Sai Nath University

Assignment For B.Tech Civil 8th 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 4 long answer questions of 5 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:

- **17 June**

List Of Suggested Questions

The list of suggested questions is 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-801	STRUCTRAL DYNAMICS
BTCE-802	CONSTRUCTION & PLANNING MANAGEMENT
BTCE-803	PLANNING & DESIGN OF AIR PORT
BTCE-804	PROJECT
BTCE-805	STRUCTURAL DYNAMICS PRACTICAL

SAI NATH UNIVERSITY

Cover page of Assignment

ID NUMBER ……

NAME …… ……

COURSE B.TECH…….

STREAM Civil Engineering……

SEM 8^{Th}……

SUBJECT CODE ……

SUBJECT NAME ……

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

STRUCTRAL DYNAMICS

BTCE-801

PART-A

1. Explain the SINGLE DEGREE OF FREEDOM SYSTEMS ?write the Equations o f motion
2. Write the Free vibrations, and damping? explain the Response to harmonic excitation
3. Do you know about Response to general dynamic loading? Describe Duhamel's integral?.
4. Write the Definition, of pseudo velocity and pseudo-acceleration response spectra.
5. What is meant by Analysis of SDOF systems? Write the using response spectrum.

PART-B

1. Write the Deference between response spectrum and design spectrum.?
2. Do you know about multi degree of freedom systems?
3. Explain the Equations o f motion and write the Free vibrations, natural frequencies and modes?
4. What is meant by Free vibration analysis for classically damped systems.?

Short notes:

A) Damped matrix

B) Rayleigh damping

C) Modal analysis

CONSTRUCTION & PLANNING MANAGEMENT

BTCE-802

PART-A

1. short notes:
   (a) Grid-Iron Planning and Radial Planning
   (b) Built-up Area and Carpet Area
2. On-site and Off-site features define the role of transport planning for planning a site. How will you design and fix the width of connecting roads/streets to the site?
3. "Green areas are the lungs of a city." Discuss and analyze this statement with respect to the size of a neighbourhood/city.?
4. Write a short essay on the role of natural site features during site planning. Give examples.

5. Diagrammatically represent the various types of street parking. ?

PART-B

1. Write an essay on 'hierarchy of open spaces' in a cluster housing development project. Support your answer with an illustrated example.
2. Write a short essay on the principles of site planning by Kevin Lynch.
3. Describe briefly various transportation problems and subsequent remedies for a metropolitan city in India. ?
4. Enlist the various legal tools for planned development?

PLANNING & DESIGN OF AIRPORT

BTCE-803

PART-A

1. Explain the principle of operation of an instrument used for fuel flow measurement in an aircraft
2. What does a pitot tube measure ? Explain the principle and construction of a pitot tube
3. With a neat labelled diagram, describe the working of an air speed indicator and state the two errors in indication of the air speed.
4. Draw the block diagram of air data system mentioning at least four outputs.
5. Draw the block diagram of goniometer and explain it.

Part-B

1. Explain the following in brief :
   (i) Altimeter
   (ii) Magnetic Compass
2. What is a Gyroscope ? State two important properties of a gyroscope.
3. Draw a neat sketch of gyro horizon showing the aircraft in a level flight banking at 15° to the left
4. Define the following terms :
   (a) True Air Speed (b) Indicated Air Speed
   (c) Equivalent Air Speed (d) Magnetic Equator
   (e) Isogonic Line

Project

BTCE-804

1. Shear strength of the Ganga sand
2. Stability of Soil Nailed Slopes
3. Seismic Design of a RC Frame Building with RC Wall
4. Numerical modelling of scour around bridge pier

5. Back calculation of pavement moduli by wave method
6. Seismic Design of a RC Frame Building with Masonry Infills
7. Light weight burnt bricks using rice husk and saw dust
8. Block wise studies of rural houses
9. Reinforced Brick Panel
10. Experiment investigation on cements with paddy husk ash engineering
11. Ready mix concrete plants
12. Development Of Remote Monitoring System For Civil Engineering
13. Application of software in civil engineering industry Flexible pavement
14. Mineral admixtures for high performance concrete
15. Pile foundation
16. Stability of high rise buildings.
17. Advanced Earthquake Resistant Techniques GIS, GPS and its applications
18. Civil engineering and the fight against poverty :possibility of building the labor-intensive
19. Failure of foundation due to earthquake
20. Non-destructive testing of concrete
21. Sewage treatment plant
22. The rain roof water-harvesting system
23. Earthquake vibration control using modified frame-shear wall
24. Application of remote sensing & GIS. in groundwater prospecting.
25. Crushability And Compressibility of NTPC Fly Ash

STRUCTURAL DYNAMICS PRACTICAL

BTCE-805

1. Describe the butt joint of plate by welding process.
2. Describe the lap joint of plate by riveting process.
3. Describe the butt joint of plate by riveting process.
4. Describe the C B R test.

5. Plane table -Radiation, Intersection & Traversing
6. Study of dumpy, tilting and auto level
7. Differential leveling practice, reduction of level by HI and Rise and Fall method, Fly leveling.
8. Study of Theodolite – measurement of horizontal angle
9. Measurement of horizontal angle by method of repetition
10. Measurement of vertical angle.