# MVCT–104

## M. E./M. Tech. (First Semester) EXAMINATION, Feb./March, 2009

### (Construction Technology & Management)

### CONSTRUCTION TECHNOLOGY

### (MVCT–104)

*Time : Three Hours*

*Maximum Marks : 100*

*Minimum Pass Marks : 40*

**Note :** Attempt any *five* questions. All questions carry equal marks.

1. (a) Describe in brief the consumption procedure for Bituminous Concrete Road as per IRC recommendation. 10

   (b) Describe the necessity of fibre reinforced pavement construction in highways. Also suggest the specifications. 10

2. (a) Enumerate the low cost road construction technique. Describe the use of industrial waste as a low cost road material. 10

   (b) Describe in brief the various features of different types of form work used in construction. 10

3. Design the framework for the beam and slab floor for the following data : 20

   (i) Thickness of floor = 120 mm

   (ii) Centre to centre spacing of beams = 3 m

P. T. O.



   (iii) Width of beam = 300 mm and depth 400 mm below slab

   (iv) Height of ceiling of the roof = 4 m above the floor

   Take live load on sheathing equal to 4000 N/m$^2$ and dead weight of wet concrete as 26500 N/m$^2$.

4. (a) Describe the various methods for the erection of steel structures like chimney and bridges. 10

   (b) What do you mean by high strength bolts ? Discuss its applicability in bridges in brief. 10

5. (a) What do you mean by prestressing ? Describe various techniques of prestressing in brief. 10

   (b) Discuss the various steps adopted for the design of prestressed water tank. 10

6. (a) Describe the various steps required for the construction of Girder Bridge. 10

   (b) What are the techniques commonly used in the construction of high rise structure and what is the effect of wind load on these structures ? Write in brief. 10

7. (a) Enumerate the construction techniques adopted in constructing a railway tunnel. 10

   (b) Describe all types of safety measures in construction of underground structures. 10

8. Write short notes on the following : 5 each

   (a) Stripping and removal of form work

   (b) Low cost road construction techniques

   (c) Equipments for prestress construction

   (d) In situ construction technique