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**5th Sem / Civil, Constr. Mgmt., Civil Engg  
(Spl Highway Engg)**

**Subject:- Highway Engineering**

Time : 3Hrs.

M.M. : 100

**SECTION-A**

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

- Q.1 The organization meant for developing roads in the country are  
a) IRC                                      b) CRRI  
c) NHAI                                    d) All the above
- Q.2 Carriageaway and shoulders combined together is known as  
a) Formation width      b) Right to Way  
c) Road Margin              d) Gradient
- Q.3 The gradient which should never be exceeded in road construction is  
a) Ruling gradient      b) Limiting gradient  
c) Minimum gradient    d) Exceptional gradient
- Q.4 Road should cross railway line and river at  
a) 30°                                      b) 60°  
c) 90°                                      d) 45°

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- Q.5 The test used to determine the toughness of road aggregate is  
a) abrasion test                      b) Impact test  
c) Crushing value test      d) CBR Test
- Q.6 Banks of surplus earth dumped on the road side parallel to its alignment are called  
a) Camber                                      b) Borrow Pit  
c) Spoil Banks                      d) Embankment
- Q.7 The walls constructed on the up-slope side of the hill road to prevent the same from sliding down are called  
a) Breast Wall                      b) Retaining wall  
c) Parapet Wall                      d) Catch pit
- Q.8 The machine used for digging trenches  
a) Dragline                                      b) Back Hoe  
c) Shovels                                      d) Dozers
- Q.9 A closed building structure to hold aircraft is called  
a) Apron                                      b) Airdrome  
c) Glider                                      d) Hanger
- Q.10 Trucks whose contents can be emptied without handling are called  
a) Dumpers                                      b) Tractors  
c) Tippers                                      d) Pavers

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### SECTION-B

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

- Q.11 CRR I means \_\_\_\_\_.
- Q.12 The convexity provided to road surface in highway engineering is termed as \_\_\_\_\_.
- Q.13 \_\_\_\_\_ map shows the contours of the area.
- Q.14 80/100 grade bitumen indicates the \_\_\_\_\_ lies between 80 and 100.
- Q.15 The process of load transfer from one slab to the other is carried across the transverse joint by \_\_\_\_\_.
- Q.16 The hill road meant for pedestrians, mules, camels etc. are known as \_\_\_\_\_.
- Q.17 The process of removing and controlling surface and subsoil water within the right of way of a road is called \_\_\_\_\_.
- Q.18 Formation of pot holes is the most common failure occurring in \_\_\_\_\_.
- Q.19 A machine having long crane boom but efficiency less than power shovel is \_\_\_\_\_.
- Q.20 \_\_\_\_\_ is a paved landing strip for landing and take-off of planes.

### SECTION-C

**Note:** Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

- Q.21 Define IRC. What are its functions?

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- Q.22 Define camber. What are the objects of providing camber?
- Q.23 Define superelevation and extra widening.
- Q.24 What is transition curve and reverse curve
- Q.25 What are the factors to be considered while governing the alignment for a road in plain areas?
- Q.26 Compare bitumen and Tar.
- Q.27 How will you conduct the Los Angeles Abrasion test for road aggregate.
- Q.28 Explain merits and demerits of flexible pavement.
- Q.29 Draw the cross section of WBM road.
- Q.30 Define landslides. What are the causes of landslides?
- Q.31 What are the common types of road failures of flexible pavement?
- Q.32 Differentiate between Dragline and Power Shovel.
- Q.33 Explain the necessity of studying airport engineering
- Q.34 Explain alternate bay method of road construction.
- Q.35 Define tie bar and dowel bar.

### SECTION-D

**Note:** Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

- Q.36 Write the construction steps for laying of cement concrete roads.
- Q.37 What the various factors to be considered for selecting a site for an airport with respect to zoning laws?
- Q.38 Draw the typical x-section of national highway in cutting and in embankment.

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