

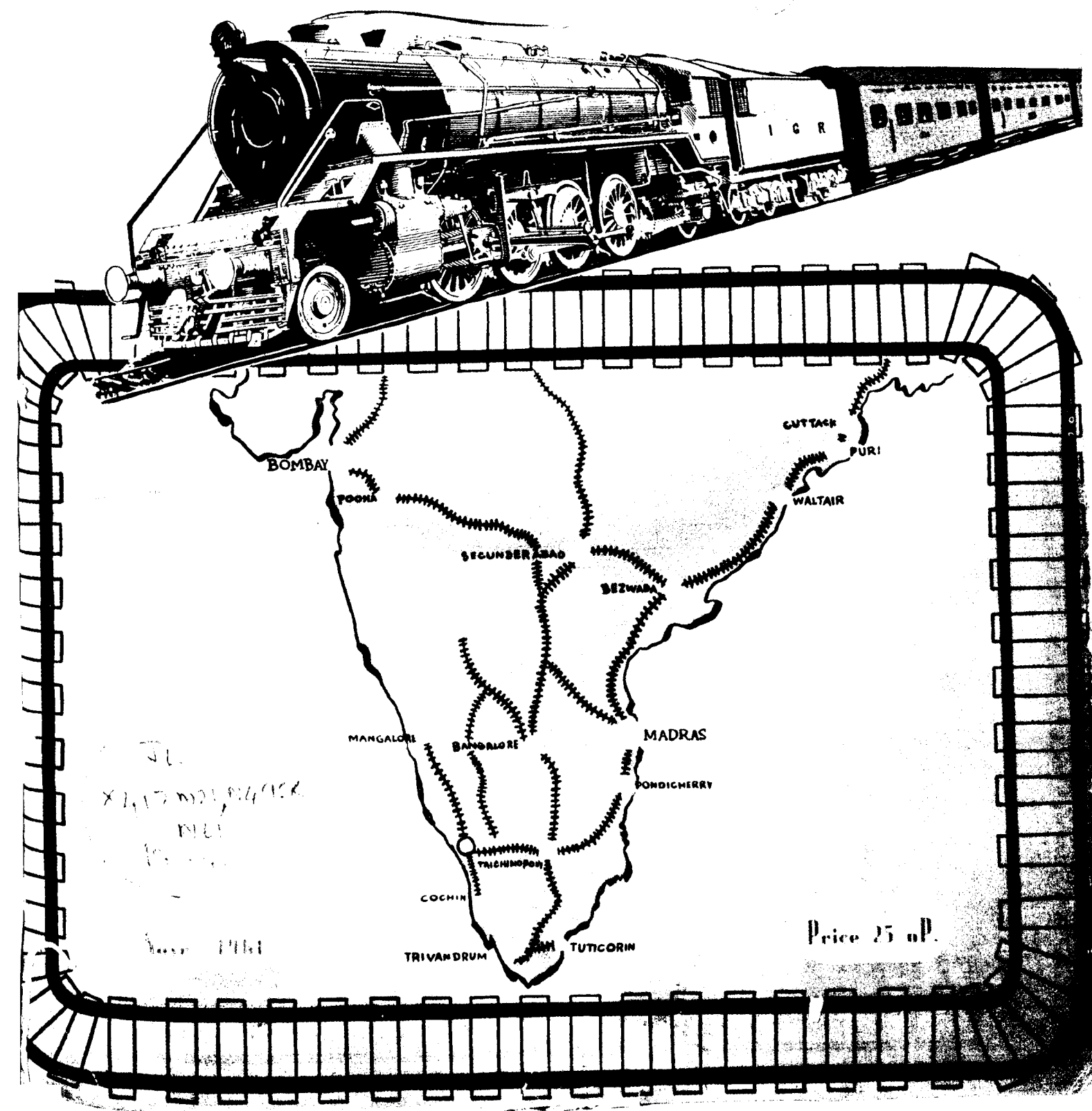
SOUTHERN RAILWAY

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SOUTHERN RAILWAYS *Magazine*



HOW TO RESERVE ACCOMMODATION ?

1. Unless you reserve your berth (I Class) or Seats (II and 3rd Class long distance) in advance, you may not be sure of getting accommodation on the train you wish to travel by.
2. Application should be made to the Station Master of your starting station at least 3 days in advance specifying the date and train by which you intend travelling and the tickets must be bought in advance. The reservation fee leviable is 50 nP. per seat or berth.
3. Reservation by I and II Class from intermediate stations by Express trains can also be made similarly, but reservation ticket can be issued only after getting an advice from the Reservation Centre that the reservation has been made.
4. Tickets will be issued only if accommodation is available.
5. If the reserved seats or berths are not occupied at least 5 minutes before the booked departure of the train the reservation will be cancelled and the seat or berth given away to another.
6. **Reservation fee is not refundable.**
7. III Class seats are also reservable on Express and certain other important trains for long distance passengers from the train-starting stations on payment of a reservation fee of 25 nP. per seat.
8. Do not occupy a berth or seat reserved for another, as you are liable to be displaced at the last moment.
9. If you find another person occupying the berth or seat reserved for you and if he will not vacate it on demand, report it to the Guard or Station Master. They will help you.

(INSERTED IN THE INTERESTS OF TRAVELLING PUBLIC)

INDIAN MACHINE TOOL INDUSTRY PROGRESS AND PROBLEMS

By An Engineering Correspondent

THE Machine Tool Industry is the main plank on which modern industrialisation is based. In the ultimate analysis, the capital equipment required for large-scale industrialisation is dependent solely on the capacity of a country's machine tool industry. In other words, it is this industry that could be called the key to any industrial progress. This can be well evidenced from the rising requirement of India's machine tools particularly after the implementation of its First Five Year Plan. Against its consumption of about Rs. 3 crores of machine tools—Rs. 47.31 lakhs required indigenously, and the rest about Rs. 2.5 crores through imports—the consumption in 1960 is estimated to have reached Rs. 30 crores, of which only Rs. 5.5 crores of graded machine tools had been available through indigenous sources, the rest having been imported.

STATE INITIATIVE

As by its very nature, the machine tool industry does not hold out prospects of large and quick returns and the capital involved is substantial, the Government found private capital unwilling to invest large amounts required in the industry in the already existing 'Capital-shy' conditions in the immediate post-independence period. The Government, therefore, stepped in, and entered into a technical collaboration agreement with one of the best known machine tool manufacturers in Europe, viz. Messrs. Oerlikon Machine Tool Works, Buehrle & Co., for setting up a medium/heavy machine tool manufacturing unit in this country. This agreement was signed in 1949.

The Hindustan Machine Tools factory at Jalahalli commenced construction of the project in 1953. The period between 1953 and 1956 was, however, not a very happy chapter in its history. It came in for a good deal of criticism in the Press and the Parliament. A British expert commissioned to give his views of the Project in 1954 described it as 'a dismal failure' and proceeded to predict that HMT would be 'a colossal financial failure'.

PROGRESS OF HMT

A change, however, came in the latter half of 1956. The factory's plant capacity was carefully reassessed, and a programme of multiple shifts was worked out and implemented. Simultaneously, as a pre-requisite to planned production, a comprehensive training programme was evolved, and an enlarged training centre was set up.

As a result of these and other steps, the factory turned out 135 lathes against its target of 57 in the year 1956—57. The factory exceeded its plan targets in the subsequent years, and against its plan target of 400 for 1960—61, the factory achieved a production of 1002 machines in 1960, and the output is running at the rate of 100 machines

enabled it to build for itself adequate financial resources, after wiping off a heavy initial development and commissioning expenditure of nearly a crore of rupees. These resources are now being ploughed back into this second factory which will be completed without any assistance from the Government of India or other outside source in the record time of 14 months.

The total estimated expenditure in connection with this second factory will be Rs. 287.81 lakhs, of which Rs. 114.35 lakhs will be foreign exchange expenditure. The programme is already under way and when completed, the factory will be able to turn out over 2000 machines per year. Thus, the annual output of the factory is estimated to be over Rs. 7 crores with the share capital remaining at only Rs. 5.31 crores.

NEW SERIES OF MACHINES

Very recently, the Bangalore factory had one more achievement to its credit. It turned out a new High Production Turret Lathe completely designed and built FOR THE FIRST TIME IN INDIA WITHOUT ANY FOREIGN COLLABORATION. The factory will shortly go into bulk production of these Turret Lathes for the market.

This new machine, which is the first to be completely designed by HMT's engineers is to be one of a new series of turning machines which the factory proposes to design and build without any technical collaboration from abroad.

Modern in its design technique, the machine is in line with the latest machines designed and developed in Europe. The production of this machine marks the first step towards the factory's attempt at attaining self-sufficiency in design and development.

It is understood that the country absorbs about 150 machines of this type annually, rising to 300 in five years, and the production of these machines in HMT will consequently result in the saving of about Rs. 6 crores worth of foreign exchange during the third plan.

Recently, the Hindustan Machine Tools concluded an agreement with the Machine Tools Division of Messrs. Renaults, a well-known French firm, and also with a number of State-owned machine tool units in East Germany for the manufacture of further types of machine Tools. Consequent upon these agreements,

HMT will embark upon the manufacture of special purpose machines for automatically producing components on a mass scale. These machines would be designed specially in each case.

TWO MORE UNITS

It is proposed to set up two more machine tools factories in the public sector with

STATISTICS REGARDING THE PRODUCTION OF MACHINE TOOLS IN INDIA FOR THE PERIOD
1951—1960

Calender Year	Annual production In Lakhs	Production at HMT In Lakhs	Indication in terms of points with 100 in 1951 as the Base Year	Increase in indigenous production without consideration to HMT's Production	Rise in terms of points on account of production at HMT
1951	47.31	—	100	—	—
1952	44.37	—	94	—	—
1953	44.08	—	93	—	—
1954	50.02	—	106	—	—
1955	74.40	—	157	—	—
1956	120.22	28.80	254	193	61
1957	250.84	124.00	530	268	262
1958	376.00	195.20	795	382	413
1959	439.00	246.40	928	407	521
1960	550.00	306.20 (948 Machines)	1163	361	802

With 100 points in 1951 as the Base Year, the increase in indigenous production of machine tools by the end of 1959 works out at 928 and has gone to 1163 in 1960.

HMT's production accounts for over 50 per cent of India's Indigenous production from the calender year 1957.

If HMT's production is not taken into account, the ultimate rise in indigenous production by 1960 would be only 361 points

different aptitude and talent for handling them.

On the Indian Railways, it was only after 1940 that engineering graduates were drawn into the profession of signal engineering which worked under the civil engineering department. Communication was also left with the operating or electrical department and had a subordinate status and in both branches, old practical men without academic qualifications were still the masters. It was only in 1952 that a bold decision was taken by the Railway Board to combine the the signalling and telecommunication branches under one department. The question of this move being in the right direction or not, is discussed in this article.

As has already been pointed out earlier, a qualified electrical engineer can easily absorb the principles of electrical signalling and elementary communication principles. This may not be the case if the signal engineer happens to be a civil or mechanical engineer. The principles of mechanics as applied in signal engineering practice are fundamental and do not call for a knowledge in advanced engineering as may be required, for instance, to manage steam or diesel locomotives.

The present trend of development in communication on the railways is increased application of electronics, H. F., V. H. F. and Micro-wave wireless, Teleprinter and Carrier telephony. The question naturally arises, whether the electrical engineer will be able to deal efficiently with the problems arising out of the maintenance of modern communication equipment. The answer is in the affirmative. Electrical engineering itself is at present at cross-roads. The matter of breaking the existing bias towards mechanical engineering for the electrical engineering course is engaging

the attention of progressive engineers. The trend is to bifurcate electrical engineering, one course for electrical power engineer who will need a bias towards mechanical design and the second one will be a combined course in electrical and electronic technologies. The need for knowledge in electronics for the electrical engineer is apparent when, for instance, the following changes in the conventional techniques in two important applications are considered:—

- (i) Semi-conductor like germanium and silicon rectifiers are driving out fast the rotary convertor and mercury-arc rectifier.
- (ii) Electronic control circuits for Industrial processes are superseding the electro-magnetic relay controls and contactors.

The future electrical engineer will have undergone a theoretical course in electronics, sufficient for operating, maintaining and repairing wireless communication equipments, if not fully capable to design and manufacture them.

Communication engineering is also fast developing in our country as a separate subject for a degree course. This course provides for the foundation of applied physics which includes mechanics, dynamics and electricity, which are adequate for the understanding of the principles of mechanical and electrical signalling. Other subjects in the curriculum

FOR SELF-EDUCATION
ON
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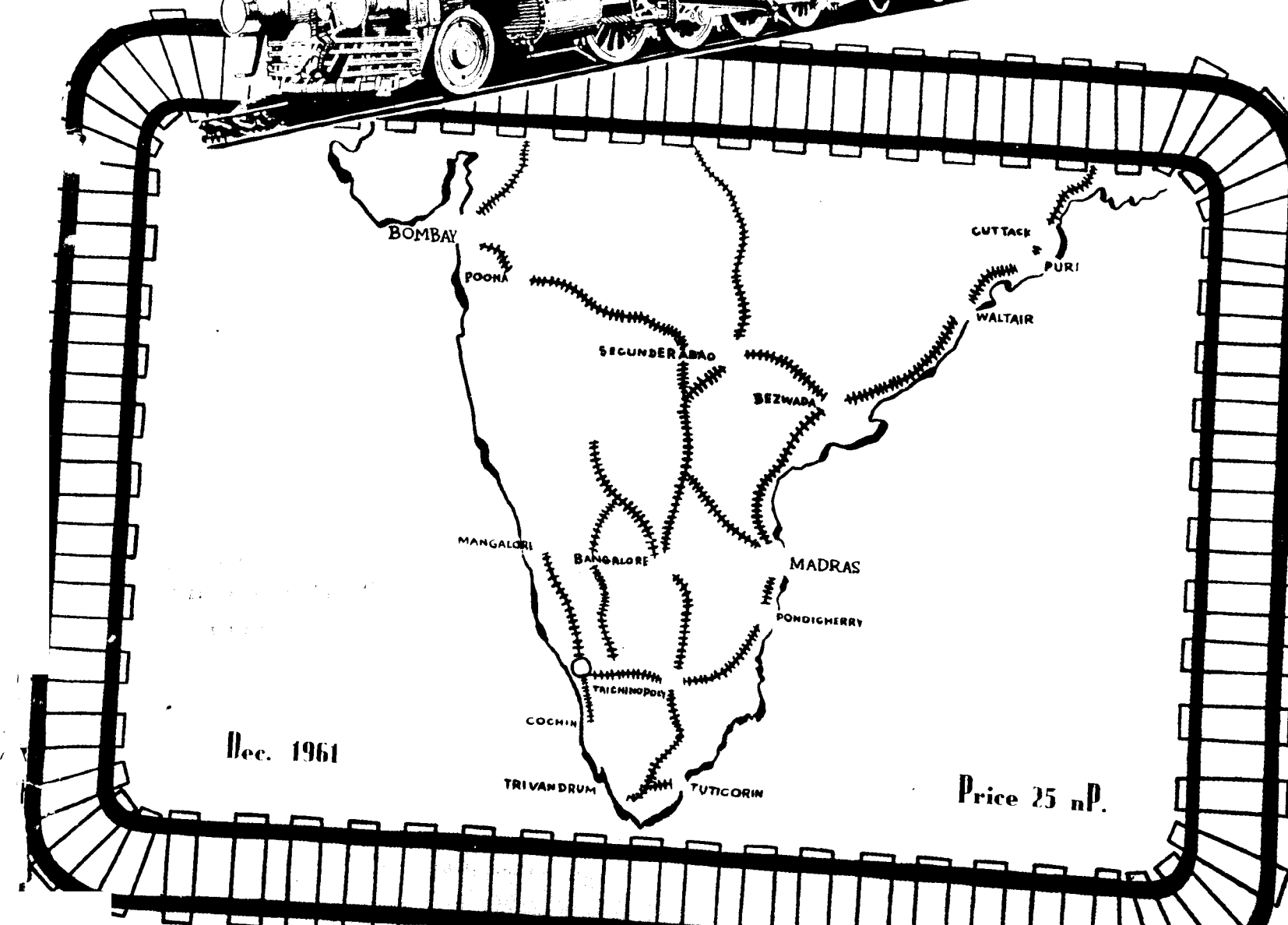
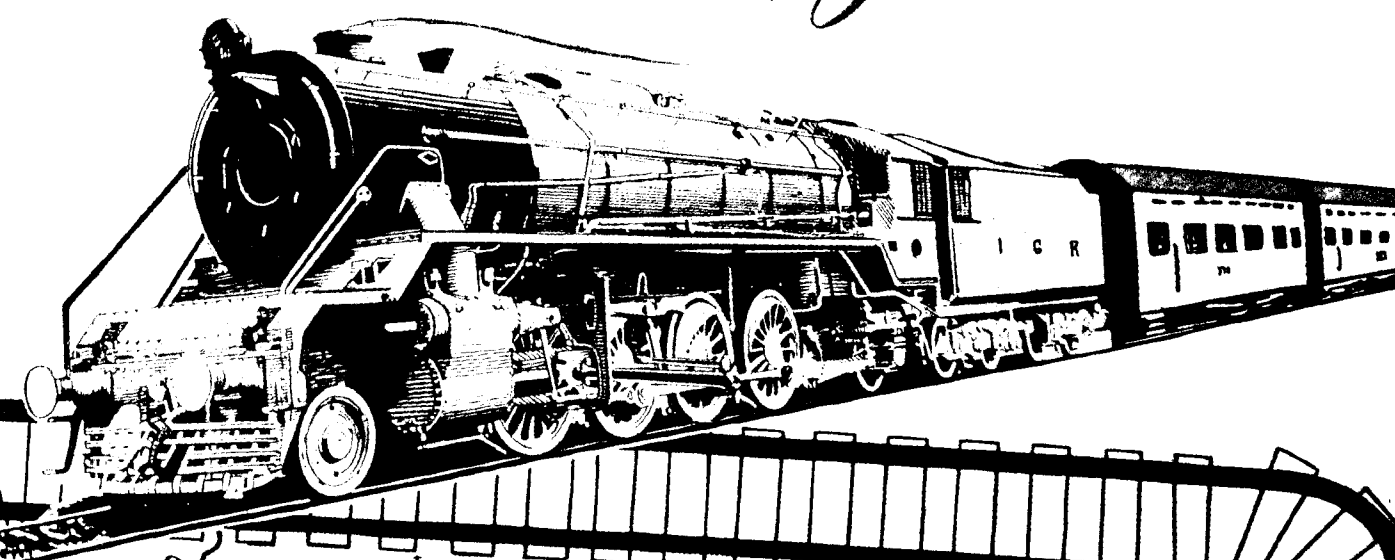
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EXPERTS

1. Write in its pages to suit your Standard & Requirements
2. To advise you
3. To help you

SOUTHERN RAILWAYS

Magazine



GOLDEN RULES OF CONDUCT FOR RAILWAYMEN

1. Do you plan your work daily? Get the more essential things done first and do not neglect the important ones sidetracting them to the fag end of the day.
 2. Do not express casually careless opinion. Never venture forth an opinion unless asked for it.
 3. Remember that most of our mental worries come either from trying to fight life hard or from trying to run away from life. Do neither.
 4. Learn to accept people as they are, love them, respect them, praise them, encourage them, differ with them, but above all, learn the priceless art of give and take.
 5. Cry neither for the moon, nor over spilt milk.
 6. Accept the things that you cannot change; have the courage to change the things that you can, and possess the wisdom to know the difference.
 7. Do not drive too hard a bargain with yourself.
 8. Accept life as it is — its wonders, changes, disappointments, frustrations etc., etc.
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IN YOUR OWN INTERESTS

HOW TO PURCHASE TICKETS

Buy your tickets only at the proper place. The authorised offices are (i) the Booking offices at the railway stations, (ii) the Town or City Booking Offices, (iii) the Out-agencies, (iv) Travel Agents. Never buy tickets from any other source as that may lead you to trouble. Please note that tickets are not transferable.

Buy your tickets in the proper time. You can avoid unnecessary excitement and trouble if you come to the station in good time, that is at least half an hour before the scheduled departure of your train. The Time Tables of the Railway are on sale at Booking Offices and Bookstalls.

Buy your tickets in the proper manner. Queue up at the Booking Window and you can get your ticket easier and quicker than by crowding at the counter.

By handing in the *exact fare in good coins or currency* you get the ticket easier and quicker, and save for yourself and the Booking Clerk time and trouble.

Check up your ticket and money before leaving the counter and draw the attention of the Booking Clerk to any discrepancy you may notice.

(Inserted in the interests of Travelling Public)

CLEANLINESS LEADS TO HEALTH AND HAPPINESS

*Clean orderly habits contribute to general health and welfare
and as such to happiness and prosperity: they are more important
than medicines.*

Cleanliness prevents disease: medicine only attempts to cure.

*Cleanliness of the person, of the houses and colonies,
reflects discipline in the individual and the community. Discipline
is the foundation stone for progress of oneself and the country.
Cleanliness is a good habit. It is also cheap.*

*All Railwaymen should set an example of cleanliness. This
will help others and themselves.*