

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

:

15.03.2008

Maximum Marks: 150

Time Allowed: 03 Hrs.

1. **Only six questions are to be answered.**
2. **All questions carry equal marks and as per indicated against each.**
3. **All the questions should be answered only in the Answer Sheet and no question is to be answered in Question Paper. No mobile phone, calculator 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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प्रश्न 1.

(अंक 5X5=25)

- (क) राजभाषा नीति को लागू करने की दृष्टि से भारत को कितने क्षेत्रों में बांटा गया है। बिहार, गुजरात एवं कर्नाटक किन क्षेत्रों में आते हैं।
- (ख) हिन्दी व अहिन्दी भाषी राज्यों में सूचना पट्ट नामपट्ट आदि के लिए भाषाओं को किस क्रम से लिखा जाता है।
- (ग) हिन्दी शिक्षण योजना के अन्तर्गत कर्मचारियों के लिए कौन-कौन सी निर्धारित परीक्षा है और उसका शैक्षिक स्तर क्या है।
- (घ) हिन्दी में कार्यसाध्यक ज्ञान प्राप्त कर्मचारियों से क्या अभिप्राय है।
- (ङ) हिन्दी में प्रवीणता प्राप्त कर्मचारी से क्या अभिप्राय है।

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Q.2

- a) Strengthening of sub-structure of a Railway Bridge by Jacketting. (5)
- b) Describe Cement Pressure Grouting & Guniting. (5)
- c) One pier of a bridge 3x12m on 5m high embankment is to be rebuilt. Suggest temporary arrangements and precautions to be taken. Make neat sketches. (15)

Q.3 Write short notes to the point:-

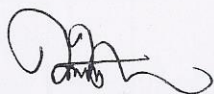
- a) What is category I and category II distressed bridges? What is the inspection schedule for distressed bridges (category I and category II) by Inspector (concerned), ADEN/ABE & DEN/Sr. DEN? (5)
- b) Explain in brief CRN, ORN and URN Numbers. (5)
- c) Describe to the point the method of carrying out detailed inspection of 76.2 m open web through girder made of riveted steel. Indicate also the main defects to be noted. (15)

Q.4 Write short notes to the point on any five:- (Marks: 5x5=25)

- a) What are the main hydraulic, mechanical and electrical systems on a CSM 09-32 TT Machine?
- b) What are the equipments that a Push Trolley must carry?
- d) Pre-tamping and post-tamping operations for tamping machines working.
- e) Design mode working of CSM
- f) Working of Track Tamping machines in track circuited and electrified sections
- g) Different types of Track Machines available on Northern Railway, their use and rated out-put per effective block hour
- h) What is DGS (Dynamic track stabilizer) and how it is supposed to help in stabilizing track behind a BCM?

Q.5 Write short notes to the point on: - (Marks: 5x5=25)

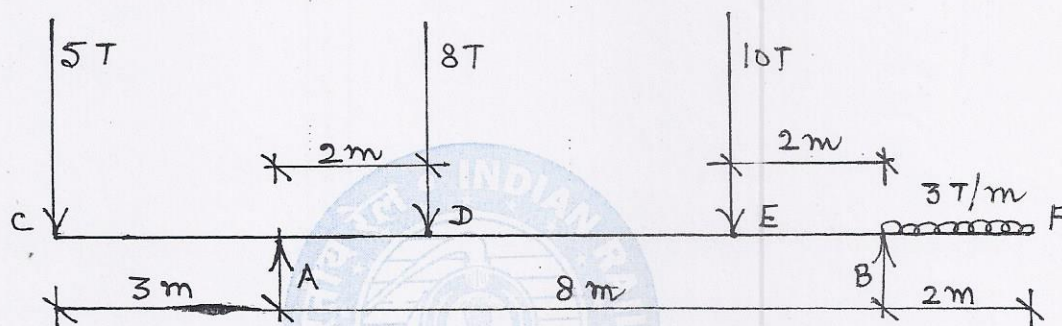
- a) What are the criteria and priority for manning of un-manned level crossing?
- b) What are the rules for working of a level crossing closed to road traffic normally and open to road traffic normally?



- c) Speed breakers and Rumble strips at level crossings
- d) What safety equipments/appliances are maintained at level crossings?
What is their frequency of inspection by PWIs and AENs?
- e) What are the duties of gateman as per IRPWM?

Q.6 Answer any one: - (25)

- Workout maximum bending moment and shear force & draw bending moment & shear force diagram for the loads on a beam in the sketch below:



OR

- Calculate the maximum permissible speed on a curve of high speed B.G. group 'A' route having the following particulars:

a)	Degree of curve	-	1
b)	Super elevation	-	80 mm
c)	Length of transitioned curve	-	120 metres
d)	Maximum speed of the section likely to be sanctioned	-	160 Kmph

Q.7 Answer any one: - (25)

- A railway colony of 1000 houses is to be provided with piped water supply taking water from a nearby river. Work out the broad scheme of pumping, filtration, storage and distribution of water. Make out neat key plan also.

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OR

- A section of track with caked ballast is to be renewed (CTR) by PQRS. Explain how the renewal will be carried out, starting from setting up of depot. Also make neat & dimensioned sketch of the PQRS depot.

Q.8 Write short notes to the point in brief on any five: -(Marks: 5x5=25)

- a) Difference between Selection, Suitability and Trade Test
- b) Difference between Settlement pass & post retirement pass
- c) Procedure to be followed for imposing Major Penalty
- d) Different types of leave available to a Railway employee.
- e) Ex-gratia and compensation in case of a Railway accident involving injuries, casualties.
- f) Direct recruitment quota for group 'C' staff
- g) Stock sheet & how the stock sheet is liquidated?

Q.9

- i) You have been asked to submit a proposal for construction of an auditorium of 500 seating capacity for your Divisional Headquarter for inclusion in Works Programme 2009-10. Write with brief justification and abstract of cost for submitting the same with a covering letter to your DEN/Sr. DEN. (15)
- ii) What is the categorization of encroachments on Railways? Describe the procedure for removing various categories of encroachments. (10)

Q.10

- i) An express train meets with a mishap on a double line section in between stations resulting in derailment of some coaches, leading to casualties (deaths & injuries) among the passengers. As AEN you are the first officer to reach the site. Give in detail the steps to be taken by you, in order of priority, on reaching the accident site, till restoration of traffic. (15)
- ii) What are summer precautions and inspections in LWR/CWR territory? (5)
- iii) Duties of Assistant Engineer/ Assistant Divisional Engineer in brief as detailed in Chapter I of IRPWM? (5)

