

I.S. University

Assignment For B.Tech Civil 4th 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/her respective Faculty/ Examiners. Assignment Submission Dates are:

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 beenDivided into two hours theory and practical class. The faculty will maintain this attendance paper wise for his/her batch.

Subject Code	Subject Name
BTIS-41	INDUSTRIAL SOCIOLOGY
BTAC-41	CYBER SECURITY
BTCE-41	STRUCTURE ANALYSIS 1
BTCE-42	GEOINFORMATICS
BTCE-44	ENGINEERING GEOLOGY
BTCE-43	HYDRAULIC AND HYDRAULIC MACHINE
BTOE-44	SPACE SCIENCES

BTIS-41
INDUSTRIAL SOCIOLOGY

PART-A

1. Define Industrial sociology and discuss the research methods used in organizational field.
2. Describe the multi-disciplinary approach of Industrial/Organizational sociology. Illustrate the open system theory.
3. Discuss the relevance of Total Quality Management (TQM). Explain any two critical work place behaviours.
4. Illustrate the Harvard framework for Human Resource Management (HRM) and describe the different functions of HRM.
5. Define Attitude and describe its various components. Illustrate the Behavioural Intentions Model of Ajzen and Fishbein.

PART-B

1. What do you mean by 'primary mental abilities'? Elucidate primary mental abilities as mentioned by Thurstone.
2. Describe briefly four different types of 10 sociology tests that can be used in selection of candidates for a marketing unit in an organisation.

BTAC-41
CYBER SECURITY

PART-A

1. Introduction to information systems.
2. explain Application security (Database, E-mail and Internet)
3. explain Developing Secure Information Systems.
4. Why Policies should be developed
5. explain Information Security Standards-ISO.

PART-B

1. what is Security Architecture & Design Security Issues in Hardware, DataStorage & Downloadable Devices,
2. What is Publishing and Notification Requirement of the Policies.

BTCE-41
STRUCTURE ANALYSIS 1

PART-A

- 1-What is equilibrium condition.Name any four methods used for computation of deflections in structures.What are all type of frames?
- 2-What are the assumptions made in the unit load method?
- 3..Write down the two methods of determining displacements in pin jointed plane frames by the unit load concept.What is meant by perfect frame?
- 4..Define Compatibility Condition.Define redundant force..Differentiate external and internal indeterminacy of structures.
- 5.Define static indeterminacy of a structure.Define strain energy.Give the procedure for unit load method..Calculate degree of indeterminacy of propped cantilever beam.

PART-B

- 1.Determine the free end slope of a cantilever due to applied moment M at free end using energy principle.Briefly explain about consistent deformation method.
- 2..Differentiate determinate and indeterminate of structure.Differentiate static and kinematic indeterminacy of structure.

BTCE-42

GEOINFORMATIC

SPART-A

- 1.What is remote sensing ? Explain electromagnetic spectrum.
2. Explain the advantages and limitations of remote sensing. Explain the elements of visual interpretation techniques.
- 3.What is resolution of a sensor? Describe all sensor resolutions.
- 4.What are the advantages and disadvantages of various remote sensing platforms. Briefly describe the Indian satellite program.
- 5.Explain systematic correction methodsDefine GIS. Describe the key components of GIS.What is a map? Explain the classifications of a map.

PART-B

1.Explain run length encoding method. Explain the advantages of raster..Explain role of remote sensing to monitor land use changes.

2.Explain the applications of remote sensing in water resources. Explain the applications of remote sensing in natural resource management.

BTCE-44
ENGINEERING GEOLOGY

PART-A

- 1.Evaluate the porosity and permeability factors of intact rock and rock masses.
2. Permeability alone cannot be used to judge the flow of ground water. Discuss.
3. Discuss the significance of O and E horizons of soil profile.
4. Examine the role of acids in chemical weathering.
5. Compare the effectiveness of barriers and liners to control subsurface water in construction sit.

PART-B

1. How do sedimentary rocks differ from metamorphic rocks? Discuss any two major rock species outcropped in the state of Kerala.
2. Are the properties (related to strength) desirable for building stones and road aggregates, similar? Evaluate. Discuss the disadvantages of intensity as a measure of earthquake strength.

BTCE-43
HYDRAULIC AND HYDRAULIC MACHINE

PART-A

- 1.What do you know about critical depth in an open channel flow. What are various components of reciprocating pump.

2. Differentiate between Geometric similarity and Kinematic similarity.
3. Explain about Hydraulic efficiency and mechanical efficiency. Distinguish between Prismatic and Non-prismatic channels
4. Explain about various parts of pelton wheel.
5. Explain about different characteristic curves of turbine. What is meant by pump? What are various classifications of pump?

PART-B

1. Briefly explain the classification of power plants based on the storage characteristics. Write a clear note on estimation of Hydro power potential?
2. What are similarities between model and prototype. Mention the applications of model testing. Write a brief note on classification of turbines.

[BTOE-44] SPACE SCIENCES

PART-A

1. Introduction to space science and applications.
2. Nebular theory of formation of our Solar System.
3. Solar wind and nuclear reaction as the source of energy.
4. Brief description about shape size, period of rotation about axis
5. Kepler's Laws of planetary motion.

PART-B

1. Galaxies and their evolution and origin, active galaxies and quasars.
2. Harvard classification system, Hertzsprung-Russell diagram, Luminosity of star, variable .

