

QUESTION PAPER

FOR WRITTEN EXAMINATION FOR SELECTION FOR PROMOTION FROM GROUP 'C' TO GROUP 'B' SERVICE TO THE POST OF AEN (GROUP 'B') AGAINST 70% QUOTA IN CIVIL ENGINEERING DEPARTMENT

DATE OF EXAMINATION : 25.09.2010

Maximum Marks: 150

Time allowed: 03 Hrs.

1. Only six questions are to be answered. Select two questions from Section 'A' and four questions 'from Section 'B'.
2. All questions carry marks as per indicated against each.
3. All the questions should be answered only in the Answer Sheets and no question is to be answered in Question Paper. No mobile phone should be in your possession.
4. Do not write your name in Answer Sheet or any other identification marks, which if found shall disqualify you.

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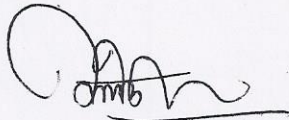
SECTION - A

Answer any two Questions:-

प्रश्न 1

(5 x 3 = 15)

- ✓(क) हिन्दी दिवस कब और क्यों मनाया जाता है ?
- ✓(ख) हिन्दी में प्रवीणता प्राप्त कर्मचारी से क्या अभिप्राय है ?
- (ग) हिन्दी में कार्यसाधक का ज्ञान प्राप्त कर्मचारियों से क्या अभिप्राय है ?
- ✓(घ) हिन्दी सप्ताह क्यों मनाया जाता है ?
- R ✓(ङ) राजभाषा अधिनियम की धारा 3(3) के अन्तर्गत आने वाले विभिन्न प्रकार के कागजातों के नाम लिखें । यह भी उल्लेख करें कि नियमानुसार उक्त कागजात को अनिवार्यतः किस भाषा में जारी किया जाना चाहिए ?


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Q.2 Describe, in detail, the procedure for imposing a major penalty on a Group 'D' railway employee, under D & A Rules, for long unauthorized absence. (15) ✓ 0

Q.3 Describe the duties of open line ADEN point wise in brief. What are the main items for inspection and what are the main schedules of inspections of open line ADEN? Also describe the duties of open line ADEN in case of derailment of passenger train leading to minor injuries to passengers when the derailment takes place as a result of miscreant activities. (15)

SECTION - B

Answer any four questions:-

Q.4

- a) How detailed inspection of major/important Railway bridges is done by ADEN? Briefly describe each item starting from foundation to track on bridges and its approaches. (15) ✓ 0
- b) Briefly explain painting of steel work of girder bridges, their surface preparation, and choice of suitable paint (depending on corrosion proneness of area) and precautions to be taken during painting. (15) ✓ 0

Q.5 Write short notes on any five :- (5 x 6 = 30)

- a) Cant deficiency and cant excess
- b) Switch Expansion Joints and Buffer Rails
- c) Safety precautions to be taken for maintenance of LWR/CWR during extreme hot weather and extreme cold weather.
- d) USFD testing of rails and welds


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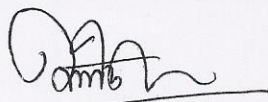
- e) Pre-tamping attention, Attention during tamping and Post-tamping attention
- f) Describe the working of T-28 (Points & Crossing renewals) machine with example of a renewal of one point in single line electrified section.
- g) What are main differences between (i) Ballast Cleaning Machines (ii) Shoulder Ballast Cleaning Machine and (iii) P & C Ballast Cleaning Machine
- h) Describe working of track machines in track circuited and in electrified sections.

Q.6

- a) What is Vacuum Dewatered Concrete? Describe the procedure of platform resurfacing by VDC and precautions to be taken for quality work? (10)
- b) Describe controlled concrete and also the procedure of designing concrete mix for M-40 strength. (10)
- c) How is water cement ratio important in any type of concreting? How can we achieve workability of concrete with low water cement ratio and under what circumstances is this needed? (10)

Q.7 Write short notes on any five :- (5 x 6 = 30)

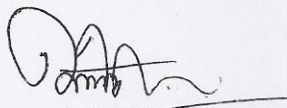
- a) Explain bearings, types of bearings, procedure for oiling & greasing of bearings and safety precautions while greasing bearings.
- b) Strengthening of track on approaches of all major/important bridges on B. G.
- c) Over Dimensioned Consignments (ODC) and their classification.
- d) What is the difference between push trolley, motor trolley and material lorry? How material lorry is loaded with rails to be worked out and how is push trolley to be worked in section with limited visibility?


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- e) Monsoon Patrolling, duties of Patrolman, Equipments, Patrol Book & Patrol Charts.
- f) Rules for working of level crossings closed to road traffic normally and open to road traffic normally.
- g) Briefly describe various aspects which should be covered in Project Report for Track Renewal Work?
- h) Briefly describe various types of training Courses for Permanent Way Staff

Q.8 Write short notes on any five :- (5 x 6 = 30)

- a) Level Crossing Indicators for both trains and road users for manned/unmanned level crossings. Draw neat sketches showing details.
- b) What safety equipments/appliances are maintained at level crossings? What is frequency of inspection by PWIs and ADENs?
- c) You have been asked to make out an action plan for reducing/elimination of level crossings in your section. What options are available for elimination of manned/unmanned level crossing gates? Briefly describe each.
- d) Criteria for Rail renewal. Briefly describe each.
- e) Distressed bridges, their classification, speed restrictions and signs of distress for each category.
- f) Scour depth and flood protection works.
- g) Draw a sketch indicating temporary speed restriction boards for deep screening work indicating the distances for BG Track.
- h) Procedure for installing a glued insulated joint in LWR/CWR track


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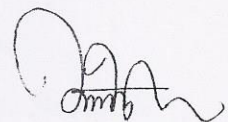
Q.9

- a) What is a septic tank? Draw a neat sectional elevation of a septic tank. (10)
- b) Design a septic tank for a small colony of 100 persons with daily sewerage flow of 135 liters per head per day. Draw a neat sketch also. (10)
- c) Draw a neat sketch of a pressure filter and discuss its salient features. (10)

Q.10 Write short notes on any five :-

(5 x 6 = 30)

- a) What records are maintained for issue of Railway stores to contractors executing Railway works?
- b) What is a stock sheet and how stock sheet is liquidated?
- c) Difference between selection, suitability and trade test.
- d) What is an estimate? Briefly describe various types of estimates.
- e) For what types of emergencies money can be drawn from station earning? Also explain the procedure to be followed.
- f) Distinguish between metalizing and galvanizing
- g) Pressure grouting and guniting
- h) Importance of departmental verification of stores and what is its frequency?


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