Q. Code:734697

Reg. No. | | | | | | | | | | | | | |

B.E./ B.TECH. DEGREE EXAMINATIONS, MAY 2024

Fifth -Semester

CE18505 – TRANSPORTATION ENGINEERING II

(Civil Engineering)

(Regulation 2018 / 2018A)

TIME:3 HOURS **MAX. MARKS: 100**

COURSE OUTCOMES	STATEMENT	RBT LEVEL
CO 1	After successful completion of this course, the students will be able to Illustrate various components involved in railway planning.	**2**
CO 2	Outline the maintenance requirements for various track components.	**2**
CO 3	Illustrate various components involved in airport planning.	**2**
CO 4	Select an orientation for a runway with the given wind data.	**3**
CO 5	Illustrate various components involved in Harbour planning.	**2**

PART- A(10x2=20Marks)

(Answer all Questions)

		CO	RBT LEVEL
1.	Mention the different gauges (with gauge width in 'mm') in the Indian Railways.	**1**	**2**
2.	Compare metro rail with mono rail.	**1**	**2**
3.	List the three methods of plate laying.	**2**	**2**
4.	Describe Loops and Sidings in a railway track by a neat sketch.	**2**	**2**
5.	State the purpose of Airport Hangar.	**3**	**2**
6.	Write the classification of airports as per ICAO.	**3**	**2**
7.	Write the difference between a runway and taxiway.	**4**	**2**
8.	List the various type of runway marking.	**4**	**2**
9.	Explain the function of a dock in Harbour.	**5**	**2**
10.	Write the classification of Harbour.	**5**	**2**

PART- B (5x 14=70Marks)

			Marks	CO	RBT LEVEL
11. (a)	**(i)**	Draw neatly and indicate the components of Permanent Way.	**(7)**	**1**	**2**
	(ii)	Explain the function of each component of Permanent Way.	**(7)**	**1**	**2**
		(OR)			
(b)	**(i)**	Explain the following types of gradient with neat diagrams & specifications: (a) Ruling Gradient (b) Momentum Gradient (c) Pusher or Helper Gradient	**(10)**	**1**	**2**

	(ii)	If the sleeper density is (N+5) for BG track, calculate the number of sleepers needed for 50 km track construction.	**(4)**	**1**	**2**
12. (a)	**(i)**	Draw a typical plan of a Terminal Railway Station.	**(7)**	**2**	**2**
	(ii)	Draw a typical cross-section of a railway track and indicate all the sources of water affects track.	**(7)**	**2**	**2**
		(OR)			
(b)	**(i)**	What do you mean by Marshalling Yard? Explain with neat sketch.	**(7)**	**2**	**2**
	(ii)	Brief about construction procedure of a railway track.	**(7)**	**2**	**2**
13. (a)		Draw an Airport Layout and explain its components.	**(14)**	**3**	**2**
		(OR)			
(b)		Explain the factors to be considered for the site selection of site for an airport.	**(14)**	**3**	**2**
14. (a)		The length of runway at standard condition is 2,500 m. Determine the required runway length at an airport site with the following field conditions: Mean Maximum daily temperature = 44.5 ^{0}C Mean Average daily temperature = 28.3 ^{0}C Elevation of site above MSL = 350 m Effective gradient of runway = 0.21%	**(14)**	**4**	**3**
		(OR)			
(b)		The length of runway under standard conditions is 1,620 m. The airport site has an elevation of 270 m. Its reference temperature is 32.9 ^{0}C. If the runway has to be constructed with an effective gradient of 0.20%, determine the corrected runway length.	**(14)**	**4**	**3**
15. (a)	**(i)**	What are the factors to be considered for the site selection for Harbour?	**(8)**	**5**	**2**
	(ii)	Explain the coastal protection works.	**(6)**	**5**	**2**
		(OR)			
(b)		Explain the different types of breakwaters with neat sketches.	**(14)**	**5**	**2**

PART- C (1x 10=10Marks)

(Q.No.16 is compulsory)

			Marks	CO	RBT LEVEL
16.		How Wind Rose Diagram can be used for fixing Harbour entrance? Explain with a sketch.	**(10)**	**5**	**3**

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