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**5th Sem / Branch : Civil, Constr. Mgmt., Civil Engg.  
(Spl. Highway Engg.)  
Sub.: Highway Engineering**

Time : 3Hrs. M.M. : 100

**SECTION-A**

**Note:** Multiple choice questions. All questions are compulsory (10x1=10)

Q.1 The privilege to use road by the traffic is called (CO1)

- a) Carriage way b) Right of way
- c) Foot path d) Express way

Q.2 A vertical curve with convexity upward is given to (CO2)

- a) Summit curve b) Valley curve
- c) Crest curve d) Both of the above

Q.3 Super elevation is also called (CO2)

- a) Banking b) Widening
- c) Camber d) Gradient

Q.4 Softening point test is conducted by \_\_\_\_\_ apparatus. (CO4)

- a) Ring & Ball b) Penetrometer
- c) Hydrometer d) Viscometer

Q.5 A seal coat consists of (CO5)

- a) Sand bitumen layer
- b) Bitumen aggregates

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- c) Asphaltic concrete  
d) Open graded aggregates
- Q.6 Soil compaction \_\_\_\_\_ dry density of soil. (CO6)
- a) Decrease b) Increase
  - c) Both (a) & (b) d) None
- Q.7 The removal of rain water from surface of the road is termed as (CO8)
- a) Sub surface drainage b) Pipe drain
  - c) Side drain d) Drainage
- Q.8 Culvert is a small road bridge having maximum span of \_\_\_\_\_. (CO7)
- a) 6 m b) 0.6 m
  - c) 10 m d) None
- Q.9 The First modern aeroplane invented by wright brother. (CO10)
- a) 1947 b) 1946
  - c) 1945 d) 1948
- Q.10 \_\_\_\_\_ a area provided beyond the end of stop way (CO10)
- a) Carriage way b) Clearway
  - c) Apron d) Taxiway

**SECTION-B**

**Note:** Objective type questions. All questions are compulsory. (10x1=10)

Q.11 IRC was set up in the year \_\_\_\_\_ (CO1)

Q.12 Camber in the road is provided for \_\_\_\_\_ (CO2)

Q.13 Which survey is accurate and faster \_\_\_\_\_ (CO3)

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- Q.14 \_\_\_\_\_ test is used to evaluate the strength of soil subgrade. (CO4)
- Q.15 Flexible pavement have low flexural strength/high flexural strength. (CO5)
- Q.16 Hair pin bend is located on hill side having \_\_\_\_\_ slope. (CO6)
- Q.17 Culvert is larger is proportion to a bridge. (True/False) (CO7)
- Q.18 Ruts are formed in \_\_\_\_\_ pavements (CO8)
- Q.19 \_\_\_\_\_ is an economical combination of best hauling and best loading machine. (CO10)
- Q.20 \_\_\_\_\_ A strip is used for landing and takeoff of aircrafts. (CO10)

### SECTION-C

- Note:** Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)
- Q.21 State IRC classifications of roads. (CO1)
- Q.22 Write the significance of superelevation. (CO2)
- Q.23 Explain obligatory point for alignment of road in plain area. (CO3)
- Q.24 Write the difference between tack coat and seal coat. (CO5)
- Q.25 Define Asphalt, cutback and emulsion. (CO5)
- Q.26 Explain the meaning of landslide. What are the causes of landslides? (CO6)
- Q.27 Define Soil Erosion. What are the important methods to controls soil erosion? (CO6)

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- Q.28 Write a short note on cross drainage work. (CO7)
- Q.29 What you understand by CBR ratio.. Explain. (CO4)
- Q.30 Differentiate flexible and rigid pavement with neat sketch. (CO5)
- Q.31 State common types of failure in concrete pavement. (CO8)
- Q.32 How the maintenance of cement concrete road is carried out? (CO8)
- Q.33 Explain the use of road paver and road finisher in road construction. (CO9)
- Q.34 Write a note on : Hanger and Apron. (CO10)
- Q.35 What are the important factors to be considered while selecting a site for an airports. (CO10)

### SECTION-D

- Note:** Long answer type questions. Attempt any two questions out of three questions. (2x10=20)
- Q.36 What are the different tests carried out to determine the properties of road aggregates? (CO4)
- Q.37 What do you mean by road pavement. What are the different types of road pavements? (CO5)
- Q.38 State the working and use of hot mix plant. Enlist measures to be taken while working in hot mix plant. (CO9)

Note : Course Outcome (CO) mentioned in the question paper is for official purpose only.

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