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**5th Sem. /Civil  
Subject : Highway Engineering**

Time : 3 Hrs.

M.M. : 60

**SECTION-A**

**Note: Multiple Choice Questions. All Questions are compulsory. (6x1=6)**

Q.1 The inward transverse inclination given to the cross section of carriageway is called gradient. (CO1)

- a) Camber
- b) Embankment
- c) Slope
- d) Super elevation

Q.2 The bitumen containing inert material \_\_\_\_\_. (CO3)

- a) Tar
- b) Cutback
- c) Asphalt
- d) Emulsion

Q.3 The major problem of hill road in winter season. (CO4)

- a) Snow avalanche
- b) Landslide
- c) Snow fence
- d) Snow makers

Q.4 Pot holes for repair should be cut to size in \_\_\_\_\_ - shape (CO2)

- a) Rectangular
- b) Circular
- c) Square
- d) Triangular

Q.5 Which type of lighting is becoming popular due to energy efficiency and long life-span? (CO3)

- a) HPS
- b) LPS
- c) MH
- d) LEDs

Q.6 C.A.O. was established in the year. (CO6)

- a) 1942
- b) 1950
- c) 1962
- d) 1947

**Section-B**

**Note: Objective/Completion type questions. All questions are compulsory. (6x1=6)**

Q.7 Bitumen is completely soluble in \_\_\_\_\_. (CO3)

Q.8 WBM road is an example of \_\_\_\_\_. (CO2)

Q.9 Define Retaining wall. (CO2)

Q.10 The curve in which convexity lies on the outer edge of a hill road is called \_\_\_\_\_. (CO4)

Q.11 \_\_\_\_\_ is the compressible filler material. (CO4)

Q.12 Define Hanger. (CO6)

**Section-C**

**Note: Short answer type Question. Attempt any eight questions out of Ten Questions. (8x4=32)**

Q.13 What are the advantages of providing curves? (CO1)

Q.14 Write the function of N.H.A.I. (CO1)

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Q.15 What is the necessity of road drainage system? (CO4)

Q.16 Write short note on resurfacing when it is necessary. (CO4)

Q.17 Write the procedure to conduct ductility test of bitumen. (CO3)

Q.18 Name the various method of soil stabilization. Explain mechanical stabilization. (CO2)

Q.19 What is the function of seal coat? (CO2)

Q.20 What are the causes of land-slides? How you will prevent them? (CO4)

Q.21 What are the main types of road signs? (CO5)

Q.22 What are the advantages of air transportation as compared to other modes of transport? (CO6)

### **Section-D**

**Note: Long answer questions. Attempt any two question out of three Questions. (2x8=16)**

Q.23 Explain Los angle's Abrasion test to determine hardness of road aggregate. State its significance. (CO3)

Q.24 (a) State the various types of camber. What are the objects of providing camber. (CO1)

(b) What are the advantages of super elevation? (CO1)

Q25 Explain in detail the maintenance of Bituminous roads.