

[Total No. of Questions - 9] [Total No. of Printed Pages - 3]

Dec.-22-0234

CE-602 (Transportation Engineering-II)

B.Tech. 6th (CBCS)

Time : 3 Hours

Max. Marks : 60

The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.

Note : Attempt Four questions out of eight questions which is of 10 marks each. Question no. 9 is compulsory, which is of 20 marks.

1. What is the purpose for jointing in rails? What are the various processes of welding of rails? Give advantages and disadvantages of each. (10)

OR

2. Explain with neat sketches the various types of track fitting and fastenings. (10)

3. Explain in detail about the various components of a point and crossing. Also, classify the signals and explain their types in detail. (10)

OR

4. Explain the difference between the design and structure of an on-surface and elevated railway in an urban area. (10)

5. Explain the factors that affect the geometric design of a runway and a taxiway. (10)

OR

6. The monthly mean temperatures of the atmosphere, at a particular site, where an airport has to be developed, are given below. Determine the airport reference temperature. The length

of the runway under standard conditions is 2000m. The airport is to be provided at elevation of 500m above the mean sea level. The construction plan provides the following data:

Month	Temperature °C	
	Mean value of average daily temperature	Mean value of maximum daily-temperature
January	6	10
February	12	16
March	16	21
April	23	28
May	32	38
June	34	40
July	31	35
August	27	32
September	24	29
October	17	25
November	10	18
December	6	10
End to end of runway (m)		Grade (percent)
0 to 300		-1.00
300 to 900		-0.75
900 to 1500		+0.75
1500 to 1800		+1.00
1800 to 2100		-0.5
2100 to 2500		-0.3
2500 to 3000		-0.1%

Determine the length of the runway. Apply corrections for elevation and temperature as per ICAO and for gradient as per FAA specifications. (10)

[P.T.O.]

7. What are the factors which affect the planning of terminal building and its location? (10)

OR

8. Explain in detail the purpose and operation of different tools of Intelligent Transport System. (10)
9. Write briefly about the following:
- (i) Depth of ballast from sleeper density.
 - (ii) Coning of wheels.
 - (iii) Loading and holding apron.
 - (iv) Optimum location of exit taxiways.
 - (v) Cant and negative cant. (5×4=20)