

Total No. of printed pages = 8

CT-501/CT/5th Sem/2018/M

## CONSTRUCTION TECHNOLOGY

Full Marks - 70

Pass Marks - 28

Time - Three hours

The figures in the margin indicate full marks for the questions.

### PART - A

Answer question no.1 compulsorily :  $1 \times 25 = 25$

1. (i) The road connecting capitals for states is known as

- (a) National highway
- (b) Provincial highway
- (c) State highway
- (d) Express highway

(ii) The road surface should be

- (a) Impervious
- (b) Durable
- (c) Stable
- (d) All of the above

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- (iii) Camber in the road is provided for
- (a) effective drainage
  - (b) counteracting the centrifugal force
  - (c) having proper sight distance
  - (d) All of the above
- (iv) The main advantage of long rail over short rail is
- (a) It requires less number of rail fastenings
  - (b) It provides smooth running of train
  - (c) Low maintenance cost
  - (d) All of the above
- (v) Slab culverts are suitable for maximum span of
- (a) 3m
  - (b) 6m
  - (c) 9m
  - (d) 12m
- (vi) End supports of the superstructure of a bridge is called \_\_\_\_\_.
- (vii) Walls constructed on both sides of the abutments are called \_\_\_\_\_.

(viii) The top width of track embankment is known as :

- (a) Right of way
- (b) Formation width
- (c) Subgrade
- (d) None of the above

(ix) What is the function of fish plate ?

(x) The main aim of providing a camber is \_\_\_\_\_.

(xi) The space on both sides of the roadways provided to protect the road is known as \_\_\_\_\_.

(xii) Obtuse angle crossing is also called as :

- (a) Diamond crossing
- (b) V-crossing
- (c) Square crossing
- (d) None of the above

(xiii) The parking lanes are provided on

- (a) National highway
- (b) Urban roads
- (c) State highways
- (d) On all roads

(xiv) Which of the following statement is not correct ?

- (a) In slab culvert, a RCC slab is simply supported over abutment.
- (b) A box culvert is constructed of RCC with one or more box casted monolithically.
- (c) In a box culvert a pipe is fitted to drain off water.
- (d) Arch culverts are culverts having its superstructure consisting of one or two arches.

(xv) The difference between the high flood level and the level of the crown of the road at its lowest point is known as \_\_\_\_\_.

(xvi) Slab culverts are suitable for maximum span of

- (a) 3m
- (b) 6m
- (c) 9m
- (d) 12m

(xvii) Culverts are constructed mainly to carry roadway or railway track over small streams.  
(True / False)

(xviii) Track geometrics include

- (a) Cross-sectional elements
- (b) Curves
- (c) Gradients
- (d) All the above

(xix) Bridge having its floor supported at the bottom of the superstructure is

- (a) Sky bridge
- (b) Through bridge
- (c) Both (a) & (b) above
- (d) None of the above

- (xx) Super elevation is provided to introduce \_\_\_\_\_ force to counteract the tendency of the centrifugal force.
- (xxi) Spacing of sleeper depends on
- (a) axle load and speed
  - (b) type and section of rails
  - (c) type of ballast
  - (d) All of the above
- (xxii) Which of the following is the best ballast material ?
- (a) Broken stone
  - (b) Gravel
  - (c) Cinder
  - (d) Sand
- (xxiii) The fixture used to join rails is
- (a) Fish plates
  - (b) Bearing plate
  - (c) Spikes
  - (d) Keys
- (xxiv) The process of ramming the ballast underneath the sleeper is known as \_\_\_\_\_.
- (xxv) Hollow girder bridges can be classified under R.C.C. bridge. (True / False)

PART - B

Answer any *three* from question no.2 to question no.5 and answer question no.6 compulsorily.

2. (a) Explain the construction procedure of WBM road. 6
- (b) What do you understand by rigid pavement and flexible pavement? 4
3. (a) What are the factors to be considered while selecting site for a bridge? 5
- (b) What are the different types of R.C.C. bridge? Explain any one with neat sketch. 5
4. (a) With neat sketch explain pipe culverts. 5
- (b) What are the merits and demerits of wooden sleepers? 5
5. (a) What are the good characteristics of ballast? 8
- (b) What do you understand by road geometrics? 2

6. Write short notes on any *three* : 5×3=15

- (a) Flat footed rails
- (b) Crawler tractor
- (c) Bituminous macadam
- (d) Rotary intersection