Code No: R1622016 **R16** SET - 1

II B. Tech II Semester Supplementary Examinations, November - 2018
TRANSPORTATION ENGINEERING-I
(Civil Engineering)

Time: 3 hours Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B)**
2. Answer **ALL** the question in **Part-A**
3. Answer any **FOUR** Questions from **Part-B**

~~~~~~

PART–A

1.	a)	What are the requirements of an ideal alignment?	(2M)
	b)	Define SSD	(3M)
	c)	Define traffic volume.	(3M)
	d)	Define CBR.	(2M)
	e)	What is ESWL?	(2M)
	f)	What are the failures in a flexible pavement?	(2M)

PART–B

2.	a)	What are the significant recommendations of Jayakar Committee Report? Mention how this helped in road development in India.	(7M)
	b)	Explain with sketches the various factors controlling the alignment of roads	(7M)
3.	a)	Enumerate the steps for practical design of super elevation.	(7M)
	b)	Calculate the length of transition curve and the shift using the following data. Design speed = 65 kmph; Radius of circular curve = 220 m; Allowable rate of introduction of super elevation (pavement rotated about the centre line) =1 in 150; pavement width including extra widening = 7.5 m.	(7M)
4.	a)	What are the objectives of carrying out traffic volume studies?	(7M)
	b)	Explain various measures that may be taken to prevent accidents.	(7M)
5.	a)	What are the requirements of bituminous paving mixes.	(7M)
	b)	Explain in detail the aggregate crushing test to decide the suitability of road stones for use in construction	(7M)
6.	a)	Discuss the effects of repeated applications of loads on pavements. Explain equivalent wheel load factors for load repetitions.	(7M)
	b)	Explain the terms ‘modulus of subgrade reaction’, ‘radius of relative stiffness’ and ‘radius of resisting section’.	(7M)
7.	a)	Enumerate the steps for the preparation of subgrade.	(7M)
	b)	Specify the materials required for construction of WBM roads. What are the uses and limitations of this type of road?	(7M)
~~~~~~