

JK LAKSHMIPAT UNIVERSITY, JAIPUR

INSTITUTE OF ENGINEERING AND TECHNOLOGY

End Term Examination (Regular/ Backlog), Nov-Dec 2015

B. Tech in Civil Engineering, Semester V

Roll No.....

CE 511: Transportation Engineering-I

Time: 3 hours

Max. Marks: 100

Instructions to students:

1. Do not write anything other than your roll number on question paper.
2. Assume suitable data wherever required and mention it clearly.
3. Writing appropriate units, nomenclature, and drawing neat sketches/schematics/ flow chart wherever, required are an integral part of the answer.

Q.1 A	Objective type multiple choice questions (10 questions @ 1 mark)	10
i.	In PIEV theory 'I' Stands for; a)Ideal , b)Inspire, c) Idea l, d) Intellectual.	
ii.	The 2 nd 20 year road development plan is also known as a) Nagpur Plan, b) Lucknow Plan , c) Bombay Plan, d) None of the above.	
iii.	Traffic engineering only includes;a) Planning of regulatory measures b) Design and application of control devices c) Traffic operation d) All the above.	
iv.	Camber is also know as; a) Drain, b) Slope, c) Level, d) None of the above.	
v.	Maximum width of vehicle as per IRC is;a) 2.44m, b) 2.50m ,c) 2.75 m, d) 3.00m.	
vi.	Value of 'e' is measured in; a) m, b) km , c) km/h, d) None.	
vii.	OSD depends upon; a) Skill, b) Speed, c) Gradient, d) All of the above.	
viii.	Width of carriageway for single lane is; a) 3.0m, b) 3.75m, c) 3.50m, d) None of the above.	
ix.	Lag Distance Plus Braking Distance is; a) SSD , b) OSD, c) ISD, d) SD.	
x.	Fastest way of transport is; a) Waterway , b) Roadway, c) Airway, d) Railway.	
Q.2	Short answer type questions (4 questions @ 2.5 marks)	10
i.	Write a note on transportation?	
ii.	Write a note on Cross Slope?	
iii.	Write a note on sight distance?	
iv.	What is the value of 'e' if speed of vehicle is 1000kmph and radius is 500m?	
Q.3 A	Write a note on radial or star and block pattern of road?	05
Q.3 B	Describe recommendation made by Jayakar Committee?	05
Q.4 A	Determine the crown for a WBM pavement 4.2m wide for a MDR having heavy rainfall?	05
Q.4 B	Classify road according to Nagpur plan and describe them in detail?	05

Q.5 A	Draw a neat labeled sketch of width of pavement on single lane road and explain it?	05
Q.5 B	Explain PIEV theory in brief?	05
Q.6 A	Explain the necessity of highway planning?	05
Q.6 B	Calculate the SSD for a highway with descending gradient of 2% with speed 80kmph? Assume suitable data if necessary?	05
OR		
Q.6 B	Write a short note on super elevation?	05
Q.7 A	Define highway alignment and explain the factors affecting it ?	05
Q.7 B	Write note on SSD & OSD?	05
OR		
Q.7 B	Enlist and explain the requirements for an ideal highway alignment?	05
Q.8 A	Compare flexible pavement with rigid pavement?	05
Q.8 B	Enlist and explain the factors affecting Skid of vehicle?	05
Q.9 A	Describe the provisions made in third 20 year Road Development Plan?	10
Q.9 B	Calculate the length of NH, SH, MDR, ODR & VR by Bombay Road Development Plan for area 18,400sq.km, agricultural and developed area 8000sq.km, undeveloped area 4800sq.km.	10

Population Range	No. of Towns
<500	200
500-1000	350
1000-2000	750
2000-5000	360
5000-10,000	150
10,000-20,000	80
20,000-50,000	25
50,000-1,00,000	10
>1,00,000	5

OR

Q.9 B	Classify roads according to Nagpur & Bombay Road Development Plan and describe them in detail?	10
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