QUESTION PAPER

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

(Assessment Period 1998-99)

DATE OF EXAMINATION: **10.10.2015**
MAXIMUM MARKS: **150** **TIME ALLOWED : 03 HRS.**

1. Answer total **seven** questions. Question No. 1 is compulsory. Any extra question attempted after **seven** will not be evaluated.

2. All questions carry marks as indicated against each.

3. All questions should be answered only in the Answer Sheet and no question is to be answered in Question Paper.

4. Candidates having found writing name/leaving any other identification marks in Answer Sheet shall be liable to be disqualified.

5. Answer of Objective Type questions having cutting, overwriting, erasing, scoring off a ticked answer in multiple choice and ticking another answer will not be evaluated.

6. Answers may be written either in English or in Hindi.

7. In case of any ambiguity in the Hindi version, the English version is to be considered authentic.

Q.1 Write correct Answer (Reproduce answer in full):- (20 x 1.5 = 30)

1. When carrying out sieve analysis the screen shall be kept.....and shaken vigorously:
   a.Inclined
   b.Vertical
   c.Horizontal
   d.None of these

2. The percentage passing through or retained on the sieve shall be determined by....:
   a.Weight
   b.Valume
   c.None of these.

3. The ballast between the sleeper is called:
   a.Shoulder ballast
   b.Ballast cushion
   c.Crib ballast
   d.None of these.

4. A Railway bridge having total waterway 18m. or more is called
   a.major bridge
   b.minor bridge
   c.important bridge
   d.None of these

5. MBG loading stands for
   a.Mineral Broad gauge loading
   b.Modified broad gauge loading
   c.Medium Broad gauge loading
   d.none of above

6. Which of the following is not a type of bridge based on type of span
   a. Simply supported
   b. Cantilever
   c. Continuous
   d. Trusses
   e. All of above

7. Dynamic Augment is
   a. Wind effect on railway bridges
   b. Temperature effect on railway bridges
   c. Impact Effect on railway bridges
   d. Rolling effect on railway bridges.

8. The arrangement for the safe custody of imprest money rest entirely with the
   a. Imprest holder
   b. Office superindendent
   c. Chowkidar
   d. concerning clerk.

9. In acquisition of railway land if any departure from the rules is contemplated the specific approval should be obtained from
   a.GM
   b.DRM
   c.Railway Board
   d.CRS

10. Steel and timber structures with roof trusses will be inspected by IOW once in.....during prescribed month
    a.A year
    b.5 years
    c.6 months
    d.No shedule specified

11. The permanent rail closure in high speed routes shall not be less than:
    a. 4m
    b.7.5m
    c.6.5m
    d.5.5m

12. The height of 60kg rail i.e.....mm:
    a.142.9
    b.156
    c.172
    d.None of these

13. The service life of 60 kg. 90 UTS rails is in GMT::
    a.550
    b.650
    c.800
    d.None of these

14. The expansion of UTS:
    a. Ultimate tensile strength
    b. Universal testing scheme
    c. Ultimate tested specimen
    d. None of these

15. Gradient on which LWR can be laid should not be steeper than:
    a. 1 in250
    b. 1 in 200
    c. 1 in 150
    d. 1 in 100

16. The welded rail passes through yards including p & c is known as:
    a. SWR
    b. LWR
    c. CWR
    d. None of above

17. Formula for thermal force in LWR/CWR:
    a. La(tp-to)
    b. EAat/r
    c. EAat
    d. None of above.

18. Track"Below Average" is categorised when TGI is:
    a. <20
    b. <30
    c. <36
    d. None of above.

19. T.G.I. for Ideal track is:
    a. 240
    b. 180
    c. 300
    d. None of these

20. The limiting loss of section for 60 kg. rails is...%:
    a.4%
    b.6%
    c.8%
    d.None of above

प्रश्न सं० 2 . Write short Notes on any four:- (4x5 = 20)

(क) 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 अनिवार्यत: किस भाषा में जारी किया जाना चाहिए ?

(ख) राजभाषा नियमों के अन्तर्गत किस प्रकार के कार्यालय को अधिसूचित किया जाता है?

(ग) राष्ट्रभाषा और राजभाषा में क्या अन्तर है ?

short notes
DLE/82-(1)d) ✓HOER Act.
LI/82-(3) e) ✓Pass rules & different types of passes with eligibility criteria.

ort Notes Q.3 Write short Notes on any four:- (4x5 = 20)

DLI 81-(1) I. Criteria for rail renewal
LI 83-(2) II. Initial & final setting time of concrete
I-83-(6) III. Pre & post stressed concrete structures.
LI 84-(2) IV. ✓ Define super elevation, cant deficiency, cant excess & equilibrium cant.
I-84-(5) V. Numerical rating of bridges after inspection.

Q.4 Write short Notes on any four:- (4x5 = 20)

LI-(5)-(2) I. Stress free temperature
LI-(5)-(7) II. Reconditioning of CMS crossing
LI-(5)-(8) III. Classification of bridges as important, major, minor and culvert
LI-8-(8) IV. Earnest money and security money
LI-8-(13) V. Monsoon patrolling

Q.5 Write short Notes on any four:- (4x5 = 20)

I. Fracture Repairs in LWR Track

II. Permitted location of LWR

III. Pre and post tamping works.

IV. Quality of drinking water

V. Hot weather patrolling.

Q.6 Write Short Notes on any four of the following : (4x5 = 20)

I. Location of Engineering indicators used for long duration Works:

a) Train to stop dead.

b) Train to pass at restricted speed.

II. Action to be taken during an accident involving causality.

III. Action to be taken during heavy rainfall and flood in the section.

IV. Protection of level crossing gate in on emergency.

V. Write classification of level crossings.

Q. 7 Write answer of the following:- (2x10 = 20)

(a) What are the various preventive measures to reduce that corrosion of rails in corrosion prone area. Explain in detail?

(b) How to calculate the safe speed on curves. What are the limits of cant excess and cant deficiency? Explain in detail?

Q.8. Write answer of the following:- (2x10 = 20)

(a) Design mode working of CSM.

(b) Fabrication of Glued joint INSITU.

Q. 9 Describe TSR, TRR, CTR, TWR, TBTR and TFR in brief and also describe which of these can be done with the second hand serviceable materials. (1x20 = 20)

Q. 10. Describe the track relaying works by PQRS or TRT machine including pre and post relaying activities? (1x20 = 20)