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**B.Tech 6th Semester (Civil Engg.) Examination,
May-2012**

TRANSPORTATION ENGG-II

Paper - CE-310-F

Time allowed : 3 hours]

[Maximum marks : 100

Note : Attempt five questions in all. Question No. 1 is compulsory. Attempt one question from each section. Each question carries equal marks. (20 marks)

1. Do any five :

- (i) Name various types of pavement showing their component parts with sketch.
- (ii) Name various equipments used in the construction of road.
- (iii) Name various material required in the construction of road.
- (iv) Discuss the principles of mechanical soil stabilization in roads.
- (v) What are the requirements of a good Highway Drainage system?
- (vi) Discuss in brief about shield tunnelling.

(b) Briefly describe the following machinery for the construction of Bituminous Road.

(i) Tipper Trucks

(ii) Mechanical Finisher

10×2=20

Section-C

6. (a) Explain how the maintenance of the following pavement are carried out:-

(i) WBM Road

(ii) Cement Concrete Pavement

(b) Describe briefly on :-

(i) Pavement failure

(ii) Pavement evaluation

7. (a) Describe briefly surface drainage and sub-surface drainage system with sketch.

(b) Discuss briefly maintenance problems of Hill Road.

Section-D

8. (a) Explain benefit-cost analysis and its significance.

(b) Write brief note on Highway finance.

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9. (a) Name various methods of Tunnelling in hard rock. Explain any one of them with sketch.
- (b) Write brief notes on :-
- (i) Shaft in Tunnel
 - (ii) Pilot Tunnel

Section - A

2. (a) Discuss advantage and limitation of CBR method of design. $10 \times 2 = 20$
- (b) Explain group index method in the design of thickness of a flexible pavement.
3. (a) What are general design considerations of Rigid Pavement? $10 \times 2 = 20$
- (b) Discuss Westergaard's theory concept of temperature stresses in concrete pavement.

Section-B

4. (a) Write down the steps for the construction of Gravel Roads.
- (b) Discuss the uses and limitations of reinforced cement concrete and pre-stressed concrete pavement for highway. $10 \times 2 = 20$
5. (a) Discuss in brief on :
- (i) Seal Coat
- (ii) Surface Dressing