

B.E. Civil Engineering Eighth Semester
CE802 - Transportation Engineering-II

P. Pages : 2

Time : Three Hours



GUG/W/18/1983

Max. Marks : 80

- Notes :
1. All questions carry equal marks.
 2. Answer **all** questions.
 3. Due credit will be given to neatness and adequate dimensions.
 4. Assume suitable data wherever necessary.
 5. Illustrate your answers wherever necessary with the help of neat sketches.
 6. Use of non programmable calculator is allowed.

1. a) Discuss the purpose of spikes. Explain any one with neat sketch. 8
- b) Describe the function and requirements of rails in a railway track. 8

OR

2. a) Discuss the various types of rail failures with sketches. 8
- b) Discuss the necessity and effect of coning of wheel and tilting of rails. 8
3. a) Derive the relationship of super elevation with gauge, speed and radius of curve. 8
- b) Draw a neat diagram of left hand turn out and show its various component parts. 8

OR

4. a) Determine the length of transition curve and draw the offsets at every 15 m. Given that the design speed of the train on curve is 90 kmph on a B.G. track. 12
- b) Explain the various resistances that have to be overcome by a moving train. 4
5. a) Write note on **any four**. 16
 - i) Heel divergence.
 - ii) Throw of switch
 - iii) Tongue rail
 - iv) Objects of signaling.
 - v) Inter locking
 - vi) Marshalling yard.

OR

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|----|----|---|---|
| 6. | a) | What are the objectives of tunnel ventilation ? Discuss the requirement of a ventilation system. | 8 |
| | b) | What are the objects of providing a tunnel with permanent lining ? Discuss various lining materials in brief. | 8 |
| 7. | a) | Explain the various survey to be conducted and the data to be collected for airport site selection. | 8 |
| | b) | Explain the procedure of orienting the runway. | 8 |

OR

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|----|----|---|---|
| 8. | a) | Length of runway required at MSC and standard condition is 2765 m. if airport site is at 623 m elevation, airport reference temperature is 30.50°C and alignment of runway has an effective gradient of 0.36%. Determine the length of runway required. | 8 |
| | b) | Explain the need of air traffic control. | 8 |
| 9. | a) | What do you understand by terminal area ? | 8 |
| | b) | What are different system of aircraft parking ? Explain one with neat sketch. | 8 |

OR

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|-----|----------------------------------|-------------------|------------|
| 10. | Write notes on any four . | | 4x4
=16 |
| | i) | Hanger | |
| | ii) | Runway markings. | |
| | iii) | Approach lighting | |
| | iv) | Calm period. | |
| | v) | Exit Taxiway | |
| | vi) | Portals | |
