

Bachelor of Engineering
Seventh Semester Main Examination, Dec-2020
Transportation Engineering-II [CE-701]
Branch-Civil

Time: 3:00 Hrs

Max Marks 70

Note : (i) Attempt any five questions. All question carry equal marks.
(ii) Assume suitable data necessary and state them clearly.

- Q.1 Explain the design consideration for spacing of
- a) Expansion joints
 - b) Contraction joints with and without reinforcement
- Q.2 Discuss the design details of Dowel bars?
- Q.3 Explain how the dimensions and spacing's of Tie bars are designed
- Q.4 Explain the effect due to the expansion and contraction of cement concrete slab and discuss the types of stress induced?
- Q.5 Briefly outline the IRC recommendations for determining the thickness of cement concrete pavement?
- Q.6 (a) What are the general cases of pavement failures?
(b) Write a note on maintenance management system.
- Q.7 Write short note on (Any four)
- a) Map {Alligator} cracking
 - b) Reflection cracking
 - c) Skidding of pavement surface
 - d) Scaling of cement concrete
 - e) Mud pumping
- Q.8 Explain the procedure for patch repair works
- a) WBM pavement
 - b) Bituminous pavement
 - c) Bituminous pavement during monsoons (When the pavement is wet)

Enrollment No.....

Bachelor of Engineering
Seventh Semester Main Examination, Dec-2020
Geotechnical Engineering-II [CE-702]
Branch-Civil

Time: 3:00 Hrs

Max Marks 70

Note : (i) Attempt any five questions. All question carry equal marks.
(ii) Assume suitable data necessary and state them clearly.

- Q.1 (a) Write a brief note on 'group action' in piles.
(b) Write a brief note on 'negative skin friction' in piles.
- Q.2 (a) What do you mean by soil stabilization? Write about chemical and bitumen stabilization.
(b) What do you understand by 'Zero air voids line' in the soil compaction?
- Q.3 (a) Write a brief note on 'Modified Procter Test'.
(b) Write a note on 'Thermal' and 'Electrical' stabilization.
- Q.4 (a) Write down the limitations of Terzaghi's Analysis.
(b) Write down the limitations of plate load test.
- Q.5 (a) Write short notes on the following.
1. General Shear Failure and Local Shear Failure.
2. Types of caissons
(b) explain various factor which affect the compaction.
- Q.6 (a) Define Ultimate Bearing Capacity, Net Ultimate Bearing Capacity, Safe Bearing Capacity and Net Safe Bearing Capacity?
(b) Write a brief note on 'Open drive soil samplers'
- Q.7 (a) What are the various methods of site Exploration?
Explain the wash Boring method in detail?
(b) Write the equations given by Terzaghi for square and circular footings to determine ultimate bearing capacity
- Q.8 (a) What is difference between shallow and deep foundation?
(b) Write down the classifications of pites based on their functions.

Enrollment No.....

Bachelor of Engineering
Seventh Semester Main Examination, Dec- 2020
Structural Design –II (Steel) [CE-703]
Branch-Civil

Time: 3:00 Hrs

Max Marks 70

Note : (i) Attempt any five questions. All question carry equal marks.
(ii) Assume suitable data if necessary and state them clearly.

- Q.1 Design a cylindrical portion for a self-supporting steel stack of height 80m above foundation for the following data:-
(i) Diameter of cylindrical part= 4.25m

- (ii) Diameter of flare portion of base=5.60m
- (iii) Height of flared portion =10.0m
- (iv) Wind pressure =1.0kn/m²
Uniform throughout the height

- Q.2 Design cross beams of foot bridges for the following particulars type of girder on type trusses span of girder =18m c/c spacing of cross girders =225 m c/c clear walking width between main girders =3m live load=4 kn/m² design floor & cross beam of the bridges.
- Q.3 Design a deck type welded plate girder for B.G single track loading for the following data effective span= 24m, spacing of girder =1.9m c/c weight of stock rails=260N/M weight of guard rails =280 N/M weight of fastening =300 N/M of track timber sleepers =250 mm×150mm×2.8 mm @ 0.4 c/c
Density of timber=7.4 N/M²
Density central section only
- Q.4 The effective span of deck type plate girder two lane highway bridges in 30m the reinforced concrete slab is 250 mm thick inclusive the wearing coat the footpath are provided on either side of carriage way design the maximum section of the plate girder if the girder is to carry IRC class A loading.
- Q.5 (a) Discuss the design of stiffness in silo.
(b) Explain the step by step design procedure of welded plate girder bridge.
- Q.6 Define the following
(i) End bearing for steel bridges
(ii) Type of trusses
(iii) Analysis of towers

(iv) Lining material used for chimney.
- Q.7 (a) Derive formula for stresses in conical bottom for water tank.
(b) List any seven elements of plate girder and explain its important features related to design.
- Q.8 (a) Discuss the design of stiffness in silo.
(b) Explain the step by step design procedure of welded plate girder bridge.

Enrollment No.....

Bachelor of Engineering
Seventh Semester Main Examination, Dec-2020
Traffic Engineering [CE-7042]
Branch-Civil

Time: 3:00 Hrs

Max Marks 70

**Note : (i) Attempt any five questions. All question carry equal marks.
(ii) Assume suitable data necessary and state them clearly.**

- Q.1 (a) Explain the fundamental factors for Night vision.
(b) Define Traffic engineering what is the scope of traffic engineering.
- Q.2 (a) What are advantages and disadvantages of providing traffic signals?
(b) Find Time mean speed Space mean speed from data.
- Q.3 (a) Explain vehicular characteristics considered in traffic engineering.
(b) Explain various methods on street parking.
- Q.4 (a) Explain the fundamental factors for Night vision.
(b) Discuss the advantages and limitations of one way street.
- Q.5 (a) Draw a fundamental diagram of traffic flow.
(b) Explain PIEV theory with neat sketch.
- Q.6 How traffic volume survey is carried out? Explain presentation of data obtained.
- Q.7 Explain the design steps in design of isolated fixed time traffic light signal as per IRC guidelines.
- Q.8 Write detailed note on "Mass Transportation".