

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

M. E. IIND Semester Examination – June/July- 2011

Subject code: 1721903

Subject Name: Highway Construction & Management

Date: 27/06/2011

Time: 10:30 am – 01:00 pm

Total Marks: 70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Explain measures to increase capacity of road/highway to satisfy traffic demand from construction view point. **07**
- (b) Which are the various designs carried out in development of new highway project? **07**
- Q.2** (a) Write note on: **07**
Equipments for compacting
Bituminous concrete mixing plant
- (b) Explain construction procedure and quality control measures in WMM construction. **07**
- OR**
- (b) Explain construction procedure and equipments need in construction of BBM. **07**
- Q.3** (a) Differentiate (any two) : **07**
1. Hot mix construction and cold mix construction
2. Prime and Tack coat
3. Liquid seal coat and slurry seal coat
- (b) Explain the terms in details: BUSG, Sheet Asphalt, Mastic Asphalt. **07**
- OR**
- Q.3** (a) Enlist general steps in construction of cement concrete pavement. Also write advantages of cement concrete roads over bituminous roads. **07**
- (b) Explain slip form pavers with sketches. **07**
- Q.4** (a) What are the tests conducted on aggrades and bitumen for quality control in highway construction? **07**
- (b) Why dry lean concrete layer (DLC) is provided in Rigid Pavement construction? How the DLC is constructed? **07**
- OR**
- Q.4** (a) Enlist activities involved in planning and construction of a highway project for CPM network development to manage the project. **07**
- (b) Define the following: Activity, Event, Dummy activity, Earliest start, Earliest finish, Total float, Free float. **07**

- Q.5 (a)** Explain time grid diagram in project management. What are the advantages of time grid diagram? **07**
- (b)** Why pavement condition surveys are carried out? Enlist types of condition surveys. **07**

OR

- Q.5 (a)** Explain pavement maintenance and rehabilitation. What are the different types of overlays? **07**
- (b)** The following table gives details of activity relationships for a project. Prepare network diagram and find critical path in activity network. **07**

Activity	Duration in week	Activity immediately	
		Proceeds	Follows
A	1	0	B
B	3	A	C,D
	5	B	E
D	6	B	E,F
E	6	C,D	G
F	6	D	G
G	6	E,F	H
H	8	G	I
I	1	H	J
J	1	I	0
