Code No: **R164101J** **R16** **Set No. 1**

IV B.Tech I Semester Regular/Supplementary Examinations, Jan/Feb - 2022

PAVEMENT ANALYSIS AND DESIGN

(Civil Engineering)

Time: 3 hours **Max. Marks: 70**

Question paper consists of Part-A and Part-B
Answer ALL sub questions from Part-A
Answer any FOUR questions from Part-B

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PART–A *(14 Marks)*

1.	a)	Define tire pressure.	[2]
	b)	Write note on "damping vibrations".	[2]
	c)	What is the concept involved in CBR? Mention the uses of it.	[3]
	d)	What is the significance of sub-grade in flexible pavements?	[2]
	e)	Write the importance of AASHTO method?	[3]
	f)	Define a shoulder in pavements.	[2]

PART–B *(4x14 = 56 Marks)*

2.	a)	What are different types of pavements? Explain complete details with the help of neat sketches.	[7]
	b)	Write clear note on EAL and ESWL Concepts.	[7]
3.	a)	What are the assumptions of Visco-Elastic Theory? Explain briefly.	[7]
	b)	Write a note on Dowel bars & Tie bars.	[7]
4.	a)	What is the concept involved in stabilization and write clear note on use of geo-synthetics in soil stabilization?	[7]
	b)	Write the procedure of Super Pave Mix Design. Mention the importance of this mix design.	[7]
5.	a)	Write the concept and procedure involved in Asphalt Institute's method with HMA?	[7]
	b)	What are the important factors are to be considered in the design of runways and taxi ways? Explain briefly.	[7]
6.	a)	Write the IRC Specification for the design of rigid pavements.	[7]
	b)	Write clear note on Calibrated mechanistic Design Process.	[7]
7.	a)	Analyse the thickness calculations of shoulders in flexible pavements.	[7]
	b)	Write short note on Traffic Prediction and Encroaching Traffic.	[7]