

III B. Tech I Semester Regular Examinations, October/November - 2018

TRANSPORTATION ENGINEERING – II

(Civil Engineering)

Time: 3 hours

Max. Marks: 70

- Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B**)
 2. Answer **ALL** the question in **Part-A**
 3. Answer any **FOUR** Questions from **Part-B**
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PART -A

1. a) What are components of Permanent Way? [2M]
- b) How various Gauges are different from each other? [2M]
- c) What are various surveys that are conducted for railway alignment? [2M]
- d) Draw a general layout of Airport Layout [3M]
- e) What are various design factors of Runway? [3M]
- f) How ports are classified? [2M]

PART -B

2. a) What are the functions of Rails and Sleepers? [7M]
- b) Write about Creep theory of Rails. [7M]
3. a) What are factors to be considered for selection of Railway Alignment? [7M]
- b) Write about Vertical Curves of Railway Network. [7M]
4. a) What is the purpose of Turnout? Give various types with neat diagram. [7M]
- b) What are the objectives of Signaling in Railways? [7M]
5. a) Ministry of Civil Aviation is planning an International Airport at one City. How various factors affect site selection of Airport? [7M]
- b) AAI is redesigning lighting system at an existing Airport. Discuss about standards of Airport lighting. [7M]
6. a) Discuss about design methods of flexible pavements of Runway. [7M]
- b) Write about maintenance of Airfield Pavement. [7M]
7. a) Government is planning a Good Port at one Sea Shore. What are the requirements of good Port explain it to Port In-charge? [7M]
- b) Compare Dry and Wet Dock. [7M]



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PART -A

- | | | |
|-------|--|------|
| 1. a) | What is Permanent Way? | [2M] |
| b) | List various Gauges of Railway Track. | [2M] |
| c) | What are various alignments of Railway Track? | [2M] |
| d) | What is Wind rose diagram? | [3M] |
| e) | What are different methods of flexible pavement of Runway? | [3M] |
| f) | Differentiate between Dry and Wet Dock. | [2M] |

PART -B

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|-------|---|------|
| 2. a) | What are the requirements and functions of Ballast? | [7M] |
| b) | Explain about Rail Joints. | [7M] |
| 3. a) | What are various Gradients in Railways? Explain Grade Compensation. | [7M] |
| b) | Explain widening of Gauge at Curves. | [7M] |
| 4. a) | Write about various components of Turnout. | [7M] |
| b) | Discuss about classification of Signaling in Railways. | [7M] |
| 5. a) | Write about characteristics of Aircraft. | [7M] |
| b) | What are the corrections to be adopted for Runway length? Discuss. | [7M] |
| 6. a) | Explain about design factors of Runway Pavement. | [7M] |
| b) | How drainage is designed for Runway? | [7M] |
| 7. a) | What are the uses of Transition Shed in Port? | [7M] |
| b) | Write about Break waters. | [7M] |



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|----|----|---|------|
| 1. | a) | Draw a neat diagram of Permanent Way. | [2M] |
| | b) | What is Gauge? | [2M] |
| | c) | List various Gradients in Railways. | [2M] |
| | d) | How the direction of a Runway is fixed? | [3M] |
| | e) | What are different methods of rigid pavement of Runway? | [3M] |
| | f) | What is the purpose of Warehouse? | [2M] |

PART -B

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|----|----|--|------|
| 2. | a) | What are the components of Permanent Way? Explain. | [7M] |
| | b) | Write about Rail fastenings? | [7M] |
| 3. | a) | Define Cant. What are the objectives of it? | [7M] |
| | b) | Write about widening of Gauge on Curves. | [7M] |
| 4. | a) | Discuss about various types of Switches. | [7M] |
| | b) | Explain about Mechanical Signaling System. | [7M] |
| 5. | a) | How Airports are classified based on various aspects? | [7M] |
| | b) | Write about standards Airport Markings. | [7M] |
| 6. | a) | A flexible pavement is planned at a New Airport for Runway. How Runway pavement is designed? | [7M] |
| | b) | What is the process of strengthening of Airfield Pavement? | [7M] |
| 7. | a) | Describe the construction process of Quay wall. | [7M] |
| | b) | Write about Tides data and Analysis. | [7M] |



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PART -A

1. a) List Permanent Way components. [2M]
- b) Give two uses of Uni-Gauge Policy. [2M]
- c) What is Degree of Curve? [2M]
- d) How Airports are classified? [3M]
- e) What are the main points to considered for Airport Drainage? [3M]
- f) Draw a neat diagram of Break Water. [2M]

PART -B

2. a) What are various types of Gauges of Railway network? Explain. [7M]
- b) Write about Sleeper Density. [7M]
3. a) Calculate Cant for BG Track, 2^o Curve, equilibrium speed 80Kmph. [7M]
- b) Define Transition Curve. Write about purpose and requirements of it. [7M]
4. a) How Turnout is designed? [7M]
- b) Write about methods of interlocking. [7M]
5. a) Explain about ICAO recommendations of Airport Master Plan. [7M]
- b) What are the requirements of Air Traffic Control? [7M]
6. a) Discuss about LCN system of Pavement design for Runway. [7M]
- b) How Airfield Pavements are evaluated? [7M]
7. a) You are appointed as an Engineer in a Port. Explain the importance of Dredging to the workers in that Port? [7M]
- b) How do you help (aid) the ship to follow a particular path in Sea? [7M]

