Q. Code: 194016

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

B.E. / B.TECH. DEGREE EXAMINATION, MAY 2023

Fifth Semester

CE18505 - TRANSPORTATION ENGINEERING II

(Civil Engineering)

***(Regulation2018*)**

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

CO1 Illustrate various components involved in railway planning
CO2 Outline the maintenance requirements for various track components
CO3 Illustrate various components involved in airport planning
CO4 Select an orientation for a runway with the given wind data
CO5 Illustrate various components involved in n harbour planning

PART- A(10x2=20Marks)
(Answer all Questions)

		CO	RBT LEVEL
1	Compare rail and air mode.	**1**	**3**
2	List the various gradients considered while aligning a track.	**1**	**3**
3	What is meant by stabilization of soil?	**2**	**2**
4	The gauge width for metro rail is _____ m	**2**	**3**
5	Explain the functions of ICAO in air transportation.	**3**	**3**
6	Enumerate the functions of a pilot at holding apron position.	**3**	**3**
7	Infer the Airport type 'C3'.	**4**	**3**
8	Draw the runway threshold marking.	**4**	**3**
9	Differentiate wharf & quay.	**5**	**3**
10	What do you meant by squat effect?	**5**	**3**

PART- B (5x 14=70Marks)

		Marks	CO	RBT LEVEL
11(a)	A 6° curve diverges from a 3° main curve in reverse direction in the layout of a BG yard. If the speed on the branch line is restricted to 35.5 kmph, determine the restricted speed on the main line. Given cant deficiency = 7.62 cm	**(14)**	**1**	**3**
	(OR)			
11(b)	What would be the equilibrium cant on a MG track of 5° curve for a speed of 60 kmph? What would be the maximum permissible speed after allowing the maximum cant deficiency?	**(14)**	**1**	**3**

12(a)	State the various methods of plate laying and explain the same.	**(14)**	**2**	**2**
	(OR)			
12(b)	Write short note on Marshalling yard with a neat sketch.	**(14)**	**2**	**2**
13(a)	Draw a layout of an airport and explain shortly each component.	**(14)**	**3**	**2**
	(OR)			
13(b)	Discuss the factors considered for airport site selection.	**(14)**	**3**	**2**
14(a)	Draw a Wind Rose Diagram (Type I) and give your inference:	**(14)**	**4**	**2**

Direction	N	NNE	NE	ENE	E	ESE	SE	SSE
% time	14	5	3	2	12	3	5	6
Direction	S	SSW	SW	WSW	W	WNW	NW	NNW
% time	13	7	3	3	10	4	2	1

(OR)

14(b) Calculate actual runway length for the following data: - **(14)** **4** **2**

Basic Runway Length = 1750 m
Height of airport from mean sea level = 412 m
Airport reference temperature = 33°C
Effective gradient of the runway = 0.70%
Do a ICAO check.

15(a)	List the different types of dry dock & explain any one in detail.	**(14)**	**5**	**3**
	(OR)			
15(b)	List the various types of breakwaters and explain any two with neat diagrams.	**(14)**	**5**	**3**

PART- C (1x 10=10Marks)

(Q.No.16 is compulsory)

		Marks	CO	RBT LEVEL
16	List the three components needed for air traffic control and explain its functions shortly.	**(10)**	**4**	**3**