

MORNING
22 SEP 2022

Please check that this question paper contains 9 questions and 2 printed pages within first ten minutes.

[Total No. of Questions: 09]

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Uni. Roll No.

Program: B.Tech. (Batch 2018 onward)

Semester: 4th

Name of Subject: Transportation Engineering

Subject Code: PCCE: 108

Paper ID: 16179

Time Allowed: 03 Hours

Max. Marks: 60

NOTE:

- 1) Parts A and B are compulsory
- 2) Part-C has Two Questions Q8 and Q9. Both are compulsory, but with internal choice
- 3) Any missing data may be assumed appropriately.
- 4) Graph paper

Part – A

[Marks: 02 each]

Q1.

- a) Explain the star and Grid pattern with sketches.
- b) What is the functions of sub Base course in flexible pavement.
- c) A B.G. track has a sleeper density of $n+7$, if the track is laid with welded rails of 26m length, find out the number of sleeper per 100 m length of track.
- d) What is turning radius of an aircraft.
- e) What do you understand by the term Visual aid in connection with airport.
- f) What are the different surveys required foe laying of railway tracks.

Part – B

[Marks: 04 each]

- Q2. What is coning of wheel and discuss its importance in railway track.
- Q3. What is creep. How you will identify creep in field and discuss various measures to reduce creep.
- Q4. State the basic functions of the various components of a railway track and mark the components on a typical cross-section of the track.

- Q5. Outline the main features of various road patterns commonly in use, with their neat sketches.
- Q6. Discuss the advantages and disadvantages of rigid pavement over flexible pavement.
- Q7. What are the major challenges of mass transit system Considering the transport development, discuss in detail the scope of mass transit system.

Part – C

[Marks: 12 each]

- Q8. Calculate the length of different classes of road according to the Lucknow Road Plan based on the 2001 census data.
Area of Andhra Pradesh= 275068 sq km, No of villages =28123, No of towns =210,
Population: 757 Lakhs, density: Approx. 275 per sq km.

OR

Discuss the salient features of Nagpur Road plan.

- Q9. The average wind data at an airport site are given below when the wind velocity is more than 6 km/hr.:

Direction	N	N	E	SE	S
% of time	6	8	2	2	8
Direction	SW	W	N		
% of time	10	4	1		

Determine the best orientation of the runway and the wind coverage using the wind rose diagram.

OR

Write a short note the function of an taxiway and its location with respect to a runway.
