

GANPAT UNIVERSITY**B. Tech. Semester: IV Civil Engineering****Regular Examination April – June 2017****2CI- 404 BASIC TRANSPORTATION SYSTEM****Time: 3 Hours****Total Marks: 60**

- Instruction:**
1. Answer to the two sections must be written in separate answer books.
 2. Figures to the right indicate full marks.
 3. Assume suitable data if required.

SECTION – I

- Que. – 1**
- A** Give the classification of airports as per ICAO 05
- B** Define the following terms: 05
- 1) Aeroplane
 - 2) Airport Capacity
 - 3) Apron
 - 4) Hangers
 - 5) Runway

OR

- Que. – 1**
- A** Explain advantages and disadvantages of Air Transportation. 05
- B** Enlist Airport Surveys and explain Drainage survey in detail. 05
- Que. – 2**
- A** The longitudinal section of the runway provides the following data: 05

End to End Runway (m)	Gradient (%)
0 to 200	+1
200 to 600	-1
600 to 1200	+0.8
1200 to 1600	-0.2

- Calculate the effective gradient of the runway.
- B** State the assumptions for the Basic runway length and explain the corrections to be laid. 05

OR

- Que. – 2**
- A** State the factors which affect the Airport Capacity 05
- B** Explain with figures system of Aircraft Parking. 05
- Que. – 3**
- A** Enlist and explain the general requirements in case of Airport Grading. 05
- B** Write a short note on Surface Drainage. 05

SECTION – II

- Que. – 4**
- A** Write a short note on conning of wheels. Also state the measures to overcome the disadvantages of conning of wheels. 05
- B** Draw the cross section of permanent way and define track capacity. 03
- C** Find the weight of the rail section if the axle load is 30 ton. 02

OR

- Que. - 4 A A transition curve is to be used to join the ends of a 3.94° circular curve with the straight. The length of the transition curve is 150 m. Workout the shift and offsets at every 30m interval. How will you set this transition curve? 05
- B Give the classification of crossings. 03
- C Write the function of Marshalling yard and Passenger Yard 02

- Que. - 5 A Classify the signals according to their functional and operational characteristics. Also write the use of each signal. 05
- B Explain the following failures with neat sketch also write their preventive measures. 05
1. Roaring of rails
2. Kinks in rails

OR

- Que. - 5 A Write a short note on maintenance of a railway track. 05
- B Explain the following failures with neat sketch also write their preventive measures. 05
1. Hogged Rails
2. Buckling of Rails

Que. - 6 **ANSWEWR THE FOLLOWING**

- A Write the advantages and disadvantages of wooden sleepers. 03
- B Define: wharf, dolphins and jetty. 03
- C Explain breakwaters in detail. 04