Code : 011724

B.Tech 7th Semester Examination, 2016

Transportation English-II

Time : 3 hours   Full Marks : 70

Instructions :

  (i)   *There are **Nine** Questions in this Paper.*

  (ii) *Attempt **Five** questions in all.*

  (iii) **Question No. 1 is Compulsory.**

  (iv) *The marks are indicated in the right-hand margin.*

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1. Choose the correct answer of the following (any seven)

                                     2×7=14

  (a) Ordinary rails are made or:

     (a) mild steel

     (b) cast iron

     (c) wrought iron

     (d) high carbon steel

                                    P.T.O.

  (b) The main function of a fish plate is:

     (a) to join the two rails together

     (b) to join rails with the sleeper

     (c) to allow rail to expand and contract freely

     (d) none of the above

  (c) Gauge is the distance between

     (a) centre to centre of rails

     (b) running faces of rails

     (c) outer faces of rails

     (d) none of the above

  (d) For developing thinly populated areas, the correc choice of gauge is:

     (a) Broad Gauge

     (b) Meter Gauge

     (c) Narrow Gauge

     (d) any of the above

  (e) Staggered joints are generally provided:

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(a) on curves

(b) on straight track

(c) when two different rail sections are required to be joined

(d) none of the above

(f) Composite sleeper index is the index of:

(a) hardness and strength

(b) strength and toughness

(c) toughness and wear resistance

(d) wear resistance and hardness

(g) Dog spikes are used for fixing rail to the:

(a) wooden sleepers

(b) CST-9 sleepers

(c) steel trough sleepers

(d) concrete sleepers

(h) The limiting value of cant excess for Broad Gauge is:

(a) 55 mm

(b) 65 mm

(c) 75 mm

(d) 100 mm

(i) Cant deficiency occurs when a vehicle travel around a curve at :

(a) equilibrium speed

(b) speeds higher than equilibrium speed

(c) speeds lower than equilibrium speed

(d) booked speed

(j) The shape of transition curve used by India Railways is:

(a) cubic parabola

(b) spiral

(c) sine curve

(d) lemniscate of Bernoulli

2. (a) What are the special constructional features of a railway permanent way on curved alignment? Describe briefly the necessity of providing such feature. 7

(b) Differentiate between pusher gradient and momentum gradient. 7

3. Calculate the maximum permissible speed on a curve on a Rajdhani route having maximum sanction speed of 130 kmph. Super elevation provided is 50 mm and in transition length is 60 m. The transition curve length cannot be increased due to proximity of the yard. 14

4. (a) Draw neat sketch of a simple right hand turn and name the various component part. 7

(b) Discuss the merit and demerits of various type of sleeper used on Indian Railways. 7

5. (a) What is meant by degree of curvature ? Work out correction between degree and radius of curvature. 8

(b) What are the functions of the signals in respect of railway operations? 6

6. (a) What are the aspect which influences the choice o type of bridge? 7

(b) What is the difference between bearing pile and friction pile? How can the frictional resistance of pile be increased? 7

7. (a) What are the causes for the development of longitudinal forces? Explain the provision made for the longitudinal forces in the design of bridges in India. 7

(b) What are the points to be noted in connections with impact factors for IRC loadings? What are IRC specification for the live load for road bridges? 7

8. (a) Name the different characteristic of aircrafts. How do they effect the planning and design of the airports? 7

(b) Enumerate the various factors which you would keep in view while selecting a suitable site for an airport. 7

9. (a) Give the classification of level crossings and indicate the special features of each. 7

(b) What factor should be considered in selecting the site for a station in (i) a hilly terrain (ii) a flat country?

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