

IS University

Assignment For B.TECH in Civil Engineering 5st Sem.

The Assignment will consist of two parts, A and B. Part A will have 5 short answer questions(40-60 words) of 4 marks each. Part B will have 2 long answer questions of 10 markseach

All questions are compulsory.

These Assignments should be completed and submitted in written form by the student to his/herrespective Faculty/ Examiners. Assignment Submission Dates are:

List Of Suggested Questions

The list of suggested questions are for students to practice. Although optional, we recommendthat students solve these questions, as they will help them in preparing for exams as well as inclearing the important concepts of the subject.

List of Practical and suggested practical's

The list of practical's should be done by the students in their Lab Sessions. These are the basicpractical's, which each student should be able to do himself independently. While the list of suggested practicals are optional, but it is recommended that students should perform those practical so as to have a thorough knowledge of the subject

Education Delivery Schedule (EDS)

As per University Semester scheme, the minimum contact hours of each paper has beenDivided into two hours theory and practical class.

The faculty will maintain this attendance paper wise for his/her batch.

Subject Code	Subject Name
BTCE 55	Design of concrete structure 1
BTCE 51	Geotechnical Engineering.
BTCE 53	Environmental Engineering 1
BTCE 52	Transportation engineering 1
BTMB 51	Engineering Economics
BTCE 54	Structural Analysis 2

BTCE 55
DESIGN OF CONCRETE STRUCTURES1

Part A

1. What is the structural action between cantilever and counter fort type retaining wall?
2. What is the function of weep hole in retaining wall construction?
3. What are the forces acting on the domes?
4. Define yield line theory.
5. Give any four assumptions in yield line theory.

Part B

1. What are the conditions to be considered for the cylindrical tank situated
2. What is the thickness of flat slab with drops and without drops?

BTCE 51
GEOTECHNICAL ENGINEERING

Part A

1. What are the factors influencing in depth of exploration of sub soil?
2. List out the various methods of site exploration.
3. Write down the components of settlement
4. Draw the pressure distribution diagram for sand and clay layer at the beneath of rigidfooting.
5. What are the advantages of combined footing?

Part B

6. Write the assumptions of Coulomb's Theory.

7. Calculate the active earth pressure give that $C=20 \text{ kN/m}^2$ and unit weight of the soil being 20 kN/m^3 for a vertical cut of depth 3 m. The soil is cohesion less soil

BTCE 51
ENVIRONMENTAL ENGINEERING1

Part A

1. Assume any missing data suitably, if any.
2. Use illustrations wherever required.
3. Flashy and Virgin rivers
4. Aggrading and Degrading rivers
5. Incised river stage and Boulder river stage.

Part B

1. Distinguish between bed load, suspended load and wash load. Explain with neat sketch, the saltation method of bed load transportation.
2. What do you understand by "river restoration" ? Explain the various types of restoration works.

BTCE-504
TRANSPORTATION ENGINEERING 1

Part A

1. What are the objectives of Highway Research Board? Explain briefly the classification of road pattern. How the map study is done? Discuss.
2. Write a short note on setting out of a transition curve. While aligning a highway in a built up area, it was necessary to provide a horizontal circular curve of radius 446 m. The design speed is 85 Km/h, the length of wheel base is 8m and the pavement width is 12m. Design super elevation, extra widening and length of transition curve.

3. What are the factors required for overturning sight distance? Discuss various traffic studies and their importance.
4. What are the advantages and disadvantages of traffic signs? What are the strength characteristics of soil?
5. Explain briefly three different tests carried out to determine the abrasion of aggregates. Explain briefly Mc Load method.

Part B

1. Describe Westergaard's stress equation for wheel loads. Specify the materials required for construction of WBM roads.
2. What are the uses and limitations of this type of road? Write short notes on Mastic asphalt. Explain the principles and uses of Bankleman Beam test?

BTMB-51 ENGINEERING ECONOMICS

Part A

1. Briefly describe the steps for solving a Transportation Problem.
2. Write short note on two person zero sums game.
3. What do you mean by crashing? Write two advantages.
4. What are the basic characteristics of a queuing system.
5. What is the importance of Poisson and Exponential distribution in Queuing theory.

Part B

1. Draw a flowchart for the computational procedure for a LPP using simplex method.
2. Explain any three applications of LPP in management.

BTCE-54
STRUCTURAL ANALYSIS 2

Part A

1. What is Continuous beams and simple frames with and without translation of joint.
2. Explain method of Consistent Deformation.
3. Explain Muller-Breslau's Principle and its applications for drawing influence lines for indeterminate beams
4. What is Influence line diagrams for maximum bending moment.
5. Explain Strain Energy method.

Part B

1. Explain Basics of Force and Displacement Matrix methods for beams, frames and trusses.
2. Explain Applications of Static and Kinematic theorem for Plastic Analysis of Beams and Frames.