

**R13**

Code No: 117JF

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**

**B. Tech IV Year I Semester Examinations, April/May - 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) Write down different components of permanent way. [2]
- b) Explain about the selection of gauge? [3]
- c) What is the necessity of geometric design of a railway track? [2]
- d) Write a short note on momentum gradient? [3]
- e) Draw a neat sketch of open parallel concept and offset parallel concept of an airport layout? [2]
- f) Define hanger. [3]
- g) What are the requirements of port and harbor? [2]
- h) What are the advantages of port and harbor? [3]
- i) Define ITS. [2]
- j) What are the ITS architecture components? [3]

**PART-B**

**(50 Marks)**

2. Explain the functions of sleepers. Also discuss the cross section of a permanent way. [10]

**OR**

3. Write a short note on percussion theory and dragging theory. [10]

4. Discuss different types of rail joints with the help of neat sketch and give their merits. [10]

**OR**

5. On what criteria, signals are classified. Explain with neat sketches, the working of semaphore signals. [10]

- 6.a) What is a wind rose diagram. What is its utility? What are its types? Explain each type.

- b) Write a short note on apron. [5+5]

**OR**

- 7.a) Explain with neat sketches, the various markings on run way.

- b) Explain the basic principle of runway lighting system. [5+5]

AG AG AG AG AG AG AG A

8.a) How the planning of harbor is done. Describe?

b) What are the effects of break water?

[5+5]

AG AG AG AG AG AG AG A

9.a) Explain briefly with neat sketch about transit sheds and ware houses.

b) Explain how aprons are designed.

[5+5]

10.a) Explain briefly about ATMS.

b) What are the principles of AVL?

[5+5]

AG AG AG AG AG AG AG A

11. Describe in detail about APTS. Write its merits and demerits.

[10]

--ooOoo--

AG AG AG AG AG AG AG A

AG AG AG AG AG AG AG A

AG AG AG AG AG AG AG A

AG AG AG AG AG AG AG A

AG AG AG AG AG AG AG A