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P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belagavi)

Sixth Semester, B.E. - Civil Engineering

Semester End Examination; August - 2023

Basic Transportation Engineering

Time: 3 hrs

Max. Marks: 100

Course Outcomes

The Students will be able to:

CO1: Apply the knowledge of science and engineering to acquire the fundamentals of basic modes of transportation.

CO2: Study of different cross section elements of highway and different types of pavements.

CO3: Identify different components of railway track; design of airport runway and to understand the components of harbor.

CO4: To understand the advanced developments in transportation systems.

Note: I) PART - A is compulsory. **Two** marks for each question.

II) PART - B: Answer any **Two** sub questions (from a, b, c) for a Maximum of **18** marks from each unit.

Q. No.	Questions	Marks	BLs	COs	POs
I : PART - A		10			
1 a.	Describe the function of Central Road Fund and Indian Road Congress.	2	L2	CO1	PO1,12
b.	List the factors affecting alignment.	2	L1	CO2	PO1,2
c.	List the requirements of ideal permanent way.	2	L1	CO3	PO2,4
d.	Explain wind rose diagram.	2	L2	CO3	PO2,4
e.	Explain objectives of ITS.	2	L2	CO4	PO4,12
II : PART - B		90			
UNIT - I		18			
2 a.	Explain different modes of transport.	9	L2	CO1	PO1,12
b.	Explain recommendations and implementation of Jaykar committee.	9	L2	CO1	PO1,12
c.	Explain classification of road as per Nagpur road plan.	9	L2	CO1	PO1,12
UNIT - II		18			
3 a.	Explain different highway cross sectional elements.	12	L2	CO2	PO1,12
b.	Explain flexible pavement with functions of each component, with neat sketch.	12	L2	CO2	PO1,12
c.	Explain obligatory points with neat sketch.	6	L2	CO2	PO1,12
UNIT - III		18			
4 a.	Explain types and selection of gauges in railway track.	9	L2	CO3	PO2,4
b.	Explain types, functions and requirements of rails.	9	L2	CO3	PO2,4
c.	Explain types of sleepers with functions and requirements.	9	L2	CO3	PO2,4

UNIT - IV

18

- 5 a. Explain factors governing site selection for air port. 9 L2 CO3 PO2,4
- b. Explain corrections to gradient, elevation and temperature to runway length by ICAO specifications. 9 L2 CO3 PO2,4
- c. Explain natural phenomenon affecting design of harbor. 9 L2 CO3 PO2,4

UNIT - V

18

- 6 a. Explain data collection technique in ITS. 9 L2 CO4 PO4,12
- b. Explain role of metro rail. 9 L2 CO4 PO4,12
- c. Explain ways of promotion and integration of public transport. 9 L2 CO4 PO4,12

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