Reg. No. | | | | | | | | | | | | |

Question Paper Code : X10221

B.E./B.Tech. DEGREE EXAMINATIONS – NOV / DEC 2020

Seventh Semester

Civil Engineering

CE8006 PAVEMENT ENGINEERING

(Regulations 2017)

Time: 3 Hours | Answer ALL Questions | Max. Marks: 100

PART- A (10 x 2 = 20 Marks)

1. Define Rigidity factor?
2. What is meant by Repetition of load?
3. Define vehicle damage factor?
4. What are the components of a flexible pavements?
5. What types of joints provided in cement concrete pavements?
6. Write of scope of cement concrete pavements?
7. What are two methods of pavements evaluation?
8. What is the basic principle of Benkelman Beam deflection method?
9. What is meant by stabilizing of pavements?
10. Write the advantages of the geo-synthetics roads?

PART- B (5 x 13 = 65 Marks)

11. a) Elaborate the different types of pavements with neat sketches? (13)

OR

b) Explain the stress distribution in pavements under repeated loading? (13)

12. a) Explain the various methods involved in design of flexible pavements? (13)

OR

b) Describe the design and specification of rural roads as per IS guidelines? (13)

13. a) Explain step by step procedure to design cement concrete roads using modified westergaard approach? (13)

OR

b) Explain the factors influencing for cement concrete pavements? (13)

14. a) Describe the causes of distress in rigid and flexible pavements? (13)

OR

b) Explain the pavement evaluation by deflection measurements with neat sketches? (13)

15. a) Describe the various test and field control for stabilizing of pavements? (13)

OR

b) Explain about the geo-synthetics roads in India with an example? (13)

PART- C (1 x 15 = 15 Marks)

16. a) Design the pavement for construction of a new bypass with the following data: (15)

A) Two lane carriage way

B) Initial traffic in the year of completion of construction = 400 CVPD (sum of both directions)

C) Traffic growth rate = 7.5 %

D) Design life = 15 years

E) Vehicle damage factor based on axle load survey = 2.5 standard axle per commercial vehicle.

F) Design CBR of subgrade soil = 4%.

OR

b) Explain different types of joints used in CC roads with a suitable sketches- case study? (15)

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