

Integral Coach Factory, Chennai

**Supplementary Question paper for the post of AEN/ Group-B
against 70% Quota of Civil Engineering department**

26

Max. marks – 150
Duration 03 hours

***Answer any 10 questions in Part-A. Each question carries 06 marks.
Answer any 05 questions in Part-B. Each question carries 08 marks.
Answer all 25 questions in Part-C. Each question carries 02 marks.***

PART- A

- 1 What is meant by material modification in a work? List out the items that are to be treated as Material modification. What are the General Manager's powers for the same? 06
- 2 What are the criteria based on which the classification of Level crossings is done? Indicate the criteria for each type of Level Crossing. 06
- 3 Write a short note on Security Deposit and Performance Guarantee in respect of Works Contracts. Indicate the stipulations laid down for refund of Security Deposit and Performance Guarantee. 06
- 4 What are the details to be furnished in a Briefing Note of the tender for the appraisal of the Tender Committee? Indicate the powers delegated to the JAG and SAG officers to dispense with tenders. 06
- 5 What do you understand by Tachometry? How do you ensure that Fly Leveling is error free? 06

- 6 What is the maximum permissible speed for transitioned curve at 2 degree curvature with actual cant of 70mm on BG track of group D route? 06
- 7 What is short Welded Rail? What is the normal length of SWR in BG? What is mean annual rail temperature? What is meant by installation temperature of LWR?. 06
- 8 Why is chlorination considered necessary in case of public water supply even when filtration is provided? Mention various methods by which chlorination of water is done. What is chlorine demand of water and what is BOD? 06
- 9 a What are the important items to be checked on a manned Level Crossing? 03
- 9 b What types of road sign boards are to be provided and at what distance at unmanned and manned LC's? 03
- 10a What is August Review and Final Modification? 03
- 10b Distinguish between Variation and Vitiation of a contract. 03
- 11 Under what situations deep screening is resorted to? Write short note on Gang Chart. 06
- 12a What do you mean by optimum moisture content of soil? Explain with typical compaction curve. 03
- 12b How do you achieve the desired compaction while carrying out earthwork in a railway embankment? 03
- 13 Discuss the following in brief:
a)Balanced section.
b)Over reinforced section
c)Under reinforced section 06

PART – B

- 1 Briefly state the features of Payment of Wages Act, 1936. Mentions features like aim, wage, wage period, application, deductions etc. 08
- 2 Write short notes on:
 - a) HOER 08
 - b) Staff Benefit Fund
- 3 What are the different kinds of leave admissible to a railway servant? Briefly explain the quantum of entitlement and eligibility conditions in each kind of leave? 08
- 4 Write short notes on –
 - a) Employer's liability under Workmen Compensation Act 08
 - b) Colony committee and its responsibilities
- 5 What are the incentives for promoting official language? List the states in A,B and C regions as per official language policy. What are the incentives given for passing the 3 Hindi examinations-Prabodh, Praveen and Pragya? 08
- 6 What is PNM? How does it function on a zonal Railway? Indicate details of provision of for holding PNM at various levels. 08
- 7a Write a short note on rules of retention of a railway quarter by an employee? 04
- 7 b What is suspension of a railway employee? In what way is a railway servant affected once he is under suspension. 04
- 8 Write short notes on 1) Official Language Implementation Committee of ICF 2) Collective cash award for Hindi. 08

PART- C

(a) No corrections are permitted. Correction may be any of the following types viz. cutting, overwriting, erasing, scoring off a ticked answer in multiple choice and ticking another answer and modifying the answer in any way.

(b) Answers should be written in answer paper only

1. Maximum distance covered in a day by a Patrolman should not normally exceed a) 2 km b) 5km c) 10 km d) 20km.
2. Minimum rail section recommended for section having traffic more than 20 GMTs is a) 60kg b) 52kg c) 78 kg d) 90R
3. The maximum size of track ballast is a)65 mm. b) 40 mm c) 50mm d) 45 mm
4. Sleeper density for group 'A' route with traffic density more than 20 GMT is --- sleeper per kilometer a) 1440 b) 1660 c) 1720 d) 1320
5. There are special chairs provided behind the heel of switch to give a suitable ramp to the tongue rail, which is raised by ----mm at the heel a) 4 b) 5 c) 6 d) 8
6. What shall be the minimum safe distance between track machines when moving in the block section in convoy? a) 50m b) 180m c) 120m d) 200m
7. What is the minimum cushion of clean ballast recommended for proper functioning of tamping machines? (a)50 mm (b)75 mm (c)100 mm (d)150 mm
8. What are the main functions of tamping machines? (a)Correction of Alignment (b)Correction of longitudinal level (c)Packing under sleepers (d)All of above
9. What is the minimum distance of height gauge from gate posts in case of level crossings? a) 8m b) 12m c) 20m d) 25m

10. What is the distance of speed breakers on the approaches of unmanned level crossing? a) 8m b) 12m c) 20m d) 25m
11. What is min. length of LWR on BG? a) 100m b) 120m c) 200m d) 250m
12. Contingency charges included by Railway in relinquishment estimate is:
a) 4% b) 3% c) 5% d) 3-5%
13. Hard type encroachment is: a) Category 'A' b) Cat. 'B' c) Cat. 'C&D' d) Cat. "A&B"
14. What is the carriageway width of two lanes Road Over Bridge:
(a) 8.0m (b) 7.5m (c) 7.00m (d) 8.5m
15. What is the minimum clearance in mm between top of highest rail level to bottom of girder of Road Over Bridge: (a) 6500 (b) 6250
(c) 6300 (d) 5870
16. How many PREM meeting are held at division level? a) Six b) Four
c) Eight d) None
17. Who is the Chairman of PREM meeting at Headquarters level?
a) GM b) CPO c) PHOD d) AGM
18. The possibility of quick sand condition will be there when flow of water to soil is (a) horizontal (b) upward (c) downward d) radial
19. Segregation in cement concrete is defined as
(a) Separation of coarser particles from mix.
(b) appearance of cement and water slurry over surface of finished concrete
(c) formation of capillary pores in fresh cement concrete
20. The dimensions of standard brick are
(a) 19x9x9 cm (b) 20x10x10 cm (c) 19x9x4 cm
21. Who is competent to appoint an arbitrator? a) DRM
b) Territorial HOD c) Principal HOD d) General Manager
22. What is steepest grade permitted for LWR? a) 1 in 250
b) 1 in 150 c) 1 in 200 d) 1 in 100
23. At what rail temperature is cold weather patrolling is introduced?
a) td -10 b) td- 20 c) td- 30 d) td+ 10

24. Which of the following required PPE Act proceedings to remove:
a) Category 'A' b) Cat. 'B' c) Cat. 'C&D' d) Cat. "A&B"
25. Which para of Engineering code deals with cost sharing of ROB/RUBs:
(a) 1716 (b) 1814 (c) 1816 (d) 1819

END OF QUESTION PAPER