

QUESTION BANK FOR AME/AWM LDCE 30% EXAM.

SAMPLE QUESTION - 1

Professional Paper - II

Instructions for Candidates

1. Mobile phones are prohibited inside the exam venue.
2. Please do not write your name/roll no./any mark of identity in any answer sheet except on the flyleaf, as directed by the Invigilator.
3. If any candidate is caught copying or adopting any unfair means, his copy will be seized and candidature cancelled.
4. No candidate will be allowed to leave the exam venue within one hour of commencement, for any purpose whatsoever.
5. All questions carry marks as indicated against each.
6. The paper comprises of two parts, Section A and Section B. Answer all questions from Section A. Choose any one stream (among C&W, POCO and Workshops) from Section B and answer all questions from the chosen stream.

SECTION-A Max Marks - 50

- Qs 1 (a) What are the provisions of the Official Languages Act, 1963? (10 marks)
- (b) What fiscal incentives are given to encourage Rail persons to work in Hindi? (05 marks)

OR

- (a) What are the Canons of Financial Propriety? (10 marks)
- (b) What do you understand by HOER? (05 marks)

Qs 2 Briefly describe what you understand by the following terms:

- (a) Internet
- (b) Operating System
- (c) E mail
- (d) Clock speed
- (e) Multimedia

(03 x 5 = 15 marks)

Qs 3 Write short notes on any four: -

- (a) DCF technique
- (b) Manpower Productivity
- (c) Open tenders and Limited tenders
- (d) Classification of Revenue Expenditure
- (e) Trade Tests

(05 x 4 = 20 marks)

SECTION B

Answer all questions from any one stream. Max marks 100

C&W STREAM

Qs 1 Describe in detail, the activities involved; tools, M&P and gauge used; manpower and normal time required for executing any one of the following tasks

- (a) ROH of a BOXN wagon (20 marks)
- (b) IOH of an ACCW coach

Qs 2 What are the causes for the spate of freight train partings on SCR? What steps can be taken to curb their incidence? (20 marks)

- Qs 3 (a) What action is taken in a wagon depot to make a BOXN wagon fit for carrying CC+ 2+8 Tonnes of iron ore/CC+2+6 Tonnes of Coal? (07 marks)
- (b) What is the effect of higher loading of BOXN wagons, plying on CC tracks, in regard to nature of defects and the incidence of sick marking? (07 marks)
- (c) What facilities are required for issue of Premium BPC to non-CC Rakes? What does it imply? (06 marks)

Qs 4 Write short notes on any three.

- (a) Pest and Rodent Control in coaches
- (b) Clean Train Station (CTS) scheme
- (c) Composite brake blocks
- (d) Difference between shock absorber and coil spring used in suspension system
- (e) Distributor Valve (05 x 3 = 15 marks)

Qs 5 (a) Indicate the parameters for which joint observations and readings are to be recorded after a derailment in respect of P Way as well as a Coach, or, a Wagon (15 marks)

- (c) What mechanized cleaning equipment is being used to make a spectacular leap in the standard of cleanliness of coaches maintained on SCR? (10 marks)

LOCO STREAM

Qs 1 Describe with the help of a PERT chart, either Mechanical or Electrical M24 Preventive Maintenance Schedule of a WDM2 or a WDC3 or a WDP1 loco. (20 marks)

Qs 2 Explain, with a sketch, the brake system of a dual brake BG diesel Electric locomotive of SCR. Please indicate the areas vulnerable to failure, where the maintenance worker has to be more careful. (20 marks)

OR
Explain, with a sketch, the microprocessor based propulsion control circuit on AC-DC locos.

Qs 3 (a) What are the important parameters that are required to be measured in case of a loco derailment? (10 marks)
(b) Indicate the causes and remedial action, for poor hauling power on a diesel loco. (10 marks)

Qs 4 Explain the frequency and procedure of inspection of main bearing; its importance in diesel engine maintenance. Under what symptomatic conditions should these be checked during out of course repairs and why? (20 marks)

Qs 5 Write short notes on
(a) Load factor of diesel locos
(b) Zyglro testing
(c) Dynamic braking
(d) Wheel slip relay (05 x 4 = 20 marks)

WORKSHOP STREAM

Qs1 Depict, with the aid of a PERT chart, the normal time and manpower required for various activities of POH of an ACCN coach, on a BCN wagon. What steps will you take to reduce the repair cycle days in the Workshop? (25 marks)

Qs 2 Write short notes on any four:-
(a) Testing of Draft Gear
(b) Worn wheel profile
(c) Helical Springs
(d) Unit exchange system of repairs
(e) Problems in FRP modular toilets (05 x 4 = 20 marks)

Qs 3 (a) You are required to draw up the specifications of an EOT crane, or a AJTB lathe. What are the various factors that you will include in the specifications? (15 marks)
(b) What are the steps to be taken for ensuring good quality of painting of rolling stock? (10 marks)

Qs 4 (a) Describe the modifications done for reducing Corrosion in an ICF coach, or a BOXN wagon. (10 marks)
(b) What are the items covered under Plan Head 42? What is the procedure for proposing items under this head? (10 marks)
(c) Describe the infrastructure, M&P and test rigs required for setting up a Roller Bearing Section in a Carriage, or a Wagon, Workshop. (10 marks).

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SAMPLE QUESTION - 2

TIME 3 HOURS
MAX. MARKS-150

PAPER-II (II)

Note: 1. Attempt Question No.1 (which is compulsory) and five more questions (i.e. total six questions). Marks for each question are indicated against each question.

2. If extra questions are attempted, last questions will not be evaluated.

1. Make a lay-out for a coaching workshop to carry out POH of 100 coaches per month bringing out necessary M&P and other infrastructured facilities required in Workshop. 25

OR

- Make a drawing of standard CAMTECH design washing line explaining the various features, which have been incorporated to improve maintenance of rakes in washing line. 25
2. Write in detail various provisions of Policy Circular No.4 applicable to maintenance of different category of coaching trains. 25
3. Explain with the help of a flow chart various stages during POH of a coach and work done at each stage. 25
4. a) Explain, with the help of a diagram, Twin pipe air brake system, bringing out role played by each component of the system. 20
b) What are the advantages of 'twin pipe system' over single pipe system? 5
5. What is the difference between CLW type incentive scheme and Group Incentive Scheme clearly bringing out the advantage and disadvantage of each scheme? 25
6. a) What are the facilities required for an 'A' category train examination yard and 'A' category ROH depot? 10
b) Describe the method of doing ROH of a BOXN wagon. 5

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|-----|--|-------------------|----|
| 7. | Write notes on any five topics - | (five marks each) | 25 |
| | a) Load sensing device in a wagon | | |
| | b) Bogie mounted brake system | | |
| | c) 'C' schedule of a coach | | |
| | d) Difference between MK 50 & RF 361 draft gear | | |
| | e) LHB coaches | | |
| | f) Work to be done in a train at a 'Clean Train Station' | | |
| 8. | a) Explain the reason for leakage of dash pot oil from coach. What precaution will you take in workshop to minimize this leakage? | | 10 |
| | b) List out various wheel defects noticed during service and explain each of them with a sketch. | | 15 |
| 9. | a) What are the reasons for train parting during operation of train. What action can be taken in Workshop and open line to reduce incidences of train parting? | | 15 |
| | b) Write a list of 'Dos' and 'Don't' for Drivers to avoid train parting. | | 10 |
| 10. | a) What is the procedure for overhauling of roller bearing of a coach in Workshop? | | 15 |
| | b) Give the salient feature of ISO-9000. What are the documents necessary for obtaining this certification? | | 10 |

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SAMPLE QUESTION - 3

Professional Paper-II (II)
(Professional subject, Establishment Rules & Financial Rules)

Maximum Marks : 150 Qualifying Marks : 90 Time Allowed : 3 hours

Note :

- i) Attempt any Two questions from Part-A and any Four questions from Part-B1, B2, B3 or B4. Candidates can attempt questions from their own discipline or more than one discipline to complete upto 100 marks from Part-B1, B2, B3 and B4.
- ii) Marks allotted to each question are indicated against each question.
- iii) If extra questions are attempted, last question will not be evaluated.
- iv) All answers are to be written in the answer sheet only.
- v) The question paper is bilingual and candidates are free to answer in Hindi or English.

PART - A

1. What are the procedures for imposing Minor and Major Penalties? What are the various Minor and Major penalties, which can be imposed on an employee? 25 marks
2. Write short notes on Two of the followings : 25 marks
 - i) Workmen's Compensation Act
 - ii) Hours of Employment Regulations
 - iii) PNM and PREM
3. What do you understand by M&P Programme, Works Programme & Rolling Stock Programme ? Explain briefly what are the different budget cycles being followed on Indian Railways. 25 marks

PART - B-1

(Divisional Working and Operations Management)

1. What do you understand by a "Working Time Table" ? What information does it convey ? 25 marks
2. What is a Power Plan ? How is it made ? How can we improve engine utilization - give suggestions. 25 marks

3. For inspection of Crew Booking Point and Running Rooms, what important items are required to be checked. Please explain. 25 marks
4. How are accidents classified according to Railway Accident Manual ? How is ART ordered ? What is the Role of Supervisors and Officers at accident site ? 25 marks
5. What is the system of grading of drivers ? In how many categories, drivers can be classified ? Give suggestions for improvement of the present grading system. 25 marks

PART – B-2

(Diesel Locomotives)

1. Write in detail the various Preventive Maintenance Schedules being followed on ALCO diesel locomotives on Indian Railways. 25 marks
2. Explain with schematic diagram the Cooling Water System in a ALCO diesel locomotive. Discuss in details failures that may arise from Cooling Water System. 25 marks
3. What are the latest design improvements being done on ALCO diesel locomotives for improving their reliability and availability to traffic. Please explain. 25 marks
4. What initiatives are being taken by Indian Railways in promoting use of Biodiesel and CNG ? Please explain. What are your suggestions for further improving the use of these items. 25 marks
5. Write short notes on **any two** of the followings : 25 marks
 - i) Load Box Testing
 - ii) Safety Devices of Diesel Locos.
 - iii) GM (EMD) Locomotives

PART – B-3

(Carriage & Wagon)

1. What are the various preventive maintenance schedules being followed on coaching stock on Indian Railways ? Please explain. 25 marks
2. Write short notes on **any two** of the followings : 25 marks
 - i) Anti telescopic features
 - ii) Neutral Train Examination
 - iii) Fire Prevention on Trains

3. Explain the latest design improvements being carried out on Carriage & Wagons to improve their performance and speed potential. 25 marks
4. Write short notes on any two of the followings : 25 marks
 - i) Passenger Amenity items
 - ii) ICF bogies and their maintenance
 - iii) OBHS
5. Explain important design features of LHB coaches. What are the advantages of LHB coaches over conventional coaches. 25 marks

PART – B-4

(Workshop)

1. What are the salient features of the Group Incentive Scheme at CRW/MCS ? What are its advantages over the CLW Pattern of Incentive Scheme. 25 marks
2. What are CNC machines ? What are the advantages of such machines over conventional machines. Please explain in detail about any one CNC machine. 25 marks
3. Please explain the Heat Treatment of Ferrous items and how does it help in improving the properties of material ? 25 marks
4. What are the guiding principles in designing a lay out of a coaching POH workshop ? Draw the shop lay out for a workshop carrying POH of 150 coaches per month. 25 marks
5. Write short notes on any two of the followings : 25 marks
 - i) Welding defects
 - ii) Material handling equipment
 - iii) Roller Bearing & Cartridge Bearing.
