qualities of the following trees as regards capability of giving good coppice shoots:—Sal, mango, casuarina, white wattle, babul.

5. What is a "form factor"? If a tree is 100 feet high and 4 feet in girth at breast height, and if, on felling, it is found to contain 50 cubic feet, what is its form factor?

What is the cubic content of a log 42.6 feet long and 37 inches girth by the method of "square of quarter girth"?

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6. Suppose you have 17 acres of land which you want to plant with casuarina 6 feet $\times$ 4 feet, how many plants will you require and what area of nursery will be necessary, allowing for ordinary casualties?

Give an account of the procedure necessary for raising this plantation during the first five years.

7. To what natural orders do the following trees or shrubs belong, and what are their ordinary English, Tamil or Telugu names:—*Melia indica*, *Acacia leucophloea*, *Pterocarpus santalinus*, *Hardwickia binata*, *Anona squamosa*, *Ponciana elata*, *Areca Catechu*, *Dendrocalamus strictus*, *Odina Wodier*, *Cassia auriculata*. State what you know of their uses.

8. How is charcoal made in ordinary country fashion? What are the defects of the process, and how is it better to work with turf-kilns? Describe how a turf-kiln is prepared? What are the qualities of good charcoal?

9. Give such account as you can of the methods employed for the transport of timber in the log from a mountainous country to depot in the plains.

(The answers to Part I must be given up at the end of three hours.)

PART II.

10. What are the chief tanning materials in use in South India either for home manufactures or for export. Where do they grow and what precautions have to be taken to ensure their permanent supply?

11. Write a short essay on the necessity for "fire protection" as the chief work required before a forest can be placed under proper management and yield its full financial return on the capital.

12. Why is grazing bad for a forest, and in what stages of growth has it to be stopped, and when may it be allowed with comparatively small harm?

SUBJECT 35—ECONOMIC ENTOMOLOGY (PRELIMINARY)—FIRST STAGE.

Time—Three hours.

(For candidates for the Agriculturist's or Forester's diploma.)

1. What are the four great sections into which the Arthropoda are divided? In what chief points do they differ from each other. Give examples of the four sections from animals which are met with every day in Madras.

2. In which of the orders into which insects have been divided is the development without metamorphosis or with incomplete metamorphosis. Explain clearly, with the aid of examples, what you mean by "metamorphosis."

3. To what order do the wasps belong? Describe the difference in habits of life between "social wasps" and "solitary wasps."

4. Describe the development and metamorphoses either of the *Ephemeroidea* or the *Libellulidae*.

5. Give an account of the structure of the mouth parts of the mosquito, illustrating your description by drawings if possible.

6. Show, by diagram, the names of the various sections of the leg of an insect. In what way are the parts of the leg usually modified in digging and swimming species.

7. Describe carefully the metamorphoses undergone in the development of the silkworm from the egg to the perfect insect.

8. Refer to their families the following genera:—*Pulex*, *Gryllo-talpa*, *Cerambyx*, *Bombus*, *Lepisma*, *Dytiscus*, *Sphex*, *Phylloxera*, *Myrmecoleon*, *Bacteria*. State what you know of their habits and of their utility to man or the reverse.

9. Pasture lands in Liffda, especially on the hills, are frequently seen to turn brown and the turf to peel off, while soon after the air is filled with a number of flying insects of comparatively large size. What is this insect and in what way is the damage done?

10. Give some account of insects known to you which are useful as yielding medicines or dyes.

11. In what different ways are the following injurious to trees or timber:—*Xylocopa*, *Bostichus*, *Tortrix*, *Tomicus*?

12. What are the chief characters of the Rhynchota or Hemiptera, especially as regards the mouth? Into what chief families are they divided? Give examples.

SUBJECT 37—DRAWING, PAINTING AND DESIGN.

PRELIMINARY—FIRST STAGE—MODEL DRAWING.

Time—Two and-a-half hours.

Instructions for the Superintendent of the examination.

Place a large box or any other rectangular object under one of the front legs of a common arm-chair with rattan seat, so that the legs are inclined at an angle of about 75°.

Candidates are required to draw the two objects: they should be seated at a distance of about 8 feet from them.

Instructions to Candidates.

The drawing should fairly fill the paper with which you are supplied.

SUBJECT 37—DRAWING, PRINTING AND DESIGN. PAINTED DESIGN—ADVANCED HIGHER EXAMINATION—SECTION A.

Time—Eight hours.

Paint a design in tempera to fill a semicircular panel 12 inches in diameter.

SUBJECT 37—DRAWING, PAINTING AND DESIGN.

I.—OUTLINE DESIGN—PRELIMINARY—SECOND STAGE.

Time—Four hours.

Make a design in outline to fill a semicircular panel 12 inches in diameter, suitable either for wood-carving, hand-painting or embroidery. State the material you choose.

II.—MODELLED DESIGN.

Time—Four hours.

Model a design for a terra-cotta panel in a pilaster, size 15" x 6".

SUBJECT 37—DRAWING, PAINTING AND DESIGN.

DRAWING FOLIAGE FROM NATURE—PRELIMINARY—SECOND STAGE.

Time—Four hours.

Instructions for the Superintendent of the examination.

A sufficient number of plants in flower-pots with well-formed foliage should be placed in the examination room in a good light. The candidates should be directed to draw a spray of sufficient size to fairly fill the paper given.

SUBJECT 37—DRAWING, PAINTING AND DESIGN.

MEASUREMENT DRAWING (PRACTICAL TEST)— PRELIMINARY—FIRST STAGE.

Time—Four hours.

Instructions for the Superintendent of the examination.

* The object to be measured is an ordinary long arm-chair. The Superintendent should be careful that there is no confusion in taking the measurements and that candidates do not help one another. One chair should be provided for every three candidates; they should work so that one is taking the measurements of the front elevation while the other two are measuring either side.

Instructions for Candidates.

(To be written out on a black-board.)

Draw the arm-chair in front and side elevation to a scale of one-fourth. The principal measurement must be marked on the drawing. Your rough sketch must be given up with your finished drawing.

SUBJECT 41—PRINTING.

[FOR A JOURNEYMAN PRINTER'S CERTIFICATE.]

TYPOGRAPHY.—(THEORETICAL TEST.)

Time—Four hours.

[Not more than ten questions to be attempted.]

1. 1,000 ens (composed, made-up, imposed, corrected, and distributed) is the standard of one hour's work for a compositor. To accomplish this how long should it take you to set up only the 1,000 ens?

2. Supposing a MS. to consist of 23,500 words, each word to average 5 letters, about how many pages would it make in pica type, the size of page being 22 ems wide and 38 ems long, exclusive of head and white lines?

3. What would be the wages value of 16 pages of the above calculated at 2 annas 6 pies per 1,000 ens?

4. If a page be $4\frac{1}{2}$ inches deep, how many lines of small pica will it contain, and how many of brevier?

5. Draw a plan of imposition for a half sheet of 12mo. (12 pages) without cutting, and show where to place the two signatures?

6. After a forme has been tightly quoined up all round by the fingers, at what point would you begin to use the shooting-stick in locking-up; and how would you proceed?

7. What is the size of a royal chase, inside measurement?

8. Describe the process of putting a new tympan on a hand-press, and name the materials used.

9. Describe the appearance and qualities of a good roller in fit condition for working. If greasy, how would you treat it?

10. Describe any hand-press with which you may be acquainted, especially that portion by means of which power is obtained, and give its name.

11. Describe any letter-press printing machine with which you are familiar, and give its name.

12. Give the sizes of the following papers: Printing papers—pott, double demy, double foolscap, super-royal, demy. Writing papers—foolscap, medium, large post, small post.

13. How much double foolscap paper would be required to print 750 copies of a report consisting of 18 formes, allowing for necessary wastage?

SUBJECT 41—PRINTING.

[FOR A JOURNEYMAN PRINTER'S CERTIFICATE.]

TYPOGRAPHY.—(PRACTICAL TEST.)

INSTRUCTIONS.

1. The whole of the MS. on the five leaves marked A, exclusive of the instructions in red ink, is to be composed, and the proper punctuation inserted throughout.

The body-type of the paper to be in small pica or long primer. Pica and brevier to be used where the Candidate thinks them suitable, but no other founts (except, of course, italics of the small pica or long primer used for the body-type) or fancy type to be used. The tabular statement to be set up in brevier.

The lines are to be 26 ems wide, the matter to be made up to royal 8vo. length with a head-line to the second page, and a good copy to be submitted. The Candidate must examine and correct his matter before submitting the good copy.

2. Set up one of the three alternative jobs marked B on the M.S. If there are no suitable types, the Candidate is to write out the job exactly as he would have set it up, marking off types from the accompanying specimen book and inserting punctuation.

3. The printed proof marked C is to be corrected in ink. The Candidate must attend to the instructions given on the printed proof.

4. The printed extract marked D is to be punctuated in ink. The Candidate must attend to the instructions given on the printed extract.

N.B.—In the award of marks, special importance will be attached to the printed pieces for punctuation and correction, to the “display” job, and to the tabular matter.

SUBJECT 67—BOOK-KEEPING—(THEORETICAL.)

Time—Three hours.

1. Explain what book-keeping is and its object.
2. State what are the principal books kept and give specimen pages of each.
3. Define double and single entry.
4. Are merchants' and bankers' books generally differently ruled and kept? If so, explain why and give specimens.
5. Where is the theory of book-keeping supposed to have originated and when?
6. What is the system now generally used and are there many systems?

SUBJECT 67—BOOK-KEEPING—(PRACTICAL.)

Time—Three hours.

1. A buys from C 500 candies cotton @ Rs 122 p candy of 500lb. f.o.b. A sells it to B in bales of 400lb. each @ 44d p lb. c. & f. ex. 1s 4½d; freight payable in London @ 32s 6d p 5 bales. Make out invoices for above; draw a bill against the latter, journalize and post the transactions.

2. D consigns to London 1400 bales of cotton of 400lb. each, against which he draws on B for 44d p lb. The cotton is sold @ 44d, London charges being taken at 11 %. Make up A/Sale and A/Current, and adjust the latter. Journalize and post the transactions in D's books.

3. Acting as agent for B, D buys and despatches the following goods:—

50 tons coal @ Rs 21 p ton.
20 boxes cartridges @ Rs 9-6-0 p box.
100lb. dynamite @ Rs 1-6 p lb.
2,000 detonators @ Rs 30 p 1,000.
5 coils fuse @ Rs 1-4 p coil.
1 cask tallow, 100 lb., @ Rs 1-4 p lb.
1 ton cast steel @ Rs 900 p ton.
Cart-hire Rs 9-4-3.
Railway charges Rs 237-6-2.
Commission 2½ %.

Make up an invoice for this purchase. D buys all the goods on credit but pays cash for cart-hire and railway charges. Make the necessary entries and show them in the ledger.

4. A banker lends A Rs 2500 repayable by monthly instalments of Rs 95, interest chargeable @ 7 % p annum and the account to be made up with annual rests. The instalments are regularly paid on the first of each month till the debt is adjusted. Make up the account as it would stand in the banker's ledger; show the working of the interest in detail and show the entries necessary by the banker to close the account.

SUBJECT 68—PHONOGRAPHY.

Dictation and Transcription, (a), (b), and (c).

Time—An hour and three quarters.

NOTE.—Passages (a) and (b) are to be dictated to the candidates at the rate of 120 words a minute.

[Time allowed for (a) 10 minutes, for (b) 5 minutes.]

Take down the following in Phonography:—

(a) Mr. Parrell, who was loudly cheered, said,—Bailie Wakeot, members of the Town Council of Edinburgh ladies and gentle-

men,—I value at a very high price the honor which you, the chosen representatives of the citizens of Edinburgh, have conferred upon me to-day by a decisive majority. (Hear, hear.) I value it from the point of view of personal gratification; but I value it far more for the good, the public good, which will result from it. (Hear, hear.) I believe that this distinguished tribute will be accepted by the people of Ireland as another token of the desire of Scotland to concede all that Ireland can justly and legitimately claim regarding her own welfare (cheers), that they will see in it another proof of the success, the very near success (cheers), and the triumph of legitimate Irish freedom (hear, hear), such freedom as will enable us to promote our own prosperity, while, on the other hand, no danger can follow to your greater, far greater, and more important interests in this country. (Hear, hear.) And I think that, in addition, the people of Great Britain will see in this presentation a sign that where so important a community—and necessarily and in the best sense of the word, so conservative a community as that which dwells in this ancient city of Edinburgh—has thought it right and prudent to honor me in this way, they also can safely take their stand in the ranks which are so essentially Scottish, and that they can cheerfully and with full confidence assist Mr. Gladstone in his approaching great measure for the amelioration of Ireland. Bailie Walcot, you have touched slightly upon the difference of opinion which has accompanied this presentation. Difference of opinion is the salt of our public life, and I for one do not and ought not to complain of the difference of opinion that was manifested in this council-chamber (laughter), because it has enabled the representatives of the majority of the citizens to testify in the most remarkable and significant manner on three repeated occasions to the faith that is in them (hear, hear), and in any case I should not seek to deny to any body or to any minority, however small, the right of differing from a presentation of this character. They, from their own point of view, felt themselves, I suppose, justified in the attitude that they took up; but I cannot altogether agree with the fur her claim that has been made in one of the newspapers of this country ("Oh, oh"), and also in some of the southern newspapers, that because there was a difference of opinion therefore the majority should hold their peace and the minority should ever after keep constantly wagging their tongue. (Laughter and cheers.) If it were to be admitted for a single moment that because a minority of the Town Council oppose the presentation of the freedom of a city therefore the majority were bound to desist and to refrain from their proposition, you would necessarily never have any presentations of freedoms at all (laughter), because there exists no corporation in the whole of the United Kingdom which has not within it a minority of some kind or other (laughter), and if that minority understood that they could prevent the freedom of the city from being granted to their political opponents by simply saying "We object to it," and by voting against it, the whole privileges would fall to the ground (hear, hear), and it would be, as you

can plainly observe, a *reductio ad absurdum*. They did try to carry out their views formerly in Ireland in this respect. Up to within a few years after I first entered Parliament, in 1875, a minority managed by a statute law to prevent the majority of any Irish corporation from conferring the freedom of their city. This was in consequence of a statute which had been deliberately adopted by Parliament for the purpose of suppressing freedom of opinion in Ireland, like many other statutes of a similar character (laughter), and it was stoutly maintained for many years, with the result that it was with the greatest possible difficulty that Mr. Isaac Butt induced Parliament in 1876—after the measure had been more than once thrown out by the House of Lords—induced Parliament to repeal those provisions and to place the important municipalities of Dublin, of Derry, and of Cork, and two or three other smaller corporations in Ireland upon the same footing as kindred institutions in this country. However, we obtained a repeal of that obnoxious statute, with the result that to-day Irish corporations can confer the freedom of their cities—but you will observe that it was not until after a long struggle, conducted by our political opponents against this fair and legitimate concession, and it is an indication of what an important political significance attached to the right, not to confer, but to prevent the conferring of the freedom. (Laughter.) However, I think you may congratulate yourselves that you have vindicated the right of the majority of the council to have its way (hear, hear), and I trust that the minority will remember the old adage, and that having been beaten they will for ever after hold their tongues. (Cheers.) Now, ladies and gentlemen, the subjects that I am to touch upon, I believe, are somewhat circumscribed by the character of the building and the traditions of the building in which we are met, and of the body under whose auspices we are met. I believe that I cannot make any very extensive foray into political questions or subjects. This is a somewhat awkward position to place a politician in (laughter), because if you entertain a great singer you will probably ask him for a song (laughter), and if you entertain a politician you will probably ask him for a political speech; but I must make the best of the situation and deal with some subjects which may fairly be entertained without breaking through the rule with regard to political discussion. I will touch, for example, upon the proceedings of the Commission (hear, hear), which proceedings resulted in the meeting—to some extent, I judge—and the conferring of this distinguished honour upon me to-day. You will observe that I run another risk in that direction (laughter), and that Her Majesty's Judges, who are so laboriously endeavouring, with the help of about a dozen and-a-half of learned counsel, to unravel the mystery of Irish political questions, and to understand the motives and the influences which operate upon Irish political minds in the shaping of their programmes and in the carrying out of their agitations, may be disposed to complain of my trenching upon what they may consider their more particular province and jurisdiction. However, I shall

take the risk of that. (Cheers). I suppose it is because I am a long way off from them at present (laughter), and that I am less afraid of the Judges than I am of the worthy bailie who occupies the chair. (Laughter and cheers). However that may be, I shall endeavour in what I say to.

(b) The syllabus requires that the phonographer shall now, write in phonography, a letter of 600 words, containing official or business terms and phrases. It is important that the shorthand writer should be able to write such terms and phrases as are used by business-men, as there is an ever-increasing demand for shorthand writers by the heads of mercantile firms. A shorthand writer entering a merchant's office would do well to form special gramalogues for mercantile terms in addition to those he can find in the Phonographic Phrase Book. For instance, a clerk in a Madras bank would be able to write with greater speed and ease if he had practised writing terms such as may be used here but which are seldom used in the English shorthand books. A banker would often refer to upcountry or mofussil affairs, he may wish to advance money upon the security of jaggery, cotton, indigo, or hides. Exchange, too, would often be referred to. A Madras banker might wish to enquire of a Bangalore correspondent whether a certain client or depositor still possessed landed property in that station, or whether his connection with a local firm still existed. A merchant would occasionally wish to dictate letters to agents in out-stations advising the despatch of funds for the purchase of crops of tobacco, rice, gram, or wheat; also to enquire whether the demand for grey shirtings and other cotton goods remained unchanged. Lawyers employ shorthand writers to attend the law courts. There the phonographer will find his knowledge of legal phrases, such as counsel for the plaintiff, counsel for the defendant, my learned friend, the prisoner's solicitor, the evidence for the prosecution, useful in keeping pace with the lawyer who may address the court. Judges in the High Court find a shorthand amanuensis useful when ready to deliver judgments—the time of their Lordships is saved by dictating decisions to native phonographers, who can transcribe the judgments and forward the transcription to the printers. The proofs may be corrected by the judges, this being all they need do after delivering the judgments. Let us write such a letter as a Madras merchant may wish to send to a London agent:—

Gentlemen,—We are in receipt of your letter of the 18th ultimo, and note what you say about the last shipment of cotton. As you know, from past experience, we invariably take pains to select the best raw material in the mofussil, where our travelling buyers are constantly searching for cotton suitable for your requirements. Last season was an unfavorable one for our staple, owing to the heavy draught, but we have every reason for believing that the coming crop will be of better quality than usual. As to packing, we employ experienced hands and the best machinery available.

The railway runs close to our works at Virudupati, and we have thus exceptional advantages over some exporters. We trust we shall receive a telegram from you in the course of next week, advising us to buy all you require and telling us what course to pursue with respect to drafts. Any of the local banks will, of course, accept bills drawn upon you, but we prefer drawing through the Oriental as we generally are able to obtain better terms there. You have doubtless received telegraphic advice of the dividends declared by the Madras and Commercial Banks, viz., 12 per cent., with substantial additions to the reserve funds. Money has been tight during the past three months and the banks have been able to advance all their money at high interest.

(c) Transcribe what you have written into long-hand. (Time allowed—one hour and-a-half.)

SUBJECT 68—PHONOGRAPHY.

THE ELABORATION OF NOTES.

Time—Two hours.

NOTE.—The "Notes" are to be dictated at the rate of 120 words a minute.

Take down the following notes in Phonography and elaborate them into proper letters or documents in long-hand:—

1. From John Brown.—Write to Mr. James Smith and tell him that I shall be glad to see him about the proposed modification of his partnership deed next Monday at noon. Add that I have perused the draft lease he spoke about and shall add a few lines to it before he calls. Write to his brother William asking him when he can favour me with a call, as I have perused his will and wish to have it engrossed for probate.

2. From the Sheriff of Madras.—Write to Mr. Ramasamy Moodelliar and tell him that I find he is not qualified to be a special jurymen, and that therefore his application to be transferred from the common jury to the special jury cannot be allowed.

3. From Jones and Co., to Robinson and Auerum, London.—Advise them of the despatch of a demand draft for £243 10s. 4d., the balance due to them up to the end of last month. Tell them we have decided to purchase our paper, fancy goods, hardware and cutlery direct from the manufacturers in future, as we find it will be advantageous so to do. We regret that we are obliged, in our own interests, to take this step, but we are bound to do so in order to secure the extra discount allowed to foreign buyers.

4. From the Commissioner of Police.—Write to Samuel King and tell him that I find the man whom he charged with stealing his watch is in Trivandrum now, but unless he can produce corroborative evidence I cannot accept the responsibility of arresting the man. If he will accept the responsibility and pay the expenses of sending a policeman to Trivandrum, I will arrest the man. His documents are returned herewith.

5. From John Pitt.—Write to the Chief Secretary to Government officially calling his attention to my letter of the 8th of last month, and inquire whether he has had time to consult the Governor about the meeting at Ooty. Tell him the subscription list has run up to about Rs. 1,000.

6. From the Madras Building Co.—Write to Mr. Sabapathy Moodelliar and ask if he has any objection to our extending the culvert wall we referred to in ours of the 10th. If not, whether he will oblige us by lending his mortar mill for a few days.

7. From the Anchor Steamer Co.—Tell Barry and Co., the *Jumna* is due next Tuesday, and will have room for 150 tons cotton for Marseilles. Ask if that will satisfy their requirements, and what space they will require in the *Navarino*, which will leave for Bombay, weather permitting, on Saturday. Add in a postscript that Bombay freights are rising, and that only six steamers are due there next week.

8. Wire as briefly as you can to Mr. Harper that owing to the arrival of a troopship I am unable to get away for the inspection of the Underwood estate, but I will be satisfied if Mr. Harvey's report is good. I quite rely upon Mr. Harvey's judgment in the matter.

9. From the Solicitor-General.—Tell Mr. Hall his application has had due consideration, and I regret that owing to there being no immediate prospect of any vacancy in my office, I am unable to assist him at present. As soon as a vacancy arises, I will let him know.

10. From Mr. FitzWilliam.—Ask Mr. Synmonds if he will preside at the next meeting of the Religious Tract Society. I expect it will be held about the 18th of this month, with Mr. Joyce, Mr. Samuel and the Rajah of Rampore as speakers. If he can't come, to let me know soon, as I must get a chairman at once.

11. From Mr. Elliot, Secretary to U.C.S. Commissioner.—Remind Mr. Jackson, in a D.O., that I have not received his question papers, and that I must have them by the 16th, ready for the examination of the 20th.

SUBJECT 68—RHONOGRAPHY.

TRANSCRIPTION.

Time—Half-an-hour.

Transcribe into Phonography :—

At the twelfth anniversary of the Newspaper Press Fund, the late Dean of Westminster (Dr. Stanley), who presided, gave the following historic sketch of the art of reporting :—

I may begin by saying a few words about the reporters. The other day a member of the House of Commons said, the reporters, owing to their laborious and self-denying efforts in reproducing the unintelligible speeches, were worthy of the name of the "noble army of martyrs." That phrase suggests other and more ancient associations than those extreme novelties of which I have just been speaking; but, in point of fact, if I may so far contradict what I said at the beginning of my speech, the history of this "noble army of martyrs" does extend far back into the mists of antiquity. If I have not been greatly deceived they do actually count among their number in former times men who were distinguished martyrs in the ancient Church. There is said to have been a reporter under the Roman Empire in primitive ages who was martyred by being exposed to the fury of his pupils, who tore him to pieces with their shorthand pencils. Another martyr who is enrolled in the list of the earlier reporters is no less than Cyprian, Bishop of Carthage, who is said to have added to the system of shorthand writing no fewer than 8,000 new notations. These great shorthand writers of early times flourished with unabated vigor until the fall of the Roman Empire. When that great institution fell the art of stenography fell with it. The art was crushed under the ruins of ancient civilization. It did, however, struggle with the first dawn of the new civilization to make itself felt again; but then, also, it added new martyrs to the list, for the first reporters who appeared in France in the eleventh century were burnt as necromancers. But from that time their course has been smoother and more easy, until they have come to that more gentle kind of martyrdom which their eulogist in the House of Commons lately described. I would not for a moment underrate the difficulties they encounter. All speakers can imagine what must be the labor of putting together our ungrammatical sentences, and filling up from conjecture the unknown names of some unheard-of author, who has unfortunately been quoted in the midst of a speech on modern topics. It is hardly too much to speak of this as a minor martyrdom, and this is still the lot of the reporters in England. Nevertheless they have their revenge. If they be martyrs themselves they certainly from time to time make martyrs of those whose speeches they report. You little know my good friends, how greatly it is in your power to

make or marr the fortune of those whose speech you present to the public. You little know the sufferings you entail on some unfortunate orator or preacher whose speeches or whose sermons you present, perhaps, in their naked unadorned simplicity, so that when some savage journalist of another rank in your hierarchy, ever on the watch to fall on such victims, sees such reports presented, it is little less than the martyrdom which Sidney Smith describes as being preached to death by wild carates. Surely it is hard for us to be dressed up in the skins of wild beast which were not our own, and then to be torn to pieces by these wild journalists without a chance of disentangling ourselves from the Nessus shirts in which you have enveloped us.

SUBJECT 70—BUSINESS CORRESPONDENCE AND TRANSACTIONS—FIRST PAPER.

Time—Two and-a-half hours.

1. Brown & Co., London, draw on Jas. Smith, Madras, for £300 @ 30 d/s in favor of and domiciled with, the Union Bank, Madras, and, in case of need with Primrose & Co., also of Madras. Smith accepted the draft; but at maturity he dishonored it. State what steps the drawee, the drawee in case of need and the Notary Public would take respectively.

2. Is a bill drawn at sight entitled to grace days?

3. Explain the following section in the Negotiable Instruments Act, and give an illustration:—

In the absence of a contract to the contrary, the liability of the maker or drawer of a foreign promissory note, bill of exchange, or cheque, is regulated in all essential matters by the law of the place where he made the instrument; and the respective liabilities of the acceptor and endorser, by the law of the place where the instrument is made payable.

4. Define, in your own words, what is a "special resolution" under the Negotiable Instruments Act.

5. What is the effect of endorsing a negotiable instrument?

6. What is the correct timing of the following bills of exchange:—

Dated 20th November @ 3 mo. date.

Do. 30th October @ 4 Mo.

Do. 31st May @ 1 do.

Do. 23rd January @ 1 do.

7. What is the stamp duty on the following:—

(a) Receipt in duplicate.

(b) Copy of receipt.

(c) Guarantee endorsement on a cheque for an irregularity in it, whereby the guarantee would act for payment of the cheque.

(d) Bill of exchange for £1,500 payable in Madras @ 3 d/s.

(e) Sole bill of exchange for Rs. 195 @ 30 d/s date.

(f) Promissory note for Rs. 600 @ 6 mo. date.

(g) Demand promissory note for Rs. 25,000.

8. (a) What is a Bottomry bond?

(b) How long would it be effective?

(c) Who can be the contracting parties?

9. What is a Charter party and what are generally its terms?

10. Describe a Respondentia bond.

11. A banker accepts a draft on him with $\frac{D}{A}$; he afterwards discovers that one of the relative documents say Pol/Inscr., was not surrendered at the time of acceptance. Does he incur any liability, and what?

12. What do you understand by "memorandum of association" of a limited liability company?

13. A man borrows money from a bank on the security of a policy on his life assigned to the bank: in due course the loan is repaid. What should the bank then do with the policy?

14. What is exchange? And give an illustration of your meaning.

SUBJECT 70—BUSINESS CORRESPONDENCE AND TRANSACTIONS—SECOND PAPER.

Time—Two and-a-half hours.

1. Reply in detail to the following letters:—

A

BANK OF YOKOHAMA
Peiho, 25th January 1879.

To

MESSRS. VAGLIANO PERE ET FILS,
MADRAS.

GENTLEMEN,

Confirming my last of the 29th ultimo, I now enclose, for favor of remittance of proceeds on realization, my draft @ 3 d/s on

G. Chitambra Moodelliar of your city for Rs. 3,470-8-10 (exchange as arranged) with documents attached for shipment of silk per S.S. *Iris*.

I shall be glad if, in your reply, you will please append a memo. of details of amount realized less your commission and other charges.

I remain, &c.,

JAS. FERGUSON,

Manager.

B

10, MINCEMEAT LANE,
London, 3rd March 1889.

To

MESSRS. MACDUFF & Co.,

COCANADA,

MADRAS PRESIDENCY.

DEAR SIR,

We are disappointed at not receiving a letter from you by the mail to hand this week and are surprised that up to the moment of writing, no telegram has reached us in respect of our firm offer of 50 B skins; please explain.

Indigo.—The market remains firm at last quotations, and having sold your 10 C & S.S. *Bulldog*, we have the pleasure to enclose A/Sale and A/Current for same, showing the sum of £6-15-9 due to you, for which amount please also find our draft in your favor @ 3d/s on the Glendower Bank; receipt of which please acknowledge.

Redhood.—The sailer *Pandora* was reported off the Needles during the week and we shall do what we can to effect speedy sale with good results.

Horns.—The same remark applies to this also; but we beg to point out an error of £5 in your Pfa invoice on account of freight.

Pulicat boxes: Bangalore rags: Trichinopoly cigars.—As stated in our last we await limits; please let this matter have your immediate attention, as we think we may be able to do something to your advantage and thus close this trial shipment.

Office stationery and account books.—We have put this order in hand with the exception of the bills receivable and bills payable books, which you have not sent us any particulars of. Please rectify this omission by return post with respective samples of ruling, &c.

(Sample sheets to be enclosed by candidate.)

Cane jaggery per "*Glacis*."—We beg to remind you of our previous advices that you have not explained the reason of the 10 B short in this consignment.

Draft on Schleswig Bros., £34.—As we expected, this has not been met at maturity and we await your further instructions as to what we are to do in the matter; especially as you asked us not to incur any expenses.

We are

Dear Sirs,

Yours faithfully,

p. pro. LAMPEN & Co.,

W. J. WILDROSE.

LILANOWLIE, 4th May 1889.

To

THE MANAGER, THE BANK OF "SOUTHERN INDIA,"

MADRAS.

DEAR SIR,

I enclose a hoondie on a native banker or sewer in Madras for Rs. 4,997-6-4, which please dispose of as follows:

- (a) Your 12 ms. fixed deposit in my favor ... Rs. 4,000
- (b) Pay Andrews and Co., Mount Road ... 47
- (c) Remit Wilson & Co., 10 Green Street, London, for my credit, 780
- (d) Remit Maclean & Co., Calcutta, for wearing apparel supplied, 59 14 4

and send me the balance by money order or any other way you think best.

I remain, &c.,

J. WALDEGRAVE, Lieut. Col.,

R. Foresters.

[The candidates should write the requisite letters for (b), (c) and (d).]

2. Docket the letter A, B and

SCHOOL MANAGEMENT EXAMINATION, 1890.

COLLEGIATE GRADE.

ORAL TEACHING AND METHODS OF TEACHING
 DIFFERENT SUBJECTS.

Time—Three hours.

[To CANDIDATES :—Write only on one side of your paper, and leave a margin. On each of your answer-papers, write your name clearly, number your answers and stitch or pin your papers in order.]

1. Show by a series of questions with their probable answers how you would apply the maxim proceed from the known to the unknown in explaining the meaning (not grammatical construction) of the following :—

She walks in beauty like the night
 Of cloudless climes and starry skies
 And all that's best of dark and bright
 Meets in her aspect and her eyes
 Thus mellowed to that tender light
 Which heaven to gaudy day denies.

Byron.

2. What means would you advise your pupils to adopt for assisting their memories in learning by heart each of the following :—

- (1) The multiplication table, from 12×12 to 20×20 .
- (2) The atomic weights of the elements.
- (3) Twenty lines of English blank verse.
- (4) A Spenserian stanza or a sonnet.

3. Show how you would teach and explain the ordinary rule for the multiplication of decimals.

4. Criticise the following questions :—

- (1) Is lead heavy?
- (2) Who killed William Rufus? By whose hand did William Rufus meet his death? Who was suspected of the death of William Rufus? (These are given in succession without waiting for an answer.)
- (3) The author of the Canterbury Tales, was . . . ?
- (4) In what year was Waterloo which overthrew the power of Napoleon fought?

5. How would you proceed to "teach the map," that is, to explain the meaning of the various conventional signs of which a map consists, as a preliminary to using maps in teaching geography?

REGISTERS, RETURNS, NOTES OF LESSONS,
 ORGANIZATION AND DISCIPLINE.

Time—Two hours.

1. Show that a knowledge of the elements of psychology is necessary to a man who desires to be a successful teacher.

2. Explain exactly what you mean by organization. Illustrate that even when the organization of a school is perfect, the instruction may be imperfect, and indicate what is necessary for a successful school besides good organization.

3. You are the head master of a school and you have six assistants under you. You wish to improve their methods of teaching. What plan will you adopt? Give a few general directions to a young teacher which you would wish to see carried out during the progress of a reading lesson.

4. Write full notes of lessons on one of the following :—"The elephant" for the IInd class. "A bird's feather" for the Lower IVth class. "The preparation and properties of Hydrogen" for the Matriculation class.

5. What general rules would you bear in mind in drawing up a time-table for a Kindergarten class and for a Matriculation class. In what respects would these rules differ and give your reason for their differing.

6. Fill in the blank spaces of the accompanying register.

ATTENDANCE REGISTER OF A CLASS FOR A MONTH.

Number of school days.	A	Number of days present.	B	Number of days absent.	C
Wednesday	31	X	X	X	
Tuesday	30	X	X	X	
Monday	29	X	X	X	
Sunday	28				
Saturday	27				
Friday	26	X	X	X	
Thursday	25	X	X	X	
Wednesday	24	X	X	X	
Tuesday	23	X	X	X	
Monday	22	X	X	X	
Sunday	21				
Saturday	20				
Friday	19	X	X	X	
Thursday	18	X	X	X	
Wednesday	17	X	X	X	
Tuesday	16	X	X	X	
Monday	15	X	X	X	
Sunday	14				
Saturday	13	X	X	X	
Friday	12	X	X	X	
Thursday	11	X	X	X	
Wednesday	10	X	X	X	
Tuesday	9	X	X	X	
Monday	8	X	X	X	
Sunday	7				
Saturday	6	X	X	X	
Friday	5	X	X	X	
Thursday	4	X	X	X	
Wednesday	3	X	X	X	
Tuesday	2	X	X	X	
Monday	1	X	X	X	

Note.—If a holiday on the 10th and 25th.

No. on roll at beginning of month : Admitted during the month : Left : No. on roll at end of month : No. of school days

Average attendance during the month.

SECONDARY GRADE.—HIGHER.

ORAL TEACHING AND METHODS OF TEACHING DIFFERENT SUBJECTS.

Time—Two hours.

1. The following passage forms the subject of a short lesson for a Vth class :—

Climate affects the "bodily development of a people. Man can bear greater changes and diversities of climate than any other animal; but he cannot thrive to the full, either in mind or body under the extremes of heat and cold. The people of the torrid zone have no history. If any, like India (of which, however, only a small part is tropical), seems to have one; it is only a history of conquerors from more temperate regions.

(a) State in a general way how you would proceed to teach this passage.

(b) Say exactly what you would do under each head of your procedure.

(c) What do you consider would be the result to the class of your teaching?

2. Enumerate the particulars concerned in the pronunciation of English words. Why is it that the pronunciation of English by native boys is generally so bad? How can it be improved?

3. What preparation should a teacher make before taking a class in history?

4. How would you proceed to give a class an intelligent idea of greatest common measure?

5. Mention the characteristics of a good style of questioning and of answers that you would consider satisfactory.

REGISTERS, RETURNS, NOTES OF LESSONS, ORGANIZATION AND DISCIPLINE.

Time—Two hours.

1. Show to what extent the success of a school depends upon its organization.

2. You are required to form a library for a high school. Give in order of preference the subjects which you consider of most importance and frame a few rules for the guidance of the librarian and students regarding the use of the books.

3. What importance do you attach to the giving of prizes as a means of encouragement? An extract from the Standing Orders reads:—"The recitation of selected passages should form one of the features of the programme of a public distribution of prizes." Give the titles or first lines of any extracts which you consider suitable for such an occasion.

4. Write notes of lessons for an Upper IVth class on (1) the mountains of Europe or (2) the rivers of India.

5. Fill in the blank spaces of the accompanying register.

(For Register, see page 80).

SECONDARY GRADE.—LOWER.

ORAL TEACHING AND METHODS OF TEACHING DIFFERENT SUBJECTS.

Time—Three hours

Marks

1. Mention any four subjects of the school curriculum that are especially adapted to oral teaching. Give reasons for your selection in each case.

20

2. (a) What characteristics must a teacher possess in order to be able to conduct an oral lesson successfully, and what, in your opinion, would be the proofs of such success?

25

(b) In an oral lesson on the "Ganges," state clearly how the black-board should be used.

3. (a) What faults in questioning lead to guessing on the part of the children?

25

(b) Comment upon the following:—

1. "What do you know about Clive?"

2. "Name me a river in China."

3. "Give me the northern boundary of Europe."

4. One of the most common mistakes made by teachers, in giving object lessons, is to impart exactly the same information to pupils of the higher standards as to pupils of the lower standards. Bearing this in mind, write a short summary of the information to be imparted in a lesson on the "Cow" or the "Palm Tree" or "Gold" (a) to an Infant class, (b) to Standard II, (c) to Standard IV.

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5. "Every action, every thought, every feeling, contributes to the education of the temper, the habits and understanding; and exercises an inevitable influence upon all the acts of our future life. Thus character undergoes a constant change, for better or for worse—either being elevated on the one hand or degraded on the other. 'There is no folly nor fault of my life,' says Mr. Ruskin, 'that does not rise up against me, and take away my joy.'"

35

(a) How would you treat the above passage in giving a lesson in English grammar and language to an Upper IVth class?

(b) What additional information would you think it necessary to impart in order that the pupils might thoroughly understand the meaning of the passage?

(c) Write four questions on the subject-matter, with the answers which you would expect the pupils to give.

6. (a) By what means would you endeavour to cultivate in your pupils (a) reason, (b) observation, (c) memory?

30

(b) What subjects do you consider are especially adapted to the cultivation of these powers, and why?

N.B.—Do not copy the passage under 5.

METHODS OF TEACHING AND ORAL TEACHING.

Time—Two hours.

[TO CANDIDATES:—Write only on one side of your paper. On each of your answer-papers write your name clearly, number, your answers, and stitch or pin your papers in order.]

I. பின்வரும் வாக்கியத்தின் அர்த்தத்தை 5-ம் வகுப்புக்குப்படிப்பிக்கும் முறையையும், வழங்கும் திருஷ்டாந்தங்களையும், சுதாபுட்பலகையில் எழுதிக்காட்டும் விஷயங்களையும் விவரிமாய்க் கூறுக:—

"மதோலித்திடுத்தான லுத்தர் என்பவருடைய சிறந்த இலட்சணங்களில் தற்பெருமொழிப்படி ஒன்றியிருந்தபடியால், உலகமழுவார் மருவித்தேடும் லௌகிகத்தி செல்வங்களை அந்த மகாத்மாவானவர் எள்ளளவேனும் ஆகியாமல் வெறுத்தார்."

II. பின்னகளுக்கு விடப்பட்டவைகள் குறித்துவிவாதென்? இலக்கணத்திற் கீர் என்ன விடப்பட்டவைகள் குறிப்பிர்? அந்தப்பாடங்களை பன்னிதல் கூடத்தில் படிப்பிற்குதோடு சீம்முத்தப்படுத்தும் விதமென்ன?

III. கணிதசாஸ்திரத்தில் யோசனைக்கனக்குகள் (problems) ஏன் படிக்கவேண்டும்? பின்வரும் யோசனைக்கனக்கை நீர் படிப்பிக்கும் கல்பமரண விதத்தைத் தெரிவியும் :—

“நான் ரூ. 12-5-0 க்கு சிலிவாத்துகளும் சிலகோழிதனமான 23 ஜெந்துகள் வாங்கினேன் ஒருவாத்தின்மீதும் 9 அணு. ஒருகோழியின் மீதும் 7 அணு அப்படியானால் வாத்துகள் எத்தனை? கோழிகள் எத்தனை?”

IV. (a) சரித்திரப்பாடத்தின் மூலநாய்ப் பிள்ளைகளுக்குள் உண்டாக்கும் படி உபாத்தியாயம் முயல்வேண்டிய சூன்திசயங்களைவை?

(b) சரித்திரப்பாடம் நடத்தும்போது புத்தகங்களை (text-book) எம்மட்டும் உபயோகிப்பீர்?

V. (a) சரித்திர பள்ளிக்கூடப் பாடங்களில் முக்கியமாய் ரூபகசக்தியை விரத்திபண்ணும் பாடங்களைவை? மனோசக்தியை விரத்திபண்ணும் பாடங்களைவை?

(b) உம்முடைய வகுப்பில் பின்வரும் விடைகள் கொடுக்கப்பட்டால் அவைகளை நீர் எப்படித் திருத்துவீர்?

(1) வினா. “தமிழ்நாட்டு மூவேந்தரும் வந்தார்கள்.” இது அள்ளும் என்ன பொருள்? கொடுக்கப்பட்ட விடை. என்ன பொருள்.

(2) வினா. ஆதர் எந்த ஜாதியான்? கொடுக்கப்பட்ட விடை. மராட்டியன்.

(3) வினா. பூனைஜாதியைச்சொந்த காட்டுமிருகமெது? கொடுக்கப்பட்ட விடை. சிங்கம்.

REGISTERS, RETURNS, NOTES OF LESSONS, ORGANIZATION AND DISCIPLINE.

Time—Two hours.

1. Give me your idea of a good primary school-room, suitable, say, for 30 pupils, as regards the—

- size and shape of the room,
- mode of lighting.
- ventilation.
- fittings and furniture.

2. “In proportion as the classification is bad will the extent of the teaching influence be decreased.” Comment on this and mention some of the rules which a teacher should observe in the classification of his pupils.

3. Mention any six points which a teacher should consider in drawing up a time-table.

4. (a) What registers, returns, &c., do the Government require before making a grant to a school?

(b) In addition to these what registers would you think it necessary to keep to enable you to manage a school efficiently?

5. Write notes of a lesson on Rice for a IIIrd class.

6. The accompanying is a copy of register of attendance for one month. From it calculate the—

- number of school days.
- average attendance during month.
- average number of attendances.

(For Register, see page 80).

PRIMARY GRADE.—HIGHER.

ORAL TEACHING AND METHODS OF TEACHING DIFFERENT SUBJECTS.

Time—Three hours.

1. (a) Define the term “Inductive teaching.”

(b) State clearly how you would teach the following facts to children :—

- The Amazon flows eastward.
- The battle of Talikota was fought in 1565.
- The word “state” is a common noun.

2. (a) What qualities should a teacher possess to be able to give a good “Gallery lesson”?

(b) What do you consider to be the indirect value of collective teaching?

3. Draw up a criticism form suitable for use in a Primary Normal School.

4. “In giving a lesson the teacher’s questions serve different purposes at different periods.” Mention some of these “different purposes.”

5. (a) What is the special characteristic of a good answer?

(b) Give some of the points which a teacher should attend to in receiving and in disposing of answers.

6. Describe your method in giving a lesson on the rivers of India to a IIIrd class.

REGISTERS, RETURNS, NOTES OF LESSONS AND ORGANIZATION.

Time—Two hours.

[To CANDIDATES:—Write only on one side of your paper, and leave a margin. On each of your answer-papers, write your name clearly, number your answers, and stiffen or pin your papers in order.]

I. (a) முறை என்றும் பதத்தினால் நீர் அறிந்துகொள்வதை பூர்த்தியாக விவரிப்பீர்.

(b) ஓர் பாடசாலையை ஒழுங்குபடுத்தும் முறைகளைச் சொல்லுமீர்.

II. (a) மிதல்ஸ்கூல் (Middle School) பாடசாலையில் உபயோகிக்கப்படும் டரப்புசன் (Registers) எவை?

(b) இவ்வுடன்தேர்ந்திருக்கும் ஆஜர்டாப்பின் அடியில்கண்ட விஷயங்களைக் குறிப்பிட்டுக்கொள்ளுமீர்.

III. (a) இன்பெண்ட் ஸ்டாண்டார்ட் (Infant) முதல், மூன்றாம் ஸ்டாண்டார்ட் வரையில் வகுப்புகளும், மூன்று உபத்தியாயருமுள்ள ஓர் பாடசாலைக்கு, ஓர்கால ஸ்கூல்வகையைக்குறிப்பீர்.

(b) மூன்றாம் ஸ்டாண்டார்ட் வகுப்பில் ரிஸல்ட் (Result) கிரான்ட் (Grant) கிடைக்கும்படி சுற்றிக்கொண்டிருப்பாடங்களை எழுதுமீர்.

IV. அடியில்கண்ட பிரிபாதுகள் மூலம் தந்தையர்கள் கொண்டுவந்தால் அவற்றை எவ்வாறு நிவர்த்திசெய்யுமீர்.

(a) பிள்ளைகள் கீழ்க்கண்ட படிப்படியாதிருத்தல்.

(b) தாய் தந்தையருக்கு கீழ்ப்படியாதிருத்தல்.

(c) இதரபிள்ளைகள் புத்தகம், சுற்பலகைமுதலானவற்றை அவர்களுக்குத் தெரியாமல் எடுத்துக்கொள்ளுதல்.

(d) பாடசாலைக்கு போக்கு வரவாயிருக்கையில் கடைவீதியில் வீண் காலம் செலுத்தல்.

V. அடியில் குறித்தவைகளில், ஏதேனும் ஒன்றைப்பற்றி பாடவேண்டியக் குறிப்புகள் (Notes of Lessons) எழுதுமீர்.

(a) பெயர்ச்சொல்.

(b) காவேரிநதி.

(c) தேன்னமரம்.

VI. பிள்ளைகள் பாடசாலைக்கு அடிக்கடி ஒழுங்கினமையு வருவதாலும் அடிக்கடி நோக்குசென்று வருவதாலும் உண்டாகும் குறைபாடுகளை நீக்கிக் கொள்ள எவ்வித பிரயத்தனங்கள் செய்வீர்.

REGISTERS, RETURNS, NOTES OF LESSONS AND ORGANIZATION.

Time—Two hours.

1. Show how the good discipline of a school depends on its good organization.

2. What personal qualifications do you expect a good teacher to possess?

3. You are required to open a primary school. What furniture and apparatus do you consider necessary, and what do you consider desirable but not necessary?

4. Write notes of lessons for the IInd class on "The Elephant."

5. Draw up a register of attendance for a class of 12 boys for a fortnight; find out the "average attendance" and the "percentage of absentees."

PLEADERSHIP EXAMINATION, 1890.

REVENUE LAW.

Time—Three hours.

1. Define "landholder" as used in the Revenue Recovery Act and in the Rent Recovery Act and point out the distinction between the two definitions.

2. A, a Zamindar, made a gift of a portion of his zamindari to B in 1872 and died in 1874. In 1875, the successor of A, sued B and the Court held that as A had not observed certain conditions laid down by law the gift was voidable. What conditions did the Court refer to?

3. What are the various remedies which a landholder has to recover arrears of rent due to him, and when do they arise?

4. In what cases are summary suits allowed by Act VIII of 1865? What is the procedure therein? Are appeals allowed against the decisions of the Collector? If so, in what cases and to what authority?

5. What are the powers given to a Collector for executing a decree passed by him or an appellate court?

6. What rules are to be observed for deciding disputes as to rates of rent between landlord and tenant?

7. How are previous encumbrances and leases at favourable rates affected by a sale for arrears of revenue and by a sale for arrears of rent?

8. How can a sale for arrears of revenue be set aside, by whom and for what reasons?

9. Can any interest be charged on arrears of revenue or rent? If so, at what rate? Can a defaulter be imprisoned for arrears? If so, for what period?

10. What is the law as to Kurnams in permanently-settled estates?

11. Can a Zamindar resume an aghraharam granted before the permanent-settlement.

INDIAN PENAL CODE.

Time—Three hours.

1. Define "valuable security," "affray," "abduction," and "good faith."

2. What points are necessary to be proved to establish the offence of "perverting a false charge" and does a witness who gives evidence in support of such charge become an abettor under any and what circumstances?

3. Define "theft." A entrusts his horse to B, his coachman. B sells the horse. What offence, if any, has B committed? Give reasons for your answer.

4. What elements are necessary to constitute an attempt to commit an offence? A notorious burglar proceeds to a dwelling-house with implements of house-breaking and with intent to commit burglary. On reaching the door of the house and after using a false key with which he is unable to open the door, he hears cries of distress inside the house and breaks in. What offence, if any, has he committed? Give reasons for your answer.

5. Define the offence of "defamation of character." Under what circumstances would the writing of injurious statements regarding a deceased person not amount to defamation? Illustrate your answer.

6. A body of Salvationists are passing down a street to the side of which a Hindu preacher is addressing a number of Hindus exceeding 5. Irritated by a reference to the Salvationists on the part of their preacher, the Hindus assembled attack the Salvationists and beat them severely. What offence, if any, are the Hindus including the preacher guilty of?

7. A engages to carry B's luggage on a journey. When he gets half way he is told that he is likely to meet a tiger on the way and he refuses to proceed any further. If he had proceeded, in all probability he would have been attacked by the tiger. Is he guilty of any offence?

8. A, representing himself to be a Solicitor, gets B to entrust certain legal work to him. What offence, if any, has A committed? Would the fact that no fee had been paid A make any difference?

9. A, with the intention of detecting an unknown thief who was in the habit of stealing his milk, mixes with the milk an intoxicating drug. The thief takes and drinks the milk and becomes intoxicated and seriously ill. Does A commit any and what offence?

10. A, a woman who is pregnant, requests B to procure her a poisonous drug for abortion. B procures the drug knowing the purpose for which it is required. B is unwilling, however, that A should use the drug and as a fact is not present when the drug is used. A dies from the effects of the drug. Is B guilty of any and what offence?

TRUSTS, AND THE SPECIFIC RELIEF ACT.

THE LAW OF TRUSTS.

Time—Three hours.

1. Define the following terms:—trust, trustee, beneficiary, executory trust, constructive trust, and resulting trust.

2. In what cases is a trustee liable for a breach of trust committed by his co-trustee.

3. Explain the procedure to be adopted by a trustee when he requires the directions of court on questions respecting the administration of trust property.

4. A bequeaths a sum of Rs. 5,000 deposited in a bank to B in trust for C a minor. At the time of the bequest the interest payable on the deposit was 5 per cent., which was enough to meet the expenses of the minor. Subsequently the rate of interest was reduced to 2 per cent. interest and such interest was not sufficient for the minor's maintenance, education and other necessary expenses. Could the trustee apply the whole or any part of the trust property towards such expenses? If so, what are the preliminary steps he should take before so doing?

5. How is a trustee to be discharged from his office? In what cases may new trustees be appointed, and by whom? What are the rules that guide the selection of new trustees?

6. Give any six of the obligations in the nature of trusts.

7. Does the making of a subsequent will revoke the former will? Explain and illustrate the doctrine of "Dependant relative revocation."

(a) A conveys his whole property to B in trust to sell the same by public auction and pay, out of the proceeds, the claims of his creditors *pro rata*. No power of revocation is reserved in the trust-deed. Can A revoke the trust?

THE SPECIFIC RELIEF ACT.

8. What are the main subjects in respect of which specific relief is provided for by Act I of 1877.

9. A is dispossessed by B of his landed property without A's consent on the 25th of January 1889. A was informed of this by his agent on the 30th day of June 1889. What remedy has A under the Specific Relief Act to recover possession of the property, and within what date should A apply for such remedy?

10. A transfers by delivery for valuable consideration a promissory note to Z, but before endorsing the note, A becomes insolvent and his property vests in his assignee. What remedy has Z against A or his assignee in respect of the note?

11. A out of natural love and affection makes a settlement of certain property on his brothers and on his sister's son and afterwards enters into a contract to sell the property to B. B fails to complete the purchase. Is A entitled to enforce specific performance of his contract so as to override the said settlement?

12. State two cases illustrating the nature of declaratory suits.

13. Has the High Court power to issue a writ of *Mandamus*? If so, in what form? If not, by what provisions of the Specific Relief Act is the High Court entitled to order public servants to do certain specific acts?

14. How is preventive relief granted by Civil Courts? What is a mandatory injunction? Illustrate your answer by stating a case.

HINDU LAW.

Time—Three hours.

1. Name the writer of each of the following books, and state in what part of India it is deemed to be of paramount authority:—(a) *Dayabhaga* (b) *Mitakshara*, (c) *Vyavahara Mayukha*, and (d) *Vivadachintamani*.

2. Mention the chief points of difference between the *Mitakshara* and the *Dayabhaga*. Illustrate your answer by examples.

3. Examine the validity of each of the following adoptions:—

(a) The adoption by a widow with the consent of all the sapindas, the husband having forbidden the adoption.

(b) The adoption of a fatherless boy, the boy being given in adoption by the mother with the consent of her husband.

(c) The adoption of a sapinda after upanayanam.

(d) The adoption by an *unclaste* Brahmin widow.

(e) The adoption of an orphan given away by his paternal grandfather.

(f) The adoption of a boy disqualified to inherit under the Hindu law.

(g) The adoption by a male disqualified to inherit under the Hindu law.

(h) The adoption by a wife to her husband during his lifetime but with his assent.

4. (a) Briefly discuss the right of an adopted son to succeed to property *capite materna* and the right of an illegitimate son of a Sudra to inherit to collaterals.

(b) A, a Sudra, dies leaving two undivided brothers and an illegitimate son. Can the former claim the whole property as against the latter? Give reasons.

5. Distinguish between *ancestral property* and *joint property*. To what class of property, ancestral or self-acquired, does each of the following belong:—

(a) Property in the hands of A, obtained under a deed of gift from his father, A's issue being in existence at the time of gift.

(b) Accretions to a riparian village, the village being ancestral property.

(c) Property inherited by a father from his great grandfather.

(d) Property inherited by a father from his paternal uncle.

6. State what right, if any, an undivided coparcener has to alienate his share in the family property by sale, gift or devise.

7. (a) What are the rights of a son born after a partition had taken place between the father and his sons?

(b) To what share, if any, is the illegitimate son of a Sudra entitled under the *Mitakshara*, where the father dies leaving a legitimate daughter?

(c) To what share in Bengal, Benares and Madras, respectively, is an adopted son entitled where a legitimate son is born after the adoption. Suppose the legitimate son dies unmarried before partition, can the adopted son claim the whole property? Give reasons.

8. State in their order of precedence the proper guardians of minors under the Hindu law. How, if at all, will change of religion by the father or the mother or the re-marriage of a widowed mother, affect their right to the custody of the infant son?

9. State, giving reasons, whether any of the following suits is maintainable :—

(a) The widow of an undivided coparcener claims an increase of her allotted maintenance on the ground that the income of the family property has increased subsequent to the allotment.

(b) The surviving coparcener claims to reduce the maintenance allotted by him to the widow of a deceased coparcener on the ground that the income of the family property has diminished through no fault of his own.

(c) The widow of an undivided coparcener, dissipating the allotment made for her maintenance, claims to be maintained out of the family property.

(d) The widow of an undivided coparcener claims to continue to reside in the family dwelling-house as against the purchaser in the execution of a decree obtained against the surviving coparcener in respect of a debt incurred by him not for her benefit.

10. (i) What are the essentials of *streedhanam*? What is *Yautaka*?

(b) Briefly state the right of a widow to alienate immoveable property inherited by her from her husband and that given to her by him. What difference, if any, is there in the descent of each of the said two classes of property?

MUHAMMADAN LAW.

Time—Three hours.

1. What are the several causes of exclusion from inheritance under the Muhammadan law? Explain these and show how far the Indian legislative enactments have modified this portion of the law.

2. Enumerate the different classes of heirs under the Muhammadan law and state the important points of difference between the *Sunni* and *Schia* doctrines of inheritance.

3. Mention the several classes of Residuaries by kindred and the principles that regulate their right of inheritance as between the Residuaries of the same class and of different classes. Distinguish between *true* and *false* grandfather.

4. What is the principle of "vested inheritance"? Describe the rules which govern this branch of the law of distribution under the Muhammadan law.

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4. A Muhammadan, dies, leaving two sons, B and C, and four daughters, by two different wives, D and E, one of whom, E, survives him. After his death, one of his sons, B, begotten by his first wife, D, also dies, leaving behind him three sons. The surviving son, C, who is congenitally blind, with the four sisters are by the same mother E and father A. C with his four sisters and three sons of his half-brother B, and his own mother E, being nine in number, are the surviving claimants to A's estate. What is the distributive share of each of these?

5. Explain the doctrine of *Return* and give the several instances in which it takes effect.

A Muhammadan has, on his death, left behind him a widow, father, mother and two daughters. Explain how the case of *Return* occurs here while distributing the property of the deceased.

6. Under the Muhammadan law—

(a) On what ground is the right of representation denied?

(b) What are the rights of a son legally adopted?

(c) What is the position of illegitimate sons?

(d) Is a step-mother an heir?

7. What are the conditions and legal effects of a valid marriage under the Muhammadan law? Can the contract of marriage be entered into by an infant or a lunatic? Give reasons for your answer.

8. How is the right to dower established, and under what circumstances is it claimable and payable? Distinguish between *prompt* and *deferred* dower. Is non-payment of dower a good and complete answer in a suit for restitution of conjugal rights?

9. What are the several kinds of divorce under the Muhammadan law? Define *Iddut*. If a man says to his wife, "You are not my wife," is such an expression tantamount to a divorce?

CODE OF CIVIL PROCEDURE.

Time—Three hours.

1. State the rule or rules as laid down in the Civil Procedure Code in respect of—

(a) rateable distribution of assets realized by sale or otherwise in execution of a decree;

(b) discovery and filing of documents.

2. At what place can a suit arising out of a contract be instituted?

(a) A is a tradesman in Calcutta. B carries on business in Delhi. B, by his agent in Calcutta, buys goods of A, and requests A to deliver them to the East Indian Railway Company. A delivers the goods accordingly in Calcutta. Where can A sue B for the price of the goods?

(b) A resides at Simla, B at Calcutta and C at Delhi. A, and C being together at Benares, B and C make a joint promissory note payable on demand, and deliver it to A. Where can A sue B and C?

3. State the exceptions to the following general rules:—

(a) No cause of action shall, unless with the leave of the Court, be joined with a suit for the recovery of immoveable property or to obtain a declaration of title to immoveable property.

(b) A party may appear by a recognized agent or by a pleader.

(c) Whoever is summoned to appear and give evidence in a suit must attend at the time and the place named in the summons.

(d) The parties to an appeal shall not be entitled to produce evidence whether oral or documentary in the appellate court.

4. State the special fact or facts which the plaintiff must disclose in each of the following cases:—

(a) A sues as B's executor.

(b) A sues as C's administrator.

(c) A sues as guardian of B, a Muhammadan minor. A is not B's guardian according to Muhammadan law or usage.

(d) A dies leaving B his executor, C his legatee and D a debtor to A's estate. C sues D to compel him to pay his debt in satisfaction of C's legacy.

5. What are the circumstances under which a Court can—

(a) take a party, notwithstanding his success in the suit, with the cost incurred by the other party in proving a document against him.

(b) order a plaintiff to furnish security for the costs incurred and likely to be incurred by the defendant.

(c) dis-pauper a plaintiff suing *in forma pauperis*.

6. State the ground, or grounds on which a Court can or will—

(a) set aside, on the application of the decree-holder, the sale of immoveable property in execution of his decree.

(b) declare a judgment-debtor an insolvent.

(c) reverse decree appealed against and remand the original suit to the lower court for a fresh trial and decision.

(d) set aside an award of an arbitrator.

(e) review its own judgment.

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7. Is a set-off allowable in any and if so in which of the following cases? Give reasons in support of your answers:—

(a) A dies intestate and in debt to B. C takes out administration to A's effects, and B buys part of the effects from C. In a suit for the purchase-money by C against B, the latter wishes to set off the debt against the price.

(b) A sues B on a bill of exchange. B alleges that A has wrongfully neglected to insure B's goods and is liable to him in compensation, which he claims to set off.

(c) A sues B for compensation on account of a trespass. B holds a promissory note for Rs. 1,000 from A and claims to set off that amount against any sum that A may recover in the suit.

8. What can or will the Court do in the following cases:—

(a) In a suit for money plaintiff applies to the Court that security be taken for the appearance of the defendant to answer any decree that may be passed against him in the suit, and the Court is satisfied that the defendant is about to abscond.

(b) The proceeds realised by sale of the property of a judgment-debtor which has been attached and sold owing to his wilful and continued failure to obey the decree directing him to perform a particular act are in deposit. How is the Court to dispose of them?

(c) The decree directs the judgment-debtor to execute a sale-deed in favor of the decree-holder but the judgment-debtor refuses to comply with the decree. The decree-holder prepares the draft of the sale-deed and files it in court.

(d) At the hearing of an application for declaration of insolvency, it is proved to the satisfaction of the Court that the applicant is guilty of fraudulent concealment of property.

(e) The Court is satisfied that there is reason to believe that the defendant is keeping out of the way for the purpose of avoiding the service of the summons on him.

(f) There is no person fit and willing to act as guardian for the suit.

9. What legal advice would you give A in each of the following cases:—

(a) A deposits a box of jewels with B as his agent. He then writes to C for the purpose of making the jewels a security for a debt due by himself to C. A afterwards alleges that C's debt is satisfied, and C alleges the contrary. Both claim the jewels from B. A comes to you for legal advice.

(b) A satisfies out of court the decree held against him by B on B's promise to certify to the court the satisfaction of the decree. B fails to perform his promise, and, after six months, serves notice on A through the court to show cause why the decree should not be executed. A comes to you for legal advice.

10. A holds a promissory note dated 1st February 1890 from B for Rs 1,000 payable on demand with interest at 12 per cent. per annum. A institutes a summary suit on the promissory note. Draft the plaint and the summons in this case.

11. C executed a promissory note on 1st December 1887 in favor of A as the mother and guardian of B who was then a minor. B as the transferee of the promissory note sues C. C ignores the transfer and states that B has given him notice to pay the debt to B on the ground that B has attained his majority. Also B applies to the court to be allowed to contest the suit on the plea that the alleged transfer during his minority was fraudulent.

First dispose of B's application and then frame the issues.

12. A sues B for damages for malicious prosecution. B admits that he prosecuted A but denies that he did so maliciously. He also denies that A sustained any loss by reason of the prosecution. Frame the issues in this case.

THE LAW OF TORTS AND EASEMENTS.

Time—Three hours.

1. What is the reason for the law that the master is liable for the wrongs of his servant? And how far does such liability extend?

2. Name the general conditions necessary to sustain an action for deceit.

3. Explain and illustrate the rule that "trespass was merged in the felony," and state what is now understood to be the English and Indian laws on the subject.

4. Is there any and what legal distinction between written and spoken slander? And does such distinction now obtain in India?

5. Write short notes explaining and illustrating the following:—

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| (1) Malice in law. | (3) Absolute privilege. | (5) Negligence. |
| (2) Malice in fact. | (4) Qualified privilege. | (6) Contributory negligence. |

6. A certain Zamindar maintained, and was bound by custom to maintain, on his zamindari, an ancient tank for the general benefit of agriculture in the district. The banks of that tank were washed away by an extraordinary flood during the monsoon, without any negligence on the part of the Zamindar, and the consequent escape of water therefrom caused serious injury to a line of railway close by. The Railway Company consults you about suing the Zamindar for damages. What advice would you give? Give reasons for your answer and state (a) the principle on which liability is fixed in such cases; (b) the exceptions to the rule, if any; (c) the leading cases in England and India on the subject, and also (d) whether the existence of negligence on the part of the Zamindar would make any difference in your opinion.

7. A sent his maid-servant to fetch a flint-lock gun which was kept loaded, with a message to the master of the house to take out the priming first. This was done and the gun delivered to the girl. She loitered on her errand and (thinking, presumably, that the gun would not go off) pointed it in sport at a child and drew the trigger. The gun went off and the child was seriously wounded. Is A liable in damages or not? And why?

8. Certain raiyats in a zamindari village addressed a petition to the Tahsildar praying that the Munsif of that village might be retained in office, notwithstanding the Zamindar's application for his removal. The petition imputed criminal acts to the Zamindar, who now sues the petitioners for damages on the ground that the petition contained a false and malicious libel. It is found, as a matter of fact, that the communication was made *bonâ fide* and that there was some ground for some of the imputations, but also that there was a long-standing enmity between the Zamindar and the raiyats. How would you decide the question of the latter's liability? And on what grounds?

9. Distinguish between an easement and a license and also define the following:—

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|--------------------------|----------------------------|
| (1) Continuous easement. | (4) Non-apparent easement. |
| (2) Non-continuous. | (5) Customary easement. |
| (3) Apparent easement. | (6) Temporary easement. |

10. What are called "easements of necessity"? And how far do such easements extend?

11. What are prescriptive easements? And how are they acquired?

12. Mention the several cases in which an easement may be extinguished, with the mode of extinction in each.

CRIMINAL PROCEDURE CODE.

Time—Three hours.

1. As a general rule, any person having knowledge of the commission of an offence, may set the law in motion by a complaint, even though he is not personally injured or affected by the offence.

Mention any exceptions to the rule, created by the Code of Criminal Procedure.

2. The Criminal Procedure Code empowers Magistrates to grant relief in certain special matters in which Civil Courts award more substantial or permanent relief.

Quote some instances, and explain why Magistrates are invested with those powers.

3. Mention some special rules of evidence laid down by the Criminal Procedure Code.

4. The procedure laid down for summary trials differs in several respects from that prescribed for the trial of summons-cases, or of warrant-cases.

Note down the principal points of difference.

5. Under what circumstances and to what extent may Criminal Courts exercise their power to examine the accused?

What procedure should be adopted for securing additional evidence which an appellate court requires for the disposal of an appeal from a conviction in a case tried with the aid of assessors?

In a petition of appeal from a conviction, the appellant falsely stated that the convicting Magistrate declined to summon his witnesses. The Magistrate to whom the appeal was preferred called upon the appellant to verify the allegations in the petition of appeal on solemn affirmation, and he did so. Has the appellant committed an offence under section 181 of the Penal Code.

6. Are the following orders legal:—

(a) A Magistrate passes an order that the amount of the fine imposed upon a person convicted of causing death by a rash and negligent act be paid as compensation to the widow of the deceased.

(b) A complaint in writing is preferred to a Magistrate, who, after merely registering it, dismisses it under section 203, Criminal Procedure Code.

(c) A Magistrate, upon a complaint made to him, having issued process, and examined witnesses in support of the complaint, left the jurisdiction on account of his transfer. His successor, on taking up the case, referred the complaint to the police for inquiry and report, and upon receipt of the report, discharged the accused.

7. What are the powers of the High Court as a Court of Revision?

8. In a trial by jury what classes of questions are to be decided by the Judge and Jury respectively?

9. Determine the place or places for the trial of the following offences:—

(a) A girl of twelve years of age was sold at Tanjore by her mother to a prostitute who took her to Madras, where she has been kept in secret and employed for purposes of prostitution.

(b) A person commits theft in Karikal and runs away with the booty to Trichinopoly.

10. Criticise the procedure in the following cases:—

(a) A is tried upon a charge of theft as a servant and acquitted. While the acquittal remains in force he is afterwards tried for criminal breach of trust upon the same facts.

(b) A is convicted of criminal breach of trust, and while the conviction remains in force he is tried for receiving stolen property.

(c) A voluntarily caused hurt to B on the 1st day of June 1889. He was tried by a First-class Magistrate and convicted. B continued to be bedridden and to suffer severe bodily pain. A was thereupon tried for voluntarily causing grievous hurt, and convicted on the 25th June 1889. B afterwards died of the same injuries on the 30th idem. A was again tried for culpable homicide.

(d) A is charged by a Magistrate of the Second-class with, and convicted by him of, theft of property from the person of B. A is subsequently charged with and tried for robbery on the same facts.

11. Mention some cases in which no appeal is allowed under the Criminal Procedure Code.

LAW OF CONTRACT.

Time—Three hours.

1. Define a contingent contract and give an example. Criticise the definition in the Act of a voidable contract, and illustrate your answer.

2. How is a proposal revoked?

When does a contract entered into by correspondence become complete?

3. What are the rights and liabilities of joint promisors?

Is there any difference between the liability of joint promisors and of joint and several promisors?

4. State the exceptions to the rule that agreements without considerations are void. Does a waiver of one's rights under a contract require consideration?

5. Under what circumstances can a person pass a better title to property than he himself has?

6. Under what circumstances is a surety discharged from liability to the obligee?

7. (a) In what cases may an agent personally enforce contracts entered into by him as such agent?

(b) The managing member of an undivided Hindu family lends money from the family funds and obtains a bond from the debtor in his name only. Can he sue in his name alone for the recovery of the debt?

8. (a) Define a holder in due course.
 (b) What is the advantage gained by protesting a bill of exchange?
 (c) What is the object of crossing a cheque?
 * What rules of estoppel are applicable to the acceptor of a bill of exchange?
 9. Can a forged indorsement of a cheque convey a good title to a holder in due course?
 Are the drawees of a cheque and of a bill of exchange respectively justified in paying a person who claims under a forged indorsement from the payee?

LAW OF LIMITATION AND THE TRANSFER OF PROPERTY ACT.

Time—Three hours.

1. Define "transfer of property," and state what is the first condition of competency to transfer property.
2. What transfers may be made (a) orally; (b) by an unregistered instrument; (c) by delivery of property? What transfers must be made by a registered instrument?
3. Enumerate the rights and interests which are not susceptible of transfer.
4. A condition restraining alienation is void. Mention the exceptions to the rule, and distinguish between a voluntary transfer and an involuntary alienation in execution of a decree.
5. State briefly the liabilities of the mortgagee in possession.
6. When is a prior mortgagee postponed to a subsequent mortgagee?
 A planter mortgages his estate to A to secure future advances to the extent of Rs. 10,000. He subsequently mortgages the same estate to B, giving him notice of the prior mortgage, to secure Rs. 10,000. At the date of the second mortgage the amount advanced by A does not exceed Rs. 5,000, but A, with notice of B's mortgage, subsequently advances Rs. 6,000 or Rs. 11,000 in all. What are the respective rights of A and B on the mortgaged property? State the difference, if any, between the English law and the Transfer of Property Act on this subject.
7. (a) A, one of two co-owners of a field, transfers his share to B.

(b) C, a member of an undivided Hindu family, transfers his share of the family house to D, who is not a member of the family.

What are the rights of B and D respectively?

8. Describe the nature of the lien of a vendor of immovable property for the unpaid purchase-money.
- (a) Against whom does the lien avail?
 (b) What is the vendor's remedy?
 (c) When is the lien excluded or lost?
9. What are the rules of the Limitation Act regarding the following suits:—
- (a) Against express trustees and their representatives.
 (b) On foreign contracts.
 (c) By the Secretary of State for India.
10. State the effect of legal disability on limitation. Are the following suits within time:—
- (a) A, to whom a right to sue as landlord to recover possession from a tenant accrues during his minority, attains majority eleven years after such accrual and brings his suit on the expiry of four years from the date of his attaining majority.
 (b) B, who attained his majority in 1887, sues in 1889, as representative of his father, who died in 1885, to recover the amount of a promissory note payable on demand executed to the deceased in 1884.
11. What is the period of limitation in each of the following cases, and when does such period begin to run:—
- (a) On a bill of exchange payable at sight or after sight but not at a fixed time.
 (b) For jewels deposited with a friend for safe custody.
 (c) For the balance due on a mutual, open and current account where there have been reciprocal demands between the parties.
 (d) To recover possession of immovable property mortgaged and afterwards purchased from the mortgagee for valuable consideration.
 (e) Application for a review of judgment of a court invested with the jurisdiction of a Provincial Court of Small Causes.
 (f) Application for the issue of a notice under section 258 of the Civil Procedure Code to show cause why the payment or adjustment of the decree should not be recorded as certified.
12. Under what circumstances is a foreign rule of limitation a defence to a suit in British India?

LAW OF EVIDENCE.

Time—Three hours.

1. Explain and illustrate the difference between (1) presumptions of law and presumptions of fact; (2) latent ambiguity and patent ambiguity; (3) admission and estoppel, and (4) burden of proof and right to begin.

2. A sues B for recovery of possession of a house conveyed to him for Rs. 150 on the 15th of April 1888. B denies having executed the conveyance sued on and adds that the house itself does not belong to him but to G, who is thereupon made a party. A proposes to prove—

(1) That B on the 14th April 1888 asked C to lend him Rs. 2 for purchasing a stamp paper.

(2) That on a former occasion B falsely denied having executed another conveyance to A and his prosecution for perjury was sanctioned.

(3) That in 1887 B sued D for recovery of possession of the house, obtained a decree and got delivery of possession.

(4) That E, a former owner of the house, told a friend of his that he had conveyed the house to B.

Is A entitled to prove these facts? Give reasons for your answer.

3. What is the difference between the English law and the Evidence Act on the following points:—

(1) How a judgment may be avoided.

(2) The admissibility of admissions regarding the contents of documents.

(3) The duty of a witness to answer questions the answers to which would criminate him or expose him to a suit for damages.

(4) The impeaching of a witness' credit by the person calling him.

4. A, the purchaser of a certain field from B in 1883, claims a right of way to this field over the field purchased by C from D in 1886. C denies the right. A proposes to prove—

(1) That E, who was in possession of the latter field in 1885 as D's lessee, told A then that there was this right of way.

(2) That in a register kept by B and D respectively of lands owned by them mention is made of the existence of this right.

(3) That C himself told his friend 10 years ago that there was this right of way and D also said so a year ago.

Is A entitled to prove these statements. Give reasons for your answer?

5. A leases out one of his houses to B in 1879 taking a letter from him, and another house in 1883 orally. The first lease is for 10 years, the second for 6 years, and the rent is Rs. 10 per annum in each case. Immediately after the expiry of the period of the lease A sues B for possession and for 3 years' rent. B denies the lease and pleads that the houses belong to him. A produces B's letter but B denies having written it. Is it permissible to A to prove by oral evidence the whole or any portion of his claim? Give reasons for your answer.

6. A, the owner of 3 houses in Tanjore, 2 houses in Kumbakonam, 2 gardens in Mayaveram and one garden in Shially, executes an usufructuary mortgage to B for Rs. 1,000 of some of them and gives the following description of the properties: "One of my houses in Tanjore, my house in Kumbakonam and my garden in Mayaveram." The mortgage instrument recites that the amount of it was paid in cash to the mortgagor and the payment is made before the Sub-Registrar and his endorsement to that effect obtained. On the bases of this deed B sues A for possession of the garden in Shially, one house in Kumbakonam within certain specified boundaries and one house in Tanjore within certain specified boundaries, and is met by the following pleas:—

(1) That the mortgage was not for Rs. 1,000 lent to A but because B undertook to get C to enter satisfaction of a decree obtained for Rs. 1,500 against A and that this was not done.

(2) That when the document was executed it was agreed between the parties that A was to be in possession for 3 years and pay interest at 6 per cent. per annum on the mortgage amount.

(3) That a few days after the execution of the document it was agreed between the parties that B was to forego his mortgage right and retain his right to recover the said amount of Rs. 1,000 on A's personal liability and receive interest at 10 per cent. per annum and that in pursuance of this arrangement a letter was written by B to A a few days after the arrangement.

(4) That A is not entitled to recover possession of any of the properties sued for by reason of their not having been properly described in the mortgage instrument.

Can A be allowed to let in oral evidence in support of his first three pleas and B be allowed to let in oral evidence to show that the properties claimed by him were mortgaged? Give reasons for your answer.

7. What was decided in the Berkeley Peerage case, Collins versus Blantern, and Pride versus Torrington? Is there any difference between the English law and the Evidence Act, regarding the subject of the above decisions.

8. (a) A gets a conveyance of some lands from B, his attorney, and sues for possession. B pleads gross inadequacy of consideration.

(b) An execution sale is sought to be set aside on the ground that the sale proclamation was not duly published and the purchaser contends that it was duly published.

(c) A, a European British subject, sues his father B for possession of land purchased in his (A's) name and B pleads that the purchase was made in A's name benami for his (B's) benefit.

"On whom does the burden of proof lie in these cases, and why? Will it make any difference, if in the last case the parties were Brahmans or if A was a public servant?"

9. Can a wife be called to give evidence against her husband, and a pleader against his client? Are there any matters regarding which they cannot be questioned, and any limitations to the rule?

10. A sues B on a bond alleged to have been executed by him. B denies execution. C, one of the attesting witnesses to the bond, is asked in cross-examination whether he did not 15 days ago get up a bond against D, and refuses to answer the question. Can he be compelled to answer it, and if he answers it in the affirmative, can this statement be used against him in a prosecution instituted against him for forgery? Give reasons for your answer.

11. The question at issue between A and B is whether B is the grandson of C who died 10 years ago and whose property he seeks to recover. B puts in a letter from C's sister's son F, who is now insane, to his relative D in Benares written 8 years ago communicating to him the fact of C's death and that his brother's grandson B performed the funeral ceremonies of the deceased. A proposes to prove—

(1) that B sent him a notice 9 years ago calling upon him to give over possession of the deceased's property;

(2) that F was a party to several forgeries; and B proposes to prove that F is a respectable person and that he deposed before the Tahsildar that he (B) was C's grandson in the course of a revenue inquiry in 1885. Can these matters be proved? Give reasons for your answer.

UNCOVENANTED CIVIL SERVICE EXAMINATIONS.

SPECIAL TESTS, 1889.

EVIDENCE ACT—HIGHER GRADE.

Time—Three hours.

1. Why are affidavits and proceedings before an arbitrator exempted from the provisions of the Evidence Act?

2. Give instances of any rules of evidence not repealed by the Evidence Act.

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3. A saw B murder C. A mentioned this to his father a week afterwards. Can the prosecutor prove what A said to his father on the trial of B for murder of C? Give reasons for your answer.

4. What presumptions may be drawn by a court—

(a) as to a telegraph message?

(b) as to documents not produced after notice?

(c) as to documents purporting to be 30 years old?

Give reasons for the rule in each case, and state when documents are said to be in proper custody.

5. Can a person who has executed a deed of sale of land prove under any circumstances that the transaction was only intended to be a mortgage? Give reasons for your answer.

6. Give a summary of the rules laid down in the Evidence Act as to estoppels, with examples.

7. What exceptions are there to the rule that a contract in writing cannot be varied by oral evidence? Illustrate your answer by examples.

8. Under what circumstances, if any, can a witness be compelled to produce his title-deeds?

9. In what ways may a witness refresh his memory during examination?

10. A is charged with abetting B to commit an assault on C. Can the prosecutor prove that on other occasions A tried to induce X, Y and Z to assault C? Give reasons for your answer.

LAW OF TORTS.

Time—Two hours.

1. State the general principle pervading the law of torts, and write a short note on—

(a) Damage without injury is never actionable.

(b) Injury without damage is actionable.

2. In what circumstances may a tort be ratified?

3. What is an easement of necessity, and how may it be extinguished?

4. Provoked by the insulting jests of a lad, A picks up a stick and chases him. In terror for his life the boy runs into a shop and upsets a table on which are exhibited some lamps, which, in consequence, fall to the ground and break. Has the shopkeeper any remedy? State the principle which governs such cases as the above.

5. Explain and illustrate the meaning of "inevitable accident," and state what result flows from such a defence if established.

(a) Sparks from a locomotive belonging to a railway company, whose line skirts A's land, set fire to and destroy a stack of hay on A's land.

(b) B's cow, while grazing on his own land, goes near the fence and swallows a piece of decayed iron that had fallen upon A's land from the fence which was put up by the owner of the adjoining land, and died.

Have B and A a right of action in the above cases? Give reasons for your answer.

6. Explain, illustrate and distinguish between (a) the remoteness of a cause to the injury, (b) the remoteness of damage to the injury, and (c) the remoteness of a duty to the person injured.

7. State the measure of damages in the following suits :—

(a) For infringement of a patent.

(b) Against the directors of a company for deceit in inducing the plaintiff to purchase shares.

(c) Against a tenant for negligence resulting in the destruction by fire of a house insured by plaintiff to the extent of half its value.

INDIAN CONTRACT ACT—HIGHER GRADE.

Time—Two hours.

1. What legal consequences flow from a person entering into an agreement under a mistake (1) as to a matter of fact, (2) as to a matter of law?

(a) A, in ignorance of the facts negating his liability, due to an imperfect investigation of them, on his part, pays his son's debts. Is he entitled to recover his money? Give your reasons.

2. What is meant by the lawfulness of an agreement?

(a) A, who is about to marry B, enters into an agreement to pay B Rs. 150 per mensem if they should separate after marriage. A year after their marriage A and B separate, and B sues A under the agreement.

(b) A promises to pay B a sum of money as compensation if he will, when summoned, appear in court and state what he knows of the facts in a suit then pending between A and C. B appeared and gave evidence accordingly.

(c) A becomes an insolvent during the pendency of a suit brought by him against B. The Official Assignee assigns A's rights in the action to D, a scheduled creditor, on terms that he should carry on the action at his own risk and, should he be successful, recoup himself the costs and take 20 per cent. on what he recovers. D proceeds in the suit and recovers a large sum of money.

Can the above agreements be impeached? Give your reasons in each case.

3. In what cases does the vendor's right of lien exist?

A sells B goods and accepts in payment a bill of exchange payable a month after date. Two days after the sale and before the removal of the goods, B becomes insolvent. Can A exercise his right of lien?

4. A pawnor claims back a portion of the property pledged on the ground that a considerable portion of the money lent thereon has been paid. The pawnee declines to comply with the demand, and claims to retain the property for subsequent loans as well. Is he justified in so acting?

5. Distinguish between 'warranty' and 'representation.'

What are the rights of a buyer of moveable property sold with a warranty when there is a breach of warranty in the following cases :—

(a) When it consists of a specific article;

(b) When it consists of goods not ascertained and not in existence at the time of the contract.

6. Give the exceptions to the rule that an agent cannot sue or be sued in respect of contracts entered into by him on his principal's behalf.

7. In the event of a dissolution of partnership, what scheme does the Act provide for the distribution of the assets?

EQUITY.

Time—Two hours.

1. Under what circumstances does a right to contribution arise? How does a right to contribution at law differ from a right to contribution in equity?

2. Explain what is meant by the doctrine of election. When does a case for election arise? Give two instances in illustration of your answer.

3. Explain and distinguish between "voluntary waste," "permissive waste" and "equitable waste." What remedy is open to the reversioner when a tenant for life commits waste?

4. Under what circumstances can the court give relief under the Specific Relief Act on the ground of mistake?

5. What are the rights, under the Specific Relief Act, of a purchaser against a vendor with an imperfect title?

6. A contracts with B, a merchant, that he will serve faithfully for four years as clerk. Discuss the remedies open to B in case A leaves him for the service of another merchant.

7. What relief can A obtain under the Specific Relief Act in the following cases, and why:—

(i) The directors of a fire and life insurance company, of which A is a shareholder, are about to engage in marine insurances.

(ii) B builds a house with eaves projecting over A's land.

(iii) B agrees to sell goods to A to be paid for by A's acceptances of four bills of exchange to be drawn by B on A. The bills are drawn and accepted, but the goods are not delivered.

(iv) B has wrongfully disposed of stock which he held on trust for A.

(v) B bequeaths land to A for life with remainder to C. On B's death A enters on the land, but C obtains possession of the title deeds.

CIVIL PROCEDURE CODE—HIGHER GRADE.

Time—Three hours.

1. A plaintiff having obtained a decree against her deceased husband's relatives for the payment to her of a monthly sum for her maintenance, subsequently sued to have it constituted a charge on certain land. Is or is not her claim obnoxious to any provision of the Code? Give your reasons.

2. A district munsif struck off a suit from the file of his court in default of appearance of both parties, and, on the subsequent application of the plaintiff, restored it. The district judge on appeal reversed the last-mentioned order. Discuss the propriety of the above three orders.

3. In what cases is an order of revivor necessary before executing a decree? Can a court to which a decree has been submitted pass such an order?

4. When a judgment-debtor, who has been arrested in execution of a decree for money, applies to be released from arrest, what matters should the court have regard to in dealing with his application?

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5. A witness summoned to produce a document in a suit duly attended the court but failed to produce it. He stated in his examination that it was not in his possession, but the judge disbelieved him. Is the witness liable to any and what punishment in the circumstances?

6. When property is sold by the court for the discharge of an incumbrance thereon, state the rules to be observed in regard to the application of the proceeds.

7. A decree-holder attached a debt alleged to be due to his judgment-debtor by B, who, on being subsequently examined by the court, admitted his indebtedness. The court further found that he was in a position to pay the debt. Could the court, instead of selling the debt, compel B to pay it into court or execute the decree against him to the extent of his liability? Give reasons for your answer.

8. State concisely the provisions of the Code in regard to interpleader suits.

9. With what powers are the courts invested in regard to the office of receiver, and what are the duties and liabilities of a person appointed to such office?

10. State the grounds on which an award may be remitted to an arbitrator for reconsideration, and on which it may be set aside. In what circumstances does an award become void?

MUHAMMADAN LAW.

Time—Two and a-half hours.

1. What are the two great schools of Muhammadan law? How did they originate? In what parts of India do they respectively prevail?

2. State the general principles of the Muhammadan law of inheritance, and contrast them with those of the Hindu law on the same subject.

3. Explain the following terms:—(1) Legal sharers, (2) distant kindred, (3) acknowledged kindred, (4) true grandfather, (5) false grandfather. In which class of heirs is a true grandfather comprised?

4. What are the general rules of Muhammadan law as to the validity of wills? How is a testator's power as to legacies limited?

5. Summarize the Muhammadan law as to dower, whether prompt or deferred.

6. How far do the acts of a guardian bind the estate of his ward under Muhammadan law?

7. A Muhammadan had four sons and two daughters; one of the sons died in the father's lifetime, leaving a son; the rest of the family survived the father, who left also a widow. Distribute the estate of the father.

8. A Muhammadan died leaving his widow, his mother and his two sons. Distribute his estate.

9. What are the conditions of a valid divorce under Muhammadan law?

HINDU LAW.

Time—Two and-a-half hours.

1. A Hindu widow, whose husband has left collateral heirs, alleging that the property held by her as such, is insufficient for her maintenance, agrees, for purposes neither religious nor charitable to sell part of such property. Under what circumstances can her vendee maintain his title under the sale against the collateral heirs?

2. What are the rules recognised in Hindu law as to the time when an adoption should be made?

3. A Hindu became surety for the repayment of a loan. The loan was not repaid, and the principal creditor, after the death of the surety, sued his undivided son for the amount due. Is the son liable, or not, and why?

4. A, the daughter of B, inherited his property under Hindu law. A had a son who predeceased her, leaving a son C. A died leaving daughters who entered into possession of B's inheritance. Is C entitled to recover possession from them under Mitakshara law?

5. How does a woman's unchastity affect her rights over the property of her late husband?

6. A Hindu executed a trust deed of certain self-acquired property providing that the property should be handed over to B on his attaining his majority, and that on B's death it should go to B's children, but that if B died without children it should go to the other sons of B's mother. B's mother had another son, C, at the date of the trust deed, and was not past child-bearing. B attained his majority and died childless. C thereupon claimed the property. State the arguments for and against C's claim.

7. What are the distinctive features of the Āliya Śāntāna system of law?

8. Explain the following terms:—Samanodāka, Sapatibandha, Soudayika, Yajamana, Āśān.

EVIDENCE ACT—LOWER GRADE.

Time—Three hours.

1. Mention the classes of judgments that are conclusive.
2. Specify the several ways in which the evidence of a witness may be impeached. Can a party discredit his own witness?

3. In what cases may secondary evidence of the contents of a document be given without notice to produce to the adverse party?

4. What is meant by the expression that in all cases oral evidence must be direct?

5. In what circumstances, if any, may the admission of a party as to the contents of a document executed by him be admitted in evidence against him?

6. State the communications between husband and wife and between pleader and client that are not privileged from disclosure.

7. A is charged with receiving an illegal gratification from B on three occasions in 1886. Evidence is offered to show that A received from B other illegal gratifications in 1887 and 1888, distinct from those he received in 1886. Is the evidence admissible? Give reasons for your answer.

8. A, who is charged with house-breaking and theft, says to the police constable that arrested him:—"I committed the offences with my neighbour B. I got the implements with which I broke into the house from B. The property I took from the house is buried in my hut." In consequence of this confession, the stolen property is discovered by the constable, and B is charged as an abettor. Can the constable depose to all or any of the above statements (1) at the trial of A and B together, as principal and abettor, on the above charges; (2) at the trial of B as an abettor separately? Give reasons for your answer.

9. What is meant by "the burden of proof"? On whom, and for what reason, does the burden of proof in the following cases lie:—

(a) A, a shopkeeper, sues B for the price of a hat, which he alleges B has not paid. B admits having bought the hat at A's shop but says that he paid for it at the time of purchase.

(b) A produces a document, in part duly stamped. B alleges that the document was stamped after A received it.

10. In actions for defamation and for breach of promise of marriage, mention any relevant facts which may be given in evidence by the plaintiff or by the defendant respectively in enhancement or mitigation of damages.

LIMITATION ACT.

Time—One and-a-half hours.

1. Discuss the provisions of the Limitation Act relating to the acquisition of ownership by possession, with special reference to the meaning of the terms *possession* and *interruption* of possession.

2. Explain the following terms as employed in the Limitation Act:—(α) *Ad done*, in good faith; (β) trustee; (γ) bond; (δ) dishonoured bill of exchange.

3. State the period of limitation and the time from which the period begins to run for suits of each of the following descriptions:—

(α) For the wages of a household servant.

(β) To set aside an order of an officer of Government in his official capacity.

(γ) For the price of goods sold and delivered to be paid for by a bill of exchange, no such bill being given.

4. Suit to recover three jewels on the ground that the plaintiff had delivered them to the defendant to deliver to AB and that the defendant had not done so; and that when the fact became known to him and he demanded the jewels the defendant denied having received them. What is the period of limitation applicable to this suit and from what time does the period begin to run?

5. What are the requirements of a valid acknowledgment for the purpose of saving limitation? Discuss the following case:—A plaintiff suing on a bond sought to take his suit out of the operation of the Act by proving an endorsement of payment on the bond in the defendant's handwriting; the endorsement did not show that the payment was made towards the principal but oral evidence was available to prove that it was so made.

6. State the time from which the period of limitation will begin to run in A's favour in the following cases; give the reasons for your answer:—

(α) A incurs a debt to a firm of which E, F and G are partners; E and F are insane and G is a minor.

(β) A owns the subsoil and B the surface of a field. A makes excavations without causing any apparent injury to the surface for a time but at last the surface subsides.

7. A lent a sum of money to B at Pondicherry, and subsequently sues him in Madras, where B resides, to recover the loan with interest. Both A and B are British subjects. B pleads that A's claim is barred by the limitation law in force at Pondicherry; is this a defence to A's suit?

State the general rule as to the applicability of foreign limitation law in British India.

CIVIL PROCEDURE CODE—LOWER GRADE.

Time—Three hours.

1. In suits based on contract, where may the cause of action arise, and in what cases is it necessary to obtain the leave of the court to the filing of a plaint?

2. What are the limitations set by the Code on the powers of a court to compel the personal attendance of a party to the suit?

3. Give the requisites of a set-off.

A owes a firm of solicitors, whose partners are B and C, Rs. 100 for conveyancing work done by them. C dies. A sues B for Rs. 500, being the price of a horse sold to him. Can B set-off the debt of Rs. 100?

4. State the consequences that result from the failure of a party to comply with an order to produce a document for the inspection of the opposite side.

5. From what sources is the court at liberty to frame issues?

6. In what circumstances can one court transfer a decree to another court for execution? Specify the documents that should be sent to enable the latter court to execute the decree.

7. There are certain questions to be determined by the court executing a decree and not by separate suit. What are they?

8. The holder of a decree in a certain court wishes to attach another decree of the same court as well as a decree on the file of another court. Mention the steps he has successively to take to attach the decrees and to realise the fruits of such attachments.

9. How is the delivery of debts and of shares in public companies made to the purchasers thereof?

10. What is the effect of the discharge of an insolvent (a) as regards his person, (b) as regards his property?

STAMP ACT.

Time—One and-a-half hours.

1. What is the object of the stamp law? Does it indirectly serve any other purpose than the primary one? If so, how?

2. How are the following terms defined in the Stamp Act:—“Bond,” “conveyance,” “Collector”?

assaults *A* by striking him with a cane. Has *B* committed any offence? If so, what, and why?

3. If one person kills another, by doing an act which he knew might cause the death of such other, but did not intend that it should, what defence is open to the doer of the fatal act, according as to whether the person he has slain is either (a) an adult, or (b) a minor?

4. Mention the several methods of abetment defined in this Code, and state what effect either the absence, or presence, of the abettor has, on his liability for punishment, when an offence has been committed in consequence of his abetment.

5. Examine the following defence, and state whether, in your opinion, it would be a valid one under any circumstances, assigning reasons for your answer:—

Seven persons, charged with rioting, answer such charge by declaring that they only used force to prevent a procession from passing, which they believed a Magistrate had prohibited and which therefore they thought was illegal.

6. What offences (if any) have been committed in each of the following cases:—

(a) *A* falsely complains to an Inspector of Police that *B* has stolen his watch.

(b) *C* falsely fills up a municipal assessment paper which he has received from the municipal authorities:

(c) *D*, having a decree against *E* for Rs. 1,000, alters the words and figures of the decree to Rs. 2,000, and executes the decree for the latter sum against *E*.

Assign reasons for your answers.

7. What offence (if any) has been committed in each of the following instances:—

(a) One of *F*'s cows having died, *F* buries it in his compound; *G* digs up the carcase of the cow, and carries it off.

(b) *H* picks *J*'s pocket and abstracts his purse, and then runs away; *J* discovering his loss, pursues *H*; whilst the pursuit is going on, *H* (unperceived by *J*) hands the purse to an accomplice, and then, as *J* still follows him, *H* picks up stones and throws them at *J* to prevent *J* from capturing him.

Assign reasons for your answers.

8. Give an example, showing how it may be possible, that a person who actually kills another, may yet be only guilty of culpable homicide not amounting to murder, whilst a bystander may be guilty of murder.

9. *L* and *M* are both employed by *O* as his servants; *M* informs *O* that *L* is dishonest; in consequence of such information, *O* dismisses *L*, who then charges *M* with having defamed him. What valid defence would *M* have to such a charge?

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10. *P*, having a grudge against *S*, informs *R* that the next time he meets *S*, he (*P*) intends to shoot him (*S*). Under what circumstances would *P*'s remark be an offence? And what offence would it then be?

CODE OF CRIMINAL PROCEDURE—LOWER GRADE.

Time—Three hours.

1. Define *non-cognizable offence*; *European British Subject*; and *offence*.

2. How should a summons be served on an accused person, and what is the procedure, if the summons cannot be served on the accused personally?

3. How may a warrant of arrest be executed outside the local limits of the jurisdiction of the court issuing the warrant?

4. *A* is being tried for criminal force used against *B*. Before judgment is pronounced, *B* desires to withdraw his complaint and the magistrate permits him to do so. What order must the magistrate pass?

5. *A* is accused of an act which amounts to theft, or receiving stolen property, or criminal breach of trust, or cheating; what is the proper charge to be framed in such a case?

6. *A* is wounded by *B* within the local limits of the jurisdiction of the court of *X*, and is during ten days within the local limits of the jurisdiction of the court of *Y*, and for ten days more within the local limits of the jurisdiction of the court of *Z*, being unable meantime to follow his ordinary pursuits in life. By which of the courts should *B* be tried?

7. What sentences is it in the power of a presidency magistrate to pass?

8. A railway passenger assaults a fellow passenger while the train is within the limits of the Cuddalore district. On arrival of the train in Madras, the offender is placed before a presidency magistrate for trial. Has such magistrate jurisdiction? Give your answer fully.

9. Against what property may a warrant for the levy of the amount of a fine, by distress and sale, be issued?

10. Under what circumstances may a magistrate issue a search warrant?

PENAL CODE—LOWER GRADE.

Time—Three hours.

1. When is a Magistrate a "Judge," and when not? When is an arbitrator a "public servant," and when not?

2. Define "fighting," "affray," "coining," "abduction."

3. Point out the illegality in each of the following sentences:—

(1) One year's rigorous imprisonment including 80 days' solitary confinement.

(2) For criminal breach of trust as a clerk, A is sentenced to transportation and a fine of Rs. 1,000, or, in default of payment of fine, to simple imprisonment for three years.

4. When is an act said to be committed in consequence of an abetment?

5. In acts which are criminal unless done with the consent of the sufferer, when is such consent, although given, either (a) immaterial, or (b) altogether void?

6. What offence has B committed in each of the following instances:—

(a) A suffers from an incurable disease which causes him great agony, but being bed-ridden he is unable to leave his room; he therefore requests B to procure him poison in order that he may commit suicide; B purchases the poison, and gives it to A, who swallows it and dies.

(b) Under similar circumstances, A requests B to take a pistol and shoot him; B consents, and firing at A kills him.

Give reasons for your answers.

7. What offence has A committed in the following example, and why:—

A, intending to steal B's horse, asks B's horsekeeper to assist him in doing so; the horsekeeper pretends he will aid A, but informs his master B of A's design. The horsekeeper and B then agree to entrap A, and therefore with B's consent the horsekeeper leaves the stable unlocked; A enters and carries off B's horse.

8. D wishes to become a butler, but he has never been in service and has no characters; he therefore goes to F, who is a butler, and borrowing his characters presents himself with them to K, who has advertised for a butler. K, believing that the characters brought to him refer to D, engages D as his butler. What offences has D committed, and why?

9. Under what circumstances does the code treat the following incidents as offences:—

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| (a) Mendacity; | (e) Promulgating rumours; |
| (b) Drunkenness; | (f) Selling books; |
| (c) Obscenity; | (g) Disease; |
| (d) Quarrelling; | (h) Inoculation; |

and, when may a mere communication be an offence?

10. A believing himself to be the father of W, an illegitimate girl aged 15, entices W to leave her mother, without her mother's consent, in order that he (A) may give her in marriage to a rich friend of his. Has A committed any offence, and, if not, why not?

REVENUE LAW—HIGHER GRADE.

Time—Three hours.

1. The land of the hereditary village office of A, a karnam, was duly enfranchised by the Inam Commissioner; subsequently B claimed a share in the land, and the Deputy Collector in charge of the division in which the land is situated adjudicated on B's claim under Regulation VI of 1831? Was the Deputy Collector right? If not, why not? To whom would the appeal against the Deputy Collector's decision lie? What is the power of the Collector in the case?

2. A, a ryotwari pattadar, becomes a defaulter; B, a tenant of C, also becomes a defaulter, and C becomes a defaulter in respect to income-tax due by him.

In each of these cases what interest may be charged on the amount of the arrears due? What property may be attached and sold? And what is the period (1) of appeal; (2) of imprisonment, and (3) of limitation for the recovery of the arrears?

3. If a party wishes to ascertain the duty chargeable on an instrument, how can he claim adjudication of his doubt as to proper stamp? When may a penalty be inflicted for executing an instrument on a paper not duly stamped? Is there any authority empowered to remit such penalty? And are the orders of the Collector under the General Stamp Act open to revision?

4. How is the rent-value of lands for the purposes of the Local Funds Act calculated (1) from lands in Malabar; (2) from inam lands; (3) ryotwari; (4) tenures other than ryotwari, and (5) where the revenue is paid in kind? Is there any distinction in the incidents and method of recovery of the cess in each of these cases? If so, why?

5. In the town of Madras certain fees are authorized to be charged for measuring lands by the Registration Department; the Registrar employs the Revenue Inspector to corruptly exact more than the authorized fees; the Inspector does so, and gives the whole amount he has exacted to the Registrar, who embezzles it, and then proceeds to conceal his act by falsifying certain records, and the Inspector destroys other records. The Collector does not wish to prosecute the men under the criminal law. Is there any provision of the Revenue law under which he may proceed? If so, describe the procedure he ought to adopt? To what punishments are the Registrar and Revenue Inspector severally liable? And how are those punishments to be carried out?

6. A notification is issued that a certain tract is to be constituted a reserved forest, and a claim is thereon preferred to (a) a right of way, (b) a right to use water, (c) a right to pasture, and (d) a right to forest produce. The Forest Settlement Officer, after inquiry, admits the right with respect to (a) and (c) but rejects it with respect to (b) and (d). To whom and within what time may an appeal against his decision be made, and what is the procedure to be followed by the appellate authority? May the admitted claims (a) or (c) be commuted? If so, on what terms?

7. Certain unassessed waste land is darkhasted for; the Collector proposes to put it up to auction and sell it to the highest bidder; Z prefers a claim to the land incompatible with the sale; notwithstanding the Collector sells it. Would an appeal lie against the Collector's action? If so, to whom? If not, how is Z to obtain redress, and should he subsequently succeed in establishing his claim what would be the result?

8. B, a landlord, files a summary suit under Madras Act VIII of 1865 against his tenant, A, before the Deputy Collector in whose division the land is situated. On the date fixed for trial of the suit B fails to appear, and the Deputy Collector passes an *ex-parte* judgment. By whom could the appeal against his judgment be admitted; within what period, and on what grounds?

If both B and A appear at the trial of the suit and judgment be passed, to whom and within what period would the appeal from the Deputy Collector's judgment then lie?

How and by whom may the terms of the judgment be executed or enforced?

9. When land is to be acquired for a public purpose, what are the matters to be taken into consideration in determining the amount of compensation to be paid for it? What matters are not to be taken into such consideration? And how is the amount of compensation limited (a) when the person has made a claim, (b) when he has omitted to make a claim, and (c) when the Judge thinks he has shown sufficient cause for his omission? What, in your opinion, would be sufficient to constitute an "interest" in the land, and what do you understand by its "market-value"?

10. A clerk employed on a salary of 40 rupees per mensem holds two municipal debenture bonds of 1,000 rupees each with interest at 6 per cent. per annum, and a Government promissory note of 10,000 rupees with interest at 4 per cent. He owns two houses the monthly rent value of each of which is Rs. 20; he lives in one house and lets the other.

Under India Act No. II of 1886 how would you assess him to income-tax on each of his sources of income?

11. Under "The Madras Village Courts Act, 1888" (No. I of 1889,) what power has the Collector to appoint, suspend, or remove a village munsif? What is the duty of the karyam and village servant? How is a village bench constituted? Who are qualified to serve on it, and what is the penalty for refusing or omitting to serve?

12. Give a brief outline of the present abkari law, the powers and duties of the several classes of officers appointed under it, and of the various systems of administration it has introduced.

CIRCULAR ORDERS OF THE BOARD OF REVENUE—

HIGHER GRADE.

Time—Three hours.

1. (a) A and B put in separate applications for the same field. A put in his application on the 20th November; B put in his application on the 19th November. Both A and B have land adjoining the field applied for; but A's land adjoins it on three sides, whilst B has land on only one side of it. A lives in the village; B does not. Which of the two is entitled to succeed?

(b) In the above case, supposing there was a well in the field and that A had since 5 years been using the well water for cultivating his adjoining lands, what difference, if any, would that make—

(i) If A had never held the field on patta?

(ii) If A had relinquished the field 6 years before?

(iii) If A made it a condition in his application that the land should be made over to him early in the next Fasli, and that he should pay assessment from the next Fasli? Give brief reasons for your answers.

2. The ayacut of a ruined tank is 400 acres. When the tank was granted to private persons for repair 50 acres were under wet

cultivation and 200 acres under dry cultivation. When the tank is repaired its irrigable area is found to be 500 acres. On how many acres is the special rate of assessment to be levied? Give reasons for your answer.

3. By what considerations should a Collector be guided in forming an estimate of the value of land required for public purposes?

4. What is the course to be followed for the recovery of stamp duty in pauper suits?

5. (a) Is an estate under the management of the Court of Wards liable to be sold for arrears which have accrued during the Court's management? If not, how are the arrears to be collected?

(b) What percentage of the receipts must be set apart for the Minor's expenses?

(c) In the case of an estate which is in arrears when taken under management, how are these arrears to be dealt with, if the receipts during management have only just sufficed to pay the Government demand and the Minor's expenses?

6. Criticize the orders passed in the following cases:—

(i) The irrigable area under a tank when it receives full supply is 2,000 acres. In a certain year the tank received only half supply. The Tahsildar reported to the Collector that the water in the tank would suffice for the irrigation of only 600 acres lying near the tank bund. The Collector thereupon issued an order that only the 600 acres specified by the Tahsildar should be irrigated, and that if any other lands were irrigated prohibitive assessment should be charged.

(ii) A ryot raised wet crops on his dry lands by means of water which percolated from a pond in unassessed waste. The pond is a natural one and Government have never spent any money on it. At the jamabandi water-rate was charged on the lands.

(iii) A Karnam died leaving a childless widow whom he had authorized to adopt a son. The Karnam's brother applied for the vacant post. The Collector appointed the widow to the post, and told the brother that he should bring a suit under Regulation VI of 1831 if the widow failed to adopt a son within one year.

7. An enfranchised Inam measures 55 acres assessed at Rs. 220, and bears a quit-rent of Rs. 100. The original Inam measures 40 acres bearing a quit-rent of Rs. 40, and the survey excess is 15 acres assessed at Rs. 60. The Inamdar relinquishes 11 acres assessed at Rs. 44. The Tahsildar calculates the quit-rent on the remaining Inam to be Rs. 80. Is the Tahsildar's calculation correct? If not, what is the proper quit-rent on the remaining Inam? Show how you calculate it.

8. (a) A Tahsildar issued summonses under Act III of 1869 (Madras) in a dawkhast case and collected process fees from the person who applied for the summonses. Was he justified in this?

(b) "As a rule, no process fees should be collected from parties appearing before Tahsildars and Collectors for obtaining lands or for getting disputes connected with them settled." How then are processes to be served? Is there any special case in which this rule may be relaxed? If so, name it.

9. There are certain special cases in which rewards for the destruction of wild beasts may be granted, although the skin and skull are not produced. What are those special cases? Who may grant rewards in such cases? And what must be done before a reward is granted?

STAMP RULES.

Time—One and-a-half hours.

1. Specify the different kinds of stamps prescribed by the Government of India under the Stamp Act. Is there any one kind of stamp which can be used for all descriptions of documents?

2. Give a concise summary of the rules relating to the remuneration of licensed stamp vendors in Madras.

3. If a licensed stamp vendor dies and his heir does not obtain a license, how can he realise the value of stamps in stock at the time of the licensed vendor's death? State clearly whether your answer applies to all descriptions of stamps.

4. What officers in the Madras Presidency are invested with the powers of a Collector under the Stamp Act?

5. If a person wishes to obtain a refund of the value of an impressed stamp paper what must be done (a) by him, (b) by the officers of Government?

6. What is a local depot for the sale of stamps? What stock is required to be kept in each and how is it to be renewed?

7. When a licensed vendor has no stamps of the exact denomination required by a purchaser, what is the procedure to be followed?

CIVIL ACCOUNT CODE, VOLUME I, THE WHOLE.

REVENUE HIGHER GRADE AND COLLECTORS' ACCOUNTS.

Time—Three hours.

N.B.—As there are three papers on the Account Code, candidates should be careful to see that they get the right paper. This one is to be answered by candidates who come up for the Revenue Higher Grade and also for the Account Test, to qualify, in the latter case, as Accountants in Collectors' offices.

1. What action, if any, should a treasury officer take when unauthorised charges are disallowed by the Accountant-General?

Should he communicate with the Accountant-General or the officer concerned upon his action, if any?

2. What scrutiny should the salary bill of an officer on a contract of service made in England undergo before pay is passed to him?

3. What information should an arrear bill contain to support it?

When should such bills be presented, and how many items may they contain?

4. Are there any exceptions to the 5/limited for transfer receipts; if so what?

Are military officers in civil employ allowed transfer receipts for private purpose? If so, to what extent?

5. What steps are necessary to renew notes the interest on which is made payable at a given district treasury?

6. What test is necessary for a treasury officer to apply to cheques and letters of credit presented for payment?

Can he under any circumstances decline to honour a cheque presented by a payee not in Government employ?

7. State briefly in what manner bills paid should be treated and recorded.

8. Under what restrictions do disbursing officers of the military department draw against their assignments—

(a) As to form of draft.

(b) Period during which the above is in force.

(c) The minimum amount to be so drawn.

9. How many registers should be kept for the purpose of recording the issue and receipt of currency notes? What particulars should be recorded in them?

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10. What is the weight of a lakh of rupees in maunds—(a) net; (b) packed for remittance?

What is the nominal value of a seer of copper coins and of a maund packed for remittance?

11. By what mode of conveyance is it permissible to send whole notes? how should they be packed, and what arrangements made to secure safe transit?

CIVIL ACCOUNT CODE, VOLUME I, CHAPTERS

1 to 7, 13, 17, 28, 29.

REVENUE—LOWER GRADE.

Time Two Hours.

N.B.—As there are three papers on the Account Code, candidates should be careful to see that they get the right paper. This one is to be answered only by candidates who come up for the Revenue Test, Lower Grade, and not by candidates for the Account Test.

1. What action, if any, should a treasury officer take when unauthorised charges are disallowed by the Accountant-General?

Should he communicate with the Accountant-General or the officer concerned upon his action, if any?

2. What scrutiny should the salary bill of an officer on a contract of service made in England undergo before pay is passed to him?

3. What information should an arrear bill contain to support it?

When should such bills be presented and how many items may they contain?

4. What is the duty of a countersigning officer with respect to contingent bills submitted for his signature?

5. What rates of interest do advances not having received the previous sanction of the Government of India bear, and what are the rules with respect to repayment of the same?

6. What officers regulate the supply of stock notes to district treasuries, and whence do sub-treasuries draw their supplies?

7. State the rules with respect to the adjustment of interest on stock notes at the time of sale, and who is responsible for any errors made in applying the same.

8. What books should be maintained in the treasurer's department in which to record receipts and payments?

What rules is the treasurer to observe in respect to posting such transactions and the treatment of vouchers in connection with the same?

9. Give the "form of closing abstract of the cash account" for any month, and state what check the treasury officer has in his power to apply to it?

10. Are silver coins issued by the late East India Company and Portuguese coins legal tender?

11. How many registers should be kept for the purpose of recording issues and receipts of currency notes? What particulars should be recorded in them?

CIRCULAR ORDERS OF THE BOARD OF REVENUE—

LOWER GRADE.

Time—Three hours.

1. Give a brief account of the rules regulating the construction of tanks by private individuals.

2. A, a ryot, sells his patta lands to B. The lands are made over to B, who cultivates them. Arrears having accrued on the lands the Tahsildar orders the Karmam to collect them from B. B refuses to pay. The Tahsildar thereupon orders the village officers to attach B's moveable property. What are the points to be considered in determining whether the Tahsildar's action is proper or not?

3. (a) When a licensed stamp-vendor purchases stamps on discount from an *ex-officio* vendor, how must the *ex-officio* vendor show the money paid to him in his accounts?

(b) If a licensed vendor dies, or if his license expires or is revoked, what can be done with his surplus stock of stamps?

4. (a) Give a brief abstract of the rules regulating the grant of house-sites and the extension of village-sites.

(b) When is cultivation of grammanattam permissible?

(c) May any portion of grammanattam be given on patta?

5. In the case of land acquired for public purposes by private negotiation—

(a) When is it necessary to take conveyances?

(b) When is it necessary to register such conveyances?

(c) When it is not necessary to take conveyances, what should be done?

6. Give your opinion, with reasons for it, upon the following cases:—

(i) A ryot has a dry field measuring 3 acres 40 cents. He made a seed-bed on 50 cents and in 2 acres 25 cents raised a dry crop. He irrigated the seed-bed and the dry crop with water from a first-class tank. At the jamabandi he was charged Rs. 2 on the seed-bed (at the rate of Rs. 4 per acre) and Rs. 5 on his dry crop at the rate of Rs. 2 per acre on 2 acres and 50 cents.

(ii) A ryot wished to irrigate his dry land with water from a Government tank. He applied to the village officers for permission to take water, but they refused permission on the ground that the tank had received short supply. In spite of this he took water. At the jamabandi he was charged with water-rate at Rs. 20 an acre.

(iii) A field bearing an assessment of Rs. 20 was sold for arrears of revenue amounting to Rs. 35. The officer conducting the sale suspected combination and bought the land in for Government for Rs. 20.

(iv) The holder of an enfranchised Inam sent to the Tahsildar a petition relinquishing the whole Inam. The Tahsildar referred the petition to the village officers for enquiry, and on receipt of their report accepted the relinquishment.

7. What cases cognizable under Regulation IX of 1822 can be inquired into by Tahsildars? Can a Tahsildar of his own accord take up cases of malversation by village officers under Regulation IX of 1822?

8. What officers may grant rewards for the destruction of wild beasts? and subject to what conditions?

REVENUE LAW—LOWER GRADE.

Time—Three hours.

1. The crops of A are attached for revenue due on his field; B claims the crops on the ground that they have been mortgaged to him. What is the effect of such mortgage as respects the claim for revenue? What is B's remedy in a case like this?

2. What is the position of karkhanam in a zemindari village in comparison with a karmam in a ryotwari village? Who can appoint, suspend, or dismiss in each case?

3. What is "kudi maramat," and what power has a Revenue officer to enforce its use on irrigation or drainage works?

4. What petitions require to have a one-anna court-fee stamp to be affixed to them before presentation?

5. A revenue inspector, an abkari sub-inspector, and a police station officer, while going along a road, see a cart laden with jars of arrack passing. The driver is apparently trying to avoid observation. What does the law permit each, or any of these officers to do?

6. When may a separate cess for the use of water be levied in addition to the land assessment, and how is it recoverable? When could such a cess be levied from a zemindar or other proprietor of a permanently settled estate? When would the levy be illegal?

7. When is a stamp paper held to be spoiled or unfit for use? Within what period must application for refund of its value be made? In what cases may refund be granted?

8. When a defaulter, who has no moveable or immoveable property in the district in which an arrear has fallen due, resides in another district, how is the arrear to be realised?

9. Recite briefly the duties and powers of taluk and village officers with regard to boundary marks and their maintenance.

10. With what powers is a tahsildar invested under the Income-tax Act No. II of 1886? Describe briefly his procedure in assessing persons under those powers.

11. To whom and to what extent may a loan of money be advanced for the purchase of seed or cattle, or the relief of distress? How is the loan recoverable, and what is the security for its repayment?

12. Who has the power to license a stamp vendor? What endorsement must the vendor make on a stamp when he sells it, and what is the penalty if he fails to make this endorsement?

RULES UNDER THE SEA CUSTOMS ACT.

Time—Two hours.

1. What is the rule regarding the import into and the export out of British India of arms, ammunition and military stores?

2. A merchant claimed drawback upon a gun re-exported to the port of Diu. How would you deal with his application? Give reasons for your answer.

3. Give a brief summary of the rules for the methylation of spirits.

4. What powers are given to commanders of vessels over goods which the importer, owner or consignee has failed to land?

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5. Under section 132 of the Sea Customs Act, if two vessels belonging to the same owner be at any customs-port at the same time, any provisions and stores in use or ordinarily shipped for use on board may, at the discretion of the Customs-Collector, be transhipped from one vessel to the other without payment of import duty. How has the operation of this section been restricted in this presidency?

6. A steamer plies between Colombo, Pondicherry, Madras and Calcutta. Should you consider it as engaged in the coasting-trade, or not? Give reasons for your answer.

7. What is the course which should be taken when goods are landed without being entered in a manifest? What is the restriction regarding the admission of supplemental manifests? What is the fee charged on supplemental manifests?

8. Between what hours and on what days are custom-houses in the Madras Presidency open for the transaction of business? What is the scale laid down for the remuneration of custom-house officers who are required to transact business when the office is not open?

SEA CUSTOMS LAW.

Time—Two hours.

1. Specify and define the different kinds of "ports" mentioned in the Sea Customs Act.

2. What is the restriction as regards the localities in British India at which goods may be landed or shipped?

3. What is meant by the expression "in bond"? What is the object of leaving goods "in bond"?

4. An officer of customs discovers that certain goods have been under-valued in the bill of entry. What should he do?

5. A person arriving at Madras from England brought a rifle with him and paid duty upon it. He went back to England, taking the rifle with him, and subsequently returned to Madras, when he was again charged duty on the rifle. Was this right? Give reasons for your answer.

6. What is the law as regards persons being permitted to act as agents for the transaction of business relating to the entrance or clearance of vessels or the import or export of goods? If such an agent is guilty of misbehaviour (not amounting to an offence), how can he be dealt with?

7. What are the goods which are liable to duty under the Indian Tariff Act, 1882? In the case of some articles there are certain special provisions relating to the levy of duty when the articles are for private use. What are these provisions?

8. State clearly the law relating to the accounts of port funds.

CIVIL ACCOUNT CODE, VOLUME I, CHAPTERS 1 TO 5,
10, 11, 14, 15, AND 17.

FOR ACCOUNTANTS OTHER THAN THOSE IN COLLECTORS' OFFICES.

Time—Two hours.

N.B.—As there are three papers on the Account Code, candidates should be careful to see that they get the right paper. This one is to be answered by candidates who come up for the Account Test to qualify as Accountants in other than Collectors' offices. It is not to be answered by candidates for either of the Revenue Tests.

1. What action, if any, should a treasury officer take when unauthorized charges are disallowed by the Accountant-General, and should he communicate with the Accountant-General or the officer concerned, upon his action, if any?

2. What scrutiny should the salary bill of an officer on contract service made in England undergo before pay is passed to him?

3. What information should an arrear bill contain to support it? When should such bills be presented; and how many items may they contain?

4. What is the duty of a countersigning officer with respect to contingent bills submitted for his signature?

5. State the rule in regard to inevitable payments not provided for in the budget of the year. Does want of previous sanction or non-inclusion in the estimate operate to prevent payment?

6. What steps should be taken by an officer to purchase a note out of any funds which he holds in trust?

7. What scrutiny should be exercised when interest on a Government Promissory Note is claimed and it is found to bear an endorsement transferring it to a new owner?

8. State the rule in respect of dealing with fines due to Government and compensation-fines due to private parties when an appeal is pending in respect of them.

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9. What is the definition of the term "local fund" given in the Civil Pension Code?

10. What particulars should be exhibited in the *plus* and *minus* memorandum to be appended to the monthly accounts?

11. What test is necessary for a treasury officer to apply to cheques and letters of credit presented for payment?

BOOK-KEEPING.

Time—Two hours.

1. How many methods of book-keeping are there? Name them, and state in what particulars they differ, and to what class of business each is best adapted.

2. Make the following entries in the subsidiary books by single and double entry:—

A commenced business with Rs. 1,000; bought for cash 200 lb. of sugar for Rs. 37 and 400 lb. of tea for Rs. 340; and 100 lb. of the former and 200 lb. of the latter for Rs. 20 and Rs. 180, from B and C, respectively, on credit; sold to D 150 lb. of sugar for Rs. 45 and 300 lb. of tea for Rs. 300 on credit; and the remainder of the sugar and tea to E, for Rs. 30 and Rs. 220 cash, respectively; disbursed Rs. 60 on miscellaneous trade expenses and Rs. 18 for private purposes.

3. What are the functions of the ledger, and design of the journal?

4. Post the items in question 2 into the ledger (double entry) and journalize the following:—

(a) Sold goods to Brown & Co. as per sales book, and received their bills at 90 days' sight Rs. 4,000.

(b) Received payment of Brown & Co.'s acceptance, Rs. 4,000

(c) Received cash this day of the following persons:—

Brown & Co.	1,000
Jones & Co.	3,000
Robinson & Co.	2,000

5. How are profit and loss account, balance sheets, and stock or capital account prepared?

6. Illustrate your reply to the above by arranging the items in question 2, which you have posted into the ledger in reply to question 4, in their appropriate statements so as to show A's present worth.

TRANSLATION TEST—HIGHER GRADE.

Time—Two and-a-half hours.

NOTE.—Candidates are particularly requested to note on their answer papers the vernacular language brought up by them for the Translation Test and from or into which their translation is done.

Translate into your vernacular :—

The literal meaning of abkari is manufacture of waters, that is to say, of strong waters. The principles recognised by the Hindu Governments of Southern India in the administration of this branch of revenue are not ascertainable. In the extreme south Native rule has always been tolerant of the use of spirituous liquors, but the revenue raised by it was not in former days considerable. The old Hindu Governments manufactured and sold ardent spirits themselves and kept the sale of fermented palm-juice under their own immediate supervision. The excise administration of England has not much analogy with Indian abkari. In England a large class of vested interests has grown up in advance of action by Government and though this is checked to a limited extent and an enormous public income is derived therefrom, of nearly a third of the Government revenue, the trade is essentially a private one. Legislation on the liquor question in England is mainly concerned with arrangements of a police nature and general principles are to a great extent in abeyance. In India the Government has had the advantage of beginning with a monopoly resting in their own hands. Further the amount at stake is much less, in Madras little more at the present day than a twelfth of the annual Government revenue. It has been possible therefore, more or less, to examine first principles, while proceeding with the administration of the revenue. In this the Indian Government occupy the same position as has been attained in Sweden by the self-denial of the community who have voluntarily placed an almost absolute control over excise in the hands of the Government. Abkari revenue in India is administered on the following principles. First, it is held that the practice to be controlled is a dangerous luxury; therefore its regulation is a legitimate function of the Government, especially when they find it already placed in their hands by the traditions of the country. Secondly, the most efficient way to regulate the practice is to take steps for raising a revenue upon it, as taxation is that which most intimately touches the people. There is in fact no impropriety, subject to considerations hereafter to be mentioned, in the Government aiming at the greatest net gain to themselves which may be realizable. In raising thus the price of the article above its natural trade value, the Government tax the purchasers for the benefit of their fellow citizens but this is legitimate, considering the nature of the commodity purchased. Thirdly, there is the counter-principle

that the agency employed by the Government in these measures should not be such as to stimulate the practice while nominally repressing it by taxation. Fourthly, there is another counter principle that it is useless to push taxation so far as to run the risk of thereby encouraging illicit usages, in other words, of smuggling. To follow these last two considerations in all their ramifications is a work of considerable labour and delicacy and forms the basis of the numerous details involved in the administration of the abkari revenue. The question of agency in particular, such as shall tax without creating trade, underlies all the government measures of legislation and administration connected with the subject.

TRANSLATION TEST—LOWER GRADE.

Time—Two hours.

NOTE.—Candidates are particularly requested to note on their answer papers the vernacular language brought up by them for the Translation Test and from or into which their translation is done.

Translate into your vernacular :—

One of the most important differences between the system of Native Government and that which has been adopted by the British in India lies in the fact that in the former the country was administered without any proper or generally recognised laws or regulations, while, under the latter, every act of the Government or of its officers is required to be supported by published and public laws which are open to all, and which apply equally to rich or poor and to the Government itself as well as to the people. The framing of suitable and generally applicable legislation for so large and diverse a population as India contains has formed one of the most difficult and, at the same time, most eminently useful tasks which could fall to any alien Government; and after the adoption of laws, came the additional difficulty of devising the arrangements by which they should be properly recognized and enforced. Before the English established themselves in Bengal, the greater part of India was under the rule of Mughals who owed little more than a nominal allegiance to the central power. The country was at this time incessantly disturbed by the quarrels and struggles of petty princes or by the even more dreaded incursions of the Mahrattas, and as recently as, say, a hundred years ago, although there were courts of law, the feeble character of the Government, the absence of recognized law, and the ignorance and bad character of the judges made an appeal to such courts a mere lottery. The decisions were liable to be influenced by favouritism or by the arbitrary orders of the ruler of the State, and as there existed no right of appeal except to the sovereign, the property and even the lives of the people were practically at the mercy of the judges.

PRÉCIS WRITING.

Time—Three hours.

Read carefully through the following correspondence and write a précis of it in narrative form.

SATURDAY, 6th October 1781.

PROCEEDINGS OF GOVERNMENT:

Present :

The Right Hon. Lord MACARTNEY,

President and Governor.

ANTHONY SADLER.

MORGAN WILLIAMS.

The President acquaints the Council that in consequence of a variety of frequent correspondence and conversation with the Nabob, His Highness had at last signified his consent to assign over all the revenue of his countries to the Company during the war, reserving one-sixth part for the expenses of himself and his family; and for this purpose he desired that Company's servants should be appointed by the President, &c., to transact the business in conjunction with his own; that the Nabob also proposed some further arrangements relative to his debts and a plan of defence for the Carnatic, to take place after the present troubles, but as they are objects of a distant nature, though well deserving attention at a proper time, the President waives them for the present, and confining himself to the immediate and important point first mentioned, lays before the Council the following Regulations, which he conceives to be the best adapted to answer the views of advantage to the Nabob and the Company by this change of system.

The President proposes that Mr. Eyles Irwin (one of the members of the Committee of Assigned Revenue), in whose experience, ability, integrity, and moderation he places great confidence, be deputed to Tinnevely and Madura to inspect the state of those countries, the cause of the late disputes, &c., which meeting with the concurrence of the Council, Mr. Irwin is accordingly appointed; and it is agreed that powers and instructions be forthwith prepared for him corresponding with those recommended in the minutes of the Committee of Assigned Revenue of the 7th and 20th November, and that the same be communicated to that Committee.

COPY of LORD MACARTNEY'S COMMISSION to EYLES IRWIN, Esq., Fort St. George, January 28, 1783 [Cons. Mily. Dept. No. 4].

SIR,—The state of the Tinnevely Province, as represented by the Committee of Assigned Revenue, has determined us to send a person in whom we can confide to enquire into and remove, as far as may be practicable, the misunderstandings and dissensions which have arisen there to the prejudice of the revenues, and we have appointed you for the service, not only from the trust we place in your zeal and capacity, but in compliance also with an early recommendation preferred to us by the Committee for employing its members occasionally in making circuits through the different districts of the Carnatic, agreeably to the original institution of the Committee.

We need not enter here into a detail of the complaints which have come to us from Tinnevely, since you are already so fully acquainted with them. You will nevertheless be furnished with extracts of such parts of the advices from thence as it may be necessary to take with you, and we shall in this place explain to you the particular objects of your appointment.

You will have observed in the correspondence that various representations were made by the late Renter against Mr. Proctor, and by Mr. Proctor against the Renter, and that disagreements likewise have taken place between Mr. Proctor and the Commanding Officer—amidst such a mass of complaints and recrimination we know not what particular facts to select as most worthy of attention,—were any proofs exhibited we should be at no loss, but the whole standing entirely upon assertion and denial we can only recommend as the best mode which occurs to us that upon your arrival at Tinnevely you proceed to investigate such of the complaints as may appear to have any probable foundation. Some are evidently dictated by prejudice and resentment, and some we think too unimportant for any enquiry, but those which relate to unauthorised transactions with the Renter since the assignment of the country was notified, or which may have had any direct influence upon the revenue, merit a diligent examination. We allude here particularly to the insinuations thrown out by the late Renter against Mr. Proctor, concerning undue advantages made by the measurement of grain and exchange of money—to the misconduct charged by Mr. Proctor to the Renter, and the unwarrantable interference said to have been created by the outstanding concerns of Mr. Light.

It is our desire and our hope that your report to Government will be founded as much as possible upon your own observation and inspection. Orders will be sent to the Renters of Tinnevely and Madura, as well as to the Commanding Officers, Paymasters or other persons who may be in office in those districts, to comply with your desire at all times, to submit to your inspection all magazines, stores, books of accounts, registers, or other places or

things from whence you may think necessary to suspect, and also to give you every information in their power which you may wish to receive from them. The Commanding Officers will also receive directions to give you such escorts as you may think necessary for your safety in making your circuit through the several parts of the district. For it is not our intention that you should fix your residence in any one part of the district, except when and where the execution of your office or the necessity of protection may require it. We expect that you will be enabled to give us from your own knowledge such accounts of the state of the provinces under your inspection as will lead to the fittest measures for attaining all the objects of the assignment from the Nabob. His Highness having delegated his authority to the President only, no part of it can be substituted to you; but on receiving your report and opinion the speediest determination on the subject of them will be taken and instructions sent to you to see them carried into execution.

We wish you to correspond with Mr. John Sullivan, Resident in Tanjore, whose judgment and experience cannot fail to be of service.

We allow you seven Pagodas per day for your expenses, being the same which was allowed Mr. Proctor, the Receiver of the Revenue in the Tinnevely country, and we allow your Assistant, Captain's pay and batta.

To GEORGE PROCTOR, Esq.

SIR,—Mr. Irwin having been appointed to proceed on a deputation from the committee of Assigned Revenue to the Tinnevely and Madura districts with authority and instructions to inquire into the complaints that have been preferred from that quarter, to receive the rents as they become due, and to negotiate with, and conciliate the dependent Poligars, the Right Hon'ble the Governor in Council desires you will deliver over to Mr. Irwin your accounts of receipts and disbursements during the time you have had the management, and the balance of cash in your hands.

As you are well acquainted with the affairs of Tinnevely and Madura districts, the Government desire you will give Mr. Irwin every assistance in your power that will be useful to him in effecting the important objects of his commission.

FORT ST. GEORGE,

29th January 1783.

I have &c.,

JOHN HUDLESTON,

Secretary to Government.

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Captain JOSEPH BILCLIFFE, Commanding at Palamcottah.

SIR,—I am directed by the Right Hon'ble the Governor in Council to inform you that they have thought proper to invest Mr. Irwin with discretionary power to act for the benefit and security of the revenue in the Tinnevely and Madura countries as exigencies may require, and in particular to take into custody the persons of the Renter Tetrapa Moodely and his servants if he shall judge that measure necessary, and whatsoever requisitions Mr. Irwin may make to you for military assistance you will comply with.

FORT ST. GEORGE,

15th May 1783.

I have, &c.

JOHN HUDLESTON,

Secretary to Government.

The same to Captain Gibbings at Madura.

To Mr. EYLES IRWIN.

SIR,—We have received your letter of the 24th July, enclosing sundry proposals for renting the Tinnevely province.

As you are of opinion that the revenue in the Tinnevely province may be materially affected, should the renters not be put in possession of their farms before the end of this month, we have lost no time in taking this subject into consideration, and we now communicate to you our resolutions thereon.

We have determined to give you full powers to act in this business to the best of your judgment, and we desire that you will immediately on the receipt of this letter, farm out the Tinnevely province to those persons, whose proposals you shall judge the most advantageous for the Company, paying at the same time due regard to the substance and characters of the proposers; and you will be pleased to acquaint us as soon as possible with your proceedings in this business.

It is our intention, that Colonel Fullarton should give you every assistance in his power, consistently with the main service which he has directions to conduct, and we now write to him to that effect.

We are of opinion that while you remain at Tinnevely, the business which you propose for Zignul Abdien Cawn will naturally fall under your own immediate superintendence, agreeably to the instructions you received at the time of your appointment;—should you however require any assistance, we have no objection to your employing under you whomsoever you may think proper, but in this case the salary will of course be but inconsiderable.

We observe the advance you have made to Sath Samud Dowlah of 600 chuckrams, which sum we shall accordingly carry to the Nabob's debit.

With respect to the prisoners confined at Tinnevely (of which you transmitted a list) it is our desire that those may be released, who shall appear to have been guilty only of small offences;—any of the prisoners who may be suspected to have been guilty of atrocious crimes, you will of course continue under custody.

We approve of the remittance you have made to the Southern Army.

FORT ST. GEORGE,
25th August 1783.

We are, &c.,
MACARTNEY.
ANTHONY SADLER.
MORGAN WILLIAMS.

FORT ST. GEORGE,
22nd September 1784.

TO EYLES IRWIN, Esq.

DEAR SIR,—The Select Committee having thought proper to order the Bombay Sepoys, consisting of three battalions, to proceed from this place to Anjengo in order to be embarked thence for Bombay, they accordingly marched this morning, and as we are very anxious for their getting thither as soon as possible, that they may not be impeded by the country, I request you will give the senior officer, Lieutenant Wiseman, every information and assistance that can facilitate this object.

We have issued a month's pay here for the Sepoys to enable them to purchase provisions on the road, and they will receive another month's pay at Trichinopoly, which I mentioned that you may know how amply we have provided for them, and that they cannot want any more money before they reach Anjengo.

I have, &c.,
MACARTNEY.

To the Right Hon. Lord MACARTNEY, K.B., President and Governor of Fort St. George.

MY LORD,—I have been honoured with your Lordship's letter of the 22nd September, relative to the Bombay detachment, now on its way to Anjengo, *via* Trichinopoly and the province under my charge. I lost no time in issuing the necessary orders to prepare for its reception; and have already written to Lieutenant Wiseman, acquainting him of the measures I am taking for the accommodation of his detachment, and referring him to Mr. Torin for his guidance in his march through the Madura district. I have desired Mr. Torin

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to send a trusty native, to meet and accompany the detachment, both for the purpose of seeing it properly supplied, and encouraging the inhabitants from flying at the appearance of such a force; an habitual timidity that the good behaviour of the troops belonging to the Southern Army has not yet been able to overcome. The same precaution shall be observed by me on its entrance into this Province.

I have taken on me to write to the Raja of Travancore on the subject of the detachment passing through his country; and as he has little or no rice to spare, I have removed the only inconvenience he could apprehend, by informing him, that the Sepoys shall be furnished with 5 days' rice on their quitting our borders; and that a bazaar for the officers and sepoy, on their paying for what they take, will be all that is requisite. Not knowing whether Mr. Hutchison, the Chief of Anjengo, was apprized of the approach of the detachment, I have thought it advisable to prepare him for its accommodation.

Should there be any pressing occasion for a further supply to the detachment in money or grain on its departure from Tinnevely, notwithstanding the very ample advances that have been made them, I suppose the receipt of Lieutenant Wiseman will be a sufficient voucher.

TINNEVELLY,
1st October 1784.

I have, &c.,
EYLES IRWIN.

TO CHARLES OAKELEY, Esq., and Members of the Committee of Assigned Revenue.

GENTLEMEN,—I am directed by the Right Hon'ble the Governor in Council to inform you that having resolved to commit to Mr. Irwin the charge of settling an expeditious, and effectual method of paying off the arrears due to the fighting men of the Southern Army, they are of opinion that it would greatly facilitate his endeavours were he to be invested with the charge of the principal resources from whence the means of liquidating the arrears are to be drawn. The Government therefore desire your sentiments with respect to the directing Mr. Irwin to proceed to Trichinopoly and take upon him the superintendence of that district (Mr. Sullivan wishing to be relieved from it) and of making the proper arrangements for applying all the resources of the Assigned Countries to the south of the Coleroon to the purpose of liquidating the arrears to the Army and clearing off the pressing incumbrances in those provinces.

FORT ST. GEORGE,
8th November 1784.

I have, &c.,
JOHN HUDLESTON,
Secretary to Government.

To EYLES IRWIN, Esq., Superintendent of Revenue in the Tinnevely and Madjara Districts.

SIR,—I am directed by the Right Hon'ble the Governor in Council to inform you that being desirous of availing themselves of your assistance in expediting as much as possible the settlement of the Southern arrears they desire you will proceed to Trichinopoly and arrange with Mr. Digby the speediest and most effectual mode of paying off the fighting men and discharging their demands in the same manner as you have been already empowered to do with respect to the Mogul Horse. To facilitate your endeavours for this object the Select Committee authorize and desire you to assume the superintendence of the Trichinopoly district, and being on the spot, with the whole extent of revenue and charges in your view, they desire you will also make such arrangements as you shall judge proper for applying all the resources of the Assigned Countries to the southward of the Coleroon to the purpose of liquidating the arrears and clearing off the pressing incumbrances.

From the integrity and abilities shown in your settlement and care of the Tinnevely province and revenue the Right Hon'ble the Governor in Council entertains well grounded hopes of your discharging this trust also to the essential benefit of the public service.

Respecting the arrears due to the officers, it is intended that they shall be discharged by Bills on Bengal, Bills on England, and Bonds or Treasury Notes. Orders have been sent to Mr. Digby on this subject, and Mr. Andrews are now advised of the additional charge and authority vested in you—the Commanding Officers also are directed to render you every necessary assistance.

FORT ST. GEORGE,
9th November 1784.

I have, &c.,
JOHN HUDLESTON,
Secretary to Government.

P.S.—The Government recommend to your early attention the laying up as large a quantity of rice as possible at Trichinopoly as a magazine in order to be prepared against any sudden emergency.

To the Right Honorable GEORGE LORD MACARTNEY, K.B., President and Governor, Council of Fort St. George.

MY LORD AND GENTLEMEN, We have had the honor to receive your letter of the 8th instant, and in conformity to your desire humbly offer it as our opinion that the services of Mr. Irwin will be of the greatest utility in arranging the revenue of the Trichinopoly country and recovering the balance due from the Renter; and your Lordship, &c., having been pleased to commit to him the charge of settling the arrears of the Southern Troops, which must occasion his temporary absence from Tinnevely, we recommend that

he be desired to proceed to Trichinopoly and take upon himself the superintendency of that district until the objects above mentioned are finally accomplished.

We have, &c.,

FORT ST. GEORGE,
10th November 1784.

CHAS. OAKLEY.
DAVID HALBURTON.
GEO. MOURAY.

To the Hon'ble ALEXANDER DAVIDSON, Esq., President and Governor in Council, Fort St. George.

HON'BLE SIR AND SIRs,—I have the honor to send you sundry papers relative to the Trichinopoly Revenue—No. 1, my account current with this district from the 28th June to the 20th September for the disbursement of the balance in hand and of a Soucar bond, the full of the Ariolur Kist for March last. As Mr. Torin has continued to assist me in the Settlement of the Polygar Accounts lately transmitted to your Honor, &c., I have thought it but equitable to give him pay for this month with Mr. Andrews and myself.

No. 2 is Vencat Subbiah's account current with the Hon'ble Company for Fasli 1194. I must observe in respect to this account, that after waiting upwards of two months for the Renter's statement of losses by Customs, and of country and church expenses incurred by him, I have been obliged to have recourse to the Company's average allowance. And now, having to the best of my ability, rendered an account of that trust, which I have held in the Southern Provinces for upwards of two years and a-half, I cannot take my leave of the subject, without acknowledging, with the utmost gratitude, my obligations to the Government, for their candid reception of my propositions from time to time, for the improvement of the revenue, and the liberal support which my humble endeavours for the public service have experienced.

The testimonies which I have uniformly received of their approbation in the discharge of my duty will never lose their value in my eyes; and are my chief consolation at a period, when an infirm state of health, and the advice of the surgeons will oblige me to solicit leave to return to Europe. I shall for this purpose proceed directly to the Presidency, but, in the meantime, beg leave to mention a claim, that I conceive myself to possess for the execution of duties, totally independent of the Revenue Department. In the month of November 1784 I was ordered to Trichinopoly, expressly to arrange with Mr. Digby the speediest and most effectual mode of paying off the fighting men; and for making such arrangements as I judged best, for applying all the resources of the assigned countries south of the Coleroon, to the purpose of clearing

ing off the pressing incumbrances. I accordingly proceeded thither; and until the surrender of the assignment, used every effort, that the means in my hands allowed of, for the satisfaction of the troops. In March 1785, I was further appointed Commissary on the part of the Madras Government to negotiate for the cession of the Dutch Settlements on the coasts of Tinnevely and Marawar; a commission that, I flatter myself, was conducted to your satisfaction, and finally concluded in the month of July last. I take this opportunity to put in my claim for such allowances, as have been usually made to servants acting in such situations; not doubting on my arrival at the Presidency, to meet with all the consideration from your honor, &c., that the peculiar circumstances of my case may appear to merit.

TANJORE, I have the honor to be, with great respect,
21st September 1785. Hon'ble Sir and Sirs, &c.,
EYLES IRWIN.

MILITARY AND PUBLIC DEPARTMENT.

To EYLES IRWIN, Esq.

SIR,—We have received your letter of the 21st instant; and shall very readily attend to any claims that you may prefer on account of the extra services which you performed when Superintendent of Revenue in the Southern Provinces.

We cheerfully embrace the opportunity of expressing our sense of your conduct during the whole of your administration of the revenues entrusted to your superintendency, and we desire you will accept our public thanks for your disinterested and able management of the important trust reposed in you.

As we are desirous of obtaining every information respecting the southern countries, we request you will communicate to us your opinion at large upon their present state, detailing what changes have taken place since you resigned the management of them, and what effects are likely to result therefrom.

PORT ST. GEORGE. We are, &c.
30th September 1785.

No. 7.

To the Hon'ble ALEXANDER DAVIDSON, Esq., President and Governor, &c., Council of Port St. George.

HON'BLE SIR AND SIRS,—I have just been honoured with your letter of the 30th instant.

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In consequence of the attention you have been pleased to pay to my claims for extra services, I have now the honor to enclose a demand for that purpose, which I flatter myself from the nature and consequence of the services in question, will not be deemed unreasonable by you.

When the approbation of our superiors is the result of successful services, its cause is flattering to, and its effect lasting on, a susceptible mind. To attribute my good fortune rather to the coincidence of accidents, than to any particular merit I may possess, and to give more credit to the indulgence of the Government than to my own pretensions, is the least that is due from me on this occasion. To none of my fellow-servants, will I yield in zeal or good intention; but to claim more, in spite of the grateful distinction I have experienced, would be less to their discredit than my own.

The details which your honor, &c., have required of the southern countries, shall be furnished with as much minuteness, and dispatch, as my present situation will admit of. Allowances however will be made for the defects it may possess.

The enclosed certificate of the Surgeons of Palamcottah and Madura will show the necessity for my immediate return to Europe; I therefore solicit permission of your honor, &c., to embark on a Danish ship that is soon to sail, not doubting after the repeated testimonies I have received of your favorable sentiments of my conduct, to be favored with your recommendation to the Court of Directors, to permit me to return with my rank, when my health will permit of it.

I have the honor to be, with great respect,
FORT ST. GEORGE, Hon'ble Sir and Sirs, &c.,
30th September 1785. EYLES IRWIN.

Extract from Military Consultation, dated 4th October, 1785 on letter from Mr. Eyles Irwin under date 30th September, 1785 claiming certain remuneration for his extra services and enclosing a certificate of ill-health in view to proceed to Europe.

Agreed that Mr. Irwin's claim, being Pagodas 3,658, be liquidated by a Company's Bond for Pagodas 2,000, and by such other modes as the state of the Company's affairs will admit.

Resolved that a letter be drafted to the Court of Directors and that Mr. Irwin be therein recommended to the Company in order that he may be enabled to return to the Coast so soon as his health shall be re-established.

Extract from General letter to the Honorable the Court of Directors.

* * * * *

10. This letter will be delivered to you by Mr. Eyles Irwin, late Superintendent of Revenue in the Southern Assigned Countries, whose ill state of health occasioned by intense application to business renders it necessary for him to return to Europe. The merit and services of this gentleman are so well known to you, and the approbation of his superiors is to be found in so many parts of the records that it is scarce necessary to give an additional testimony upon this occasion—it will therefore be sufficient to declare that we consider him as one of the most valuable servants in this Presidency, and that his late upright and able administration of a very important trust has placed his character in the most honorable point of view. We have returned him our public thanks for the services he has rendered to the Company, and have no doubt but that you will most readily permit him to return to his station should the re-establishment of his health enable him to do so. Mr. Irwin, has delivered in a certificate of ill-health, drawn out agreeably to your directions.

FORT ST. GEORGE,
10th October 1875.

We have, &c.

Extract from a letter from the Court of Directors, dated 2nd December, 1879.

5. Mr. Eyles Irwin, late of your establishment, has presented a memorial to us, stating his services as member of the Committee of Assigned Revenue, and particularly as Superintendent of the Assigned Countries south of the Coleroon, and expressing his hopes that we should deem him worthy of being added to the list of those whom our justice has rewarded for exemplary and disinterested services.

6. From the perusal of those parts of your records which relate to Mr. Irwin's conduct as Superintendent of the Provinces of Madura, Tinnevely and Trichinopoly, we observe with great satisfaction, that by his able, judicious and upright management, the revenues of those countries were greatly improved; while content, satisfaction and confidence in the justice and good faith of the Company's Government, prevailed among the people under his authority. Considering this gentleman as having been a very valuable servant of the Company, and as highly deserving a public testimony of our approbation, we have resolved to present him with the sum of pagodas 6,000 (six thousand) which we direct you to pay to his attorneys at Fort St. George.

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UNCOVENANTED CIVIL SERVICE EXAMINATION.

EXAMINATION OF OFFICERS OF THE SALT AND ABKARI DEPARTMENT.

STANDING ORDERS OF THE BOARD OF REVENUE, &c.

SALT.

TEST B, BRANCH II—HIGHER GRADE.

Time—Two hours.

1. How far is a subordinate officer responsible for the acts of his superior officer when based on his official reports?
 2. What are the rules regarding public servants acting as arbitrators?
 3. State briefly the rules regarding petitions presented to Government.
 4. Give briefly the rules for the working of the line-guards at a factory.
 5. What are the rules for apportioning the postage in excise factories in a heap in which joint storage has been ordered and the salt in which is being sold on a separate account by the owners?
 6. What are the duties of an Inspector when—
 - (1) inspecting a factory?
 - (2) a salt and refinery?
 7. The sanctioned strength of a circle being—
 - 3 Jemadars,
 - 4 Duffadars,
 - 3 First-grade peons,
 - 5 Second-grade peons, and
 - 10 Third-grade peons,
 the Inspector entertained—
 - 2 Jemadars,
 - 4 Duffadars,
 - 4 First-grade peons,
 - 3 Second-grade peons, and
 - 12 Third-grade peons.
- Was he wrong in doing so? Give your reasons.
8. Was there anything wrong in the following cases; and, if so, what:—

(1) The Inspector of a circle directed a Sub-Inspector to count the bags weighed out and to mark off 15 per cent. of each consignment for him to check-weigh.

(2) An Assistant Inspector appointed a first-grade peon to weigh out salt for sale and directed the Sub-Inspector to check-weigh it.

(3) There being fifteen consignments of six bags each, the Inspector passed them without check-weighment.

9. Give as briefly as you can the orders regarding the taking of samples of salt for analysis.

10. How often is an Inspector required to visit in the half-year—

(1) the outlying factories of his circle;

(2) each of his preventive parties;

(3) each fish-curing yard.

SALT LAW AND RULES.

TEST B-I—HIGHER GRADE.

Time—Two hours.

1. With whom lies the power to declare territory foreign under the Indian Tariff Act, and what territories are by the Act declared to be foreign?

2. Give so far as you can the repealed portions of Act VI of 1844, Act for abolishing the levy of transit or inland customs duties, &c.

3. Quote the reasoning of the High Court when ruling that removal of spontaneous salt from a swamp is not theft when the swamp is not proved to be guarded by Government.

4. Give the provisions as laid down by Act VI of 1871 in regard to compensation for loss sustained by the suppression of manufacture.

5. What is the principle of which the value of illicit salt is fixed, and what is that value now?

6. To what extent may the Commissioner of Salt and Abkari delegate his powers under the rules prescribed under Act I of 1882 for adjudication of confiscations?

THE MANUFACTURE AND CHEMISTRY OF SALTPETRE.

TEST B—BRANCH V.

Time—Half-an-hour.

1. State why, in refining saltpetre, small crystals are preferred to large, and why the mother liquor is used as the menstruum for the solution of crude saltpetre?

2. Give briefly the theory of the formation of saltpetre.

3. How is saltpetre affected by rise of temperature?

DR. RATTON'S HAND-BOOK OF COMMON SALT.

TEST B-IV.

Time—One hour.

1. What effect has temperature upon crystal formation, and what are the requirements for the formation of perfect cubes?

2. State how you ascertain, by analysis of a salt sample, the moisture, insoluble residue and organic matter contained therein.

3. What is ordinarily the specific gravity of the ocean, and mention the causes by which its density is influenced?

4. Describe Beaume's hydrometer as used by the salt manufacturer, and state what percentage of salt you understand to be contained in brine marking 15° Beaume.

5. Give so far as you can the remarks made on the action of wind.

6. Explain the theory put forth accounting for the existence of sub-soil brine, and offer your remarks on supply from brine-pits.

7. From what is ice salt made, and how can frozen sea-water be distinguished from frozen fresh water by taste?

THE REPORT OF THE SALT COMMISSION OF 1876.

TEST B-III.

Time—One and a-half hours.

1. Did the Salt Commission find a tendency towards increase or decrease in the number of salt stations, and to what cause did they attribute this tendency?

2. Give briefly the remarks on arrangements in Chingleput and elsewhere for protection of salt in transit to stores, and the conclusions arrived at.

3. What were Messrs. Parry and Co.'s suggestions in regard to the subject of manufacture under the excise system?

4. In the comments on the storage of salt what period is specified as adequate for dryage before storage?

5. What were the conclusions regarding the then existing establishments?

6. Give the opinion of the Commission of the arrangements for supply to the French Settlements in India.

7. What remarks were made on the loss to manufacturers by wastage before storage, and what pans in particular are alluded to? Give the percentage of loss arrived at.

8. What remarks were made on the mechanism of supply?

SALT LAW AND RULES.

TEST B-I—LOWER GRADE.

Time—T.

1. What are the powers of the head of a village in regard to search, seizure and arrest?

2. Give so far as you can the repealed portions of the Sea Customs Act VIII of 1878, an Act to consolidate and amend the law relating to the levy of sea-customs duties.

3. Is the use of salt-earth by fishermen for the purpose of curing fish an offence? Quote the authority for your answer.

4. Under what regulation and under what circumstances would the conveyance of salt from one portion of foreign territory to another through British territory be an offence? What is your authority?

5. Give the procedure laid down in case of default of person admitted to bail to appear before an Inspector.

6. What are the conditions precedent to issue of license for salt-petre refinery?

STANDING ORDERS OF THE BOARD OF REVENUE, &c.

SALT.

TEST, B, BRANCH II—LOWER GRADE.

Time—Three hours.

1. What payments call a Treasury Deputy Collector make on his own responsibility?

2. What are the rules regarding the defence of subordinate officers included with superior officers as defendants in a suit?

3. Describe briefly the procedure prescribed for searching houses.

4. Under what circumstances should licenses to manufacture salt-petre be refused?

5. What are the duties of Sub-Inspectors with respect to—

(1) preventive parties?

(2) fish-curing yards?

6. What are the powers of Inspectors as to destruction of dirty salt found at the bottom of heaps?

7. Was there anything wrong in the procedure in the following cases:—

(1) A Sub-Inspector inquiring into an offence against the salt laws summoned a witness who lived 10 miles off.

(2) A petty officer, receiving information of an offence, sent a report to his Sub-Inspector, but fearing that the contraband salt would be lost before his arrival, searched the house himself.

8. What are the rules regarding the numbering of heaps?

9. Give briefly the instructions regarding reporting of scrapings of salt-earth and swamp-salt observed by officers and patrol parties.

METHOD OF KEEPING ACCOUNTS.

TEST C, BRANCH II—HIGHER GRADE.

Time—Three hours.

1. Give so far as you can the forms of accounts prescribed for the record of transactions relating to manufacture, storage, &c. in monopoly factories (Circular Order II of 1888) and the general instructions for the upkeep of each.

2. Give also the special forms prescribed for the transport and storage of salt not stored at the place of manufacture and the instructions for the up-keep of each (Circular Order II of 1888).

3. Rule out form D 3, distillers' accounts, and give the general instructions for its maintenance.

4. Name the statements prescribed for the preparation of the annual administration report for which Inspectors are required to furnish information to Assistant Commissioners, as also such remarks as you may have to offer regarding the preparation of each.

5. Give in every detail the procedure ordered regarding registry of transfers of excise lands and licenses.

6. What is the procedure prescribed for village officers in regard to T.T. fees? Give the forms to be used by them and treasury officers and explain their preparation.

7. Specify the nature of information to be recorded in T.T. 12, register of trees licensed to be tapped, and the procedure to be followed in filling in its several columns.

8. Name the several check registers maintained in Inspectors' offices and give the object in using these forms. What check registers should accompany the Inspector on circuit?

9. Quote so far as you can the general instructions in regard to conduct of correspondence (*vide* Sub-circular VI/I of 1886).

10. To avoid delay covers from Inspectors, containing what forms should be addressed to what officers by name?

METHOD OF KEEPING ACCOUNTS.

TEST C—BRANCH II—LOWER GRADE.

Time—Three hours.

1. What are the particulars required in regard to the proper up-keep of E 5, storage book, and who should attest them? Rule the form and fill up headings.

2. What procedure is ordered for the record of estimated scrapings separately by each officer, and what officer is responsible that this is done?

3. What excise forms should Inspectors or their Assistants initial each day, and after comparison with what forms? What other excise forms should they check, and to what extent? What other excise forms should Sub-Inspectors check, and to what per cent?

4. Under what circumstances should joint storage be allowed, and when licensees store jointly by agreement how are they treated?

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5. What are the instructions given for filling up forms D 1 and 2, registers of receivers and vats?

6. Give the procedure in regard to filling up form P 12, "The Information Register." When is a man said to believe as defined by the Indian Penal Code, and what natural conclusion follows the absence of all entries in P 12, in places where offences are known to exist?

7. Quote the instructions given regarding the writing up of distillery officers' diaries.

8. In what form should application for tree-tapping license be made, and give the procedure to be followed by an applicant?

9. Describe the procedure to be followed in the event of a weighment officer being unable to complete weighment during the day.

10. What steps would you adopt in order to assure yourself that stock is correct on any platform?

FINANCIAL CODE AND THE CIVIL TRAVELLING ALLOWANCE CODE.

TEST C—BRANCH J.

Time—Two hours.

1. Give the rules regarding the grant of examination leave and regarding applications for leave generally by uncovenanted officers.

2. Give the purpose for which joining time is allowed, and how calculated; also the maximum time allowed, and under what proviso the maximum may be exceeded.

3. In what cases of application for invalid pension on the grounds of incapacity may a medical certificate be dispensed with?

4. On what conditions may an officer who has obtained a compensation gratuity be re-employed in qualifying service?

5. Give the rules regarding time under suspension being counted as service, and what allowances, if any, may be drawn while under suspension?

6. What are the conditions of transfer to foreign service?

7. To what allowances, if any, are officers entitled when compelled to travel for medical advice?

8. Quote the provisions applicable to officers summoned to give evidence before criminal and civil courts in which Government is a party.

9. Give the rules of travelling allowance for journeys by sea or in a river-steamer.

10. With what object is travelling allowance granted, and what fundamental principles are all such grants based on?

SURVEYING WITH CHAIN AND COMPASS.

TEST D—BRANCH I—HIGHER AND LOWER GRADES.

Time—Two hours.

1. Give a list of the men and articles you would require to make a chain survey of about a square mile of country, and, by means of a sketch, describe how you would carry out the survey.

2. State the circumstances under which you would use a Gunter's chain, and describe how you would test the accuracy of a chain.

If at the end of a day's chaining, the chain used (100 feet) is found to have stretched $1\frac{1}{2}$ inches, what would be the true distance chained, if the field-book has registered 2,150 links?

3. Construct a scale of 6 inches to a mile, to measure feet.

What would be the R.F. of this scale?

What is a diagonal scale? Make one from which $\frac{1}{100}$ th of an inch can be read.

4. (a) Briefly describe how a prismatic compass is used, and how a field-book is kept.

(b) What are "bearings," and how are they plotted. What is the difference between a "bearing" and an "angle"?

(c) Plot the following; scale 3 inches to a mile, variation of compass nil:—

A to B	bearing	215°	distance	1500 feet.
B to C	"	172°	"	1020 "
C to D	"	111°	"	1380 "
D to E	"	108°	"	1110 "
E to F	"	182°	"	1440 "
F to G	"	250°	"	960 "

LEVELLING.

TEST D—BRANCH II.

Time—Two hours.

1. Briefly describe the operation of levelling along a tank bund for the purpose of making an estimate for repairs, and give a list of the men and instruments you would require for the line of levels, and a few cross sections of the bund. Explain clearly how your levels would be reduced to a datum such as M.S.L.

2. Define "curvature" and "refraction" and explain why, in ordinary levelling, no correction is required in the readings, except for reduction to datum.

3. Complete the following extract from a level-book, and plot the section:—

Horizontal scale, 100 feet = 1 inch.

Vertical " 10 " = 1 "

Deduct 80 feet from the reduced levels for convenience in plotting.

Back-sight.	Intermed. etc.	Fore-sight.	Rise.	Fall.	Reduced Level.	Distance.
8.54	10.79	...	...	...	97.75	110
	3.64	...	...	...	105	160
	8.25	...	...	...	100.29	222
	...	15.05	...	...	93.49	300
4.73	...	...	...	...	93.49	...
	8.35	...	...	43.62	...	100
	5.24	...	...	5.64	...	150
	2.05	...	...	...	96.17	250
	...	36.1	1.37	...	96.86	300
						380

MENSURATION.

TEST D—BRANCH III—HIGHER AND LOWER GRADES.

Time—One hour.

1. A quadrilateral field ABCD has the following dimensions: AB = 430 links, BC = 550 links, CD = 430 links, AD = 70 links, and the diagonal AC = 520 links. Find the acreage of field.

2. A round log of teak is 22 feet long, girth of circumference at one end 25 inches, at the other 35 inches; what would be the value of the log if the price of teak is Rs. 120 per ton of 50 cubic feet.

3. How many cubic feet of brickwork would be required for a well 14 feet inside diameter and 20 feet deep, the thickness of the brickwork being 1' 3".

How many cubic yards of excavation would be required to sink the well on the assumption that half of the depth is obtained by excavating inside the well and the other half by making an excavation 15 feet square at the bottom, with side slopes of 1 in 2.

PLAN-DRAWING, ESTIMATING, AND ENGINEERING CONSTRUCTION.

TEST D—BRANCH IV.

Time—Three hours.

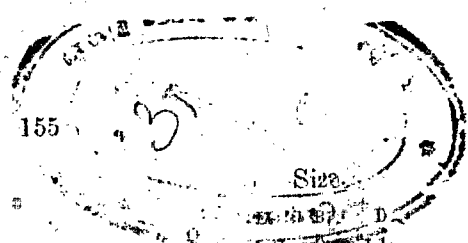
1. Draw the plan of floor level and front elevation of a dwelling-house consisting of two rooms 14' x 14' and two bath-rooms 7' x 7'. Scale, 5 feet to 1 inch.

The following information is given regarding the construction of the house:

6. (a) The floor is 3 feet above ground level.
- (b) There is a verandah front and back only of the house, supported on 8 brick pillars 1½ feet square, and 7 feet in height.
- (c) The bath-rooms are placed outside the large rooms, one on each side of the house, and their position is such that sufficient space is left in the main side walls for a window adjoining each bath-room.
- (d) The main walls are 12½ feet in height and 1½ feet thick.
- (e) The roof of the main building is flat terrace about 9 inches thick; the verandahs and bath-rooms have sloped terrace roofs about 5 inches thick. A parapet wall, 1½ feet in height, runs round the roof of the main building.
- (f) The doors are 3' x 6' 6", the windows 3' x 4' 6"; their number and position are left to the candidate.

2. Take out the quantity of brickwork required for the building (brick in mortar throughout) on the assumption that the brickwork in foundations is ¾ of that in the superstructure.

Out the quantity of woodwork required, the following dimensions being given:



No.	Size
2	Beams for main building
60	Joists for do.
14	Rafters for bath-rooms
50	Do. for verandahs
	Bressummers—length to be calculated

For the wall and pillar plates 8 cubic feet may be added to estimate.

3. Estimate the price of the brick and woodwork in the building at the following rates:—

Brickwork, per 100 cubic feet	Rs. 17
Woodwork, per cubic foot	3
Doors panelled and venetian, per square foot	1
Doors batten, per square foot	3
Windows venetian, per square foot	14

4. Write out a specification for the roofing of the building under consideration.

THE ABKARI ACT AND NOTIFICATION

TEST F, BRANCH I—HIGH P. GRAD

Time—Two hours.

1. State in general terms what portions of the Abkari Act apply to intoxicating drugs manufactured from hemp.
2. What is the presumption of law laid down by the Abkari Act in prosecutions under section 55?
3. In what different ways may duties upon liquor and intoxicating drugs be raised?
4. Give the chief provisions of an auctioneer's license.
5. Enumerate the different ways in which spirits can be removed from a distillery on payment of duty or under bond.
6. Can (i) an auctioneer, (ii) a toddy shop-keeper, grant permits for transport or possession? Quote the authority under which each kind of shop-keeper has this power.
7. Give in general terms the provision of the Abkari Act as to sub-renting.
8. A Sub-Inspector, inspecting an arrack shop, finds (i) the measures unstamped, (ii) the stock of liquor 40 drams less than shown in the accounts. What is his duty in each case?

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CIRCULAR ORDERS AND RULES OF THE BOARD OF
REVENUE APPLYING TO ABKARI.

TEST F, BRANCH I—HIGHER GRADE.

Time—Two hours.

How much water is required to reduce 1,123 gallons at 20° U.P.? How many gallons of proof spirit are contained in 1,175 gallons at 43° O.P.? Show how you arrive at the results.

State the rules under which the tapping of toddy-producing trees growing on Government waste is permitted—(i) in areas under the tree-tapping system; (ii) in areas in which the shop system is separately; (iii) in areas in which the toddy revenue

classes of cases have Sub-Inspectors been permitted to appear before the magistracy, and with what restrictions? Are trees marked for tree-tapping to be exchanged for other trees? What is meant by the "excise" system with regard to toddy? In what forms does it take in different districts?

Under the guaranteed minimum revenue system by what means is tree-tapping regulated?

What are the duties of the officer appointed to check the quantity of liquor issued from a distillery?

A Sub-Inspector finds toddy in a shop in an area under the tree-tax. Has the person in charge of the shop committed any offence? If so, under what provision of the Act is it punishable?

ABKARI ACT AND NOTIFICATIONS.

TEST F—BRANCH I—LOWER GRADE.

Time—Two hours.

1. Define "liquor" and "rectification".
2. Under what circumstances may an Abkari Inspector summon persons suspected of abkari offence?
3. What offences may be compounded by an officer duly empowered in that behalf?

4. By whom is a person who has been convicted of abkari offence and who has been ordered to be removed from the district to be removed from the district?
5. An abkari peon finds in his shop mixing drugs with the intoxicating properties of toddy. What is the duty?

6. What is toddy under the definition of the Act? What palm fall within the definition?

7. If there is a riot in a district, by whom is it to be suppressed?

8. In what districts or parts of the district is the Act referring to toddy suspension?

CIRCULAR ORDERS AND RULES OF THE BOARD OF
REVENUE APPLYING

TEST F—BRANCH II—

Time—Two hours.

1. To whom should applications for tree-tapping be presented?
2. Who is responsible for the tree-tax?
3. Explain the difference between a tree-tax and a license?
4. How should liquor be disposed of?
5. A man carrying toddy without a license is found by an Inspector to break the pots. What is the punishment?
6. A petty officer arrests a person for carrying toddy without a license. The person says his name is not covered. Is he right?
7. What is the punishment for a person who is found carrying toddy without a license?
8. What is the punishment for a person who is found carrying toddy without a license?