Code No: **R32016** **R10** **Set No. 1**

III B.Tech II Semester Supplementary Examinations, November - 2017

TRANSPORTATION ENGINEERING-II

(Civil Engineering)

Time: 3 hours **Max. Marks: 75**

Answer any FIVE Questions

All Questions carry equal marks

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1	a)	Discuss about (i) functions of rails and (ii) corrugation of rails.	[8M]
	b)	Discuss the properties of six materials commonly used as ballast by Indian railways.	[7M]
2	a)	Calculate the maximum permissible speed on a curve of high speed BG group "A" route having the following particulars. Degree of curve = 1°, super elevation = 80 mm, length of transition curve = 120 m, maximum speed likely to be sanctioned for the section = 160 kmph.	[8M]
	b)	Write a note about (i) effect of sway of vehicles and (ii) widening of gauge on curves.	[7M]
3	a)	Calculate the lead and radius of a 1 in 8.5 BG turnout with straight switches using IRS method.	[8M]
	b)	Differentiate between (i) stud switch and split switch and (ii) slide chairs and grade off chairs.	[7M]
4	a)	Briefly describe the location and purpose of Warner, home and advance starter signal.	[7M]
	b)	Write short notes about (i) TPWS and (ii) ACD	[8M]
5	a)	The length of a runway under standard conditions is 1620 m. The airport site has an elevation of 270 m. Its reference temperature is 32.94° C. If the runway is to be constructed with an effective gradient of 0.20 %, determine the corrected runway length.	[8M]
	b)	Write a note about ICAO classification of airports.	[7M]
6	a)	Discuss the following design factors (i) wheel load and (ii) sub grade supporting capacity.	[8M]
	b)	Write a detailed note about the failures in flexible airport pavements.	[7M]
7	a)	State the requirements for Harbor. Discuss the harbor classification based on location.	[8M]
	b)	With neat sketches write about the Transition sheds.	[7M]
8	a)	What are buoyancy, float, pilotage and luminance?	[8M]
	b)	What are wharves? With neat sketches, write about the different types of wharves.	[7M]

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