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Code No: 127JF

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech IV Year I Semester Examinations, November/December - 2018

TRANSPORTATION ENGINEERING - II

(Civil Engineering)

Time: 3 Hours

Max. Marks: 75

Note: This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer all questions in Part A.

Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART- A

(25 Marks)

- 1.a) What is Gauge? What are the different gauges used in India? [2]
- b) What are the functions of Ballast in a railway track? [3]
- c) What is Interlocking? [2]
- d) What is cant deficiency? What are the permitted values of cant deficiency for different gauges? [3]
- e) What is Wind rose diagram? [2]
- f) Give classification of Airports as per ICAO. [3]
- g) Differentiate between Dry Docks and Wet docks. [2]
- h) What are the requirements of a Port? [3]
- i) What are the types of detectors used in ITS? [2]
- j) Give a brief description of ATMS. [3]

PART-B

(50 Marks)

2. Define Creep of Rails. What are the theories associated with creep of rails. [10]
- OR**
3. What are the functions of rails in a railway track? What are the requirements of good rails? [10]
4. If an 8° curve diverges from a main curve of 4° in opposite direction in a BG track, compute the super elevation and the permissible speed on branch line, if the maximum speed permitted on main line is 55 kmph. Cant deficiency permitted is 7.6 cm. [10]
- OR**
5. What are the different types of yards connected with railways? Explain. [10]
6. What are the considerations in planning an Airport Terminal Area? Give typical layouts of Terminal Areas based on different aircraft parking systems. [10]
- OR**
7. The length of runway at sea level under standard conditions at zero gradient is 1300 m. The airport is planned at an elevation of 800 m above sea level. Monthly mean of maximum daily temperature and mean of average daily temperature are 44.5°C and 23.6°C respectively. The effective gradient of proposed runway is 0.5%. Compute the actual runway length after corrections. [10]

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8. What is a Harbour? How are the harbours classified? What are the requirements of a good harbor? [10]

OR

9. Define breakwaters. Explain the structure of Mound type breakwaters with the help of a neat diagram. [10]

10. Explain how Automatic Vehicle Location and Automatic Vehicle Identification can be implemented with ITS. [10]

OR

11. Discuss in detail the architecture of ITS, its components and standards related. [10]

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