

QUESTION PAPER

**FOR SUPPLEMENTARY 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 : 26-2-2011

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.

SECTION - A

Answer any two questions.

प्रश्न 1.

(अंक 5X3=15)

- (क) हिंदी व अहिंदी भाषी राज्यों में सूचना पट्ट/नामपट्ट आदि के लिए भाषाओं को किस क्रम से लिखा जाता है ?
- (ख) हिंदी शिक्षण योजना के अन्तर्गत कर्मचारियों के लिए कौन-कौन सी निर्धारित परीक्षा हैं और उनका शैक्षिक स्तर क्या है ?

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- (ग) राजभाषा नियमों के अंतर्गत क,ख एवं ग क्षेत्र से क्या अभिप्राय है ?
 (घ) राजभाषा नियमों की अंतर्गत किस प्रकार के कार्यालय को अधिसूचित किया जाता है ?
 ✓(ङ.) राष्ट्रभाषा और राजभाषा में क्या अंतर है?

Q.2 What are main items of inspection and what are main schedule of inspection of Incharge (i) SE/JE (P.Way) (ii) SE/JE(Works) and (iii) SE/JE(Bridge)
 (5x3) = 15

Q.3 Indicate the following for the B.G. Schedule of Dimensions.

- (i) Minimum distance centre to centre of tracks
 (a) For existing works 2
 (b) For new works 2
- (ii) Minimum depth of space for wheel flange from rail level. 1
- (iii) Minimum horizontal distance from centre of track to any structure from rail level to 305 mm above rail level
 (a) For existing works 2
 (b) For new works or alterations to existing works 2
- (iv) Minimum horizontal distance from centre of track to any structure except a platform
 (a) For existing works from 305 mm above rail level to 4420 mm above rail level. 2
 (b) For new works or alterations to existing works
 (1) From 305 mm above rail level to 1065 mm 2
 (2) From 1065 mm above rail level to 3355 mm 2

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SECTION - B

Answer any four questions:

- Q.4. a) When an existing LWR is required to be distressed ? 5
- b) Describe the method/steps of distressing the existing LWR track using Rail tensors alongwith precautions to be taken. 25
- Q.5. a) Describe the method/steps for USFD testing of AT weld joint. 10
- b) What is TGI Value of track and how it is used for planning of track maintenance. 10
- c) What are criteria for manning of unmanned level crossing ? 5
- d) What are main specifications of track ballast. 5
- Q.6 a) What is cant deficiency and what are considerations to limit it ? 4
- b) What are limiting values (on BG line) of maximum cant, maximum cant deficiency, maximum cant excess, maximum cant gradient, maximum rate of change of cant and maximum cant deficiency permitted on Turnout ? $6 \times 2 = 12$
- c) What are tolerances (with limits) to be checked after AT welding of rail ? 7
- d) What are criteria for rail renewal of 60 kg & 52kg rails ? 7
- Q.7. a) Describe the constitution of Colony Care Committee/Colony Committee and frequency of holding the meeting of committee. 5
- b) Why disinfection of drinking water is necessary? Describe two methods of disinfection of water generally adopted on Railway system and precautions to be taken. 10
- (c) What are advantages of Rain Water harvesting ? Describe any one method of rain water harvesting with sketches. 10

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$\pi = 3.14$

(d) Short note on maintenance of Land Boundary along the Track. 5

Q.8. Write short notes on any six of the following: (6x5)=30

- (i) Limitation of continuing LWR on girder bridges.
- (ii) Works requiring CRS sanction.
- (iii) Steps to be taken for water conservation in Railway Colony and Station.
- (iv) Pot cum PTFE Bearing.
- (v) Inspection of composite bridge girders.
- (vi) System working of Dip Lorry on single line section.
- (vii) Reconditioning of CMS crossing.
- (viii) 25T-2008 Loading Standard.
- (ix) Danger level and free board of Bridge.
- (x) Ballast Cleaning Machine.

Q.9 Design a flat RCC slab for room size of 3m x 5m to be used for Office building with an imposed live load of 500 kg/sqm. Details of reinforcement bars to be shown on sketch. Required data may be suitably assumed. ✓

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Q.10 What checks (major itemwise) you will make while carrying out inspection of a major bridge having 61.0M triangulated girders. Indicate the defects which require immediate attention. ✓

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