Sai Nath University

Assignment For B.TECH in Civil Engineering 7st 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 marks each

All questions are compulsory.

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

- Nov-17

List Of Suggested Questions

The list of suggested questions are for students to practice. Although optional, we recommend that students solve these questions, as they will help them in preparing for exams as well as in clearing 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 basic practical'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 been Divided into two hours theory and practical class.
The faculty will maintain this attendance paper wise for his/her batch.

Subject Code	Subject Name
BTCE 701	**Irrigation Engineering**
BTCE -702	**Prestressed Concrete & Adv. Design Of Structure**
BTCE-703	**Quantity Surveying & Contract. & Tenders**
BTCE -704	**Finite Elements Method of civil Engineering**
BTCE 705	**Quantity Surveying & Contract. & Tenders Practical**

SAI NATH UNIVERSITY

Cover page of Assignment

ID NUMBER …….

NAME …… ……

COURSE **B.Tech**……

STREAM Civil……

SEM 7ST ……..

SUBJECT CODE ……..

SUBJECT NAME ……..

Assignments will be completed by the Student in his/her own handwriting.

BTCE 701
Irrigation Engineering
Part A

1. Define Irrigation.
2. Define the term Base Period.
3. What is meant by Drip Irrigation?
4. Write any two advantages of sprinkler Irrigation.
5. What do you mean by barriage?

Part B

1. Explain the merits and demerits of Irrigation.
2. Explain the following:
    - **a.** Optimum Utilization of Irrigation water.
    - **b.** Consumptive use and its estimation
    - **c.** Water distribution efficiency.

BTCE 702
Prestressed Concrete & Adv. Design Of Structure

Part A

1. Define type – I, type – II and type – III structures.
2. Explain load balancing concept applied to analyse basic behavior of prestressed concrete.
3. Explain different types of shear failures in prestressed concrete beams
4. When prestressing is resorted to compression members?
5. State the advantages of composite beam.

Part B

1. Design a prestressed concrete column of 4 m high for a combined axial compressive force of 400 kN and a bending moment of 25 kN m. Assume fck =45 N/ mm 2 and fp = 1500 N/ mm 2 .

2. A continuous prestress concrete beam with two equal spans AB=BC=10m has a uniform rectangular section 100X300mm.The cable carrying an effective prestressing force of 360kN is parallel to the axis of the beam and located at 100 mm from soffit (i)Determine the secondary and the resultant moment at the central support B

BTCE-703

Quantity Surveying & Contract. & Tenders

Part A

1. What are the different methods of taking out quantities for preparing estimates?
2. Explain Bay method and Service unit method for preparing approximate estimate.
3. What are the provisional sum& prime cost items.
4. RCC lintel provided throughout the walls of the building.
5. What are the objects of specification & characteristics of good specification?

Part B

1. Explain the following:
    a. Global Tender.
    b. Open Tender.
    c. Limited Tender.
    d. Informal Tender.
2. Explain void, voidable valid contract. What are the essential requirements of valid contract as per the ICA (1872)

BTCE-704
Finite Elements Method of civil Engineering
Part A

1. With suitable examples, explain the meaning and for mulations of properties of axi-Symmetric elements. State their applications.
2. Explain Gauss quadrature approach for evaluating one-dimensional and two-dimensional integrals with an example.
3. Derive the Stiffness matrix for a CST element using Potential Energy approach.
4. Find the natural frequencies and the corresponding mode shapes for the longitudinal vibrations for a stepped bar having A1 = 2A and A2 = A ; I1 = I2 = I & ; E1 = E2 = E.
5. Define Geometric Variance.

Part B

6. What is meant by displacement function?
7. Derive the shape functions for a triangular linear element in global Co-ordinate system.

BTCE-705
Quantity Surveying & Contract. & Tenders Practical
Part A

1. If the architect verbally instructed the contractor to do some works on site, what should the Architect do to make this a formal instruction? State what he should do and the related time frame.

2. If you were the contractor who has received this verbal instruction and believed it as a Variation, what can you do to make this a formal instruction?
3. Based on the abstracted BQ provided, prepare the BQ for the measured works
    a. Plastering
    b. Painting
4. Does the contractor have a duty to draw attention to an error on the architect's drawing?
5. What are the provisional sum & prime cost items.

Part B

1. Explain in detail the approximate estimate for Road work
2. RCC lintel provided throughout the walls of the building.