

JS 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 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 Datesare:

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 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
BTOE-81	NON CONVENTION ENERGY RESOURCES
BTCE-81	TRANSPORTATION ENGINEERING 2
BTCE-82	WATER RESOURCE SYSTEM
BTCE-83	RIVER ENGINEERING

BTOE-81

NON CONVENTION ENERGY RESOURCES

PART-A

- 1.Explain the process of extra-terrestrial and terrestrial radiation. Explain how the solar radiation is measured and data is obtained.
2. What are the important performance indices of a solar collector? Explain them briefly. Explain the working of a flat plate collector with their thermal analysis.
3. What are the factors to be considered in the drastic development of wind power? Derive the expression for maximum wind power extracted using Betz criterion?
4. Describe the maximum power tracking process for photovoltaic power system.
- 5.Mention different biomass energy resources and what is the energy yield from each of them?

PART-B

1. What are the factors effecting the performance of a biomass? What are the environmental impacts of geothermal energy? What are the merits and demerits of geothermal energy?
2. What is the effect of pumping on the output of the tidal plant? Explain the operation of an oscillating water type of wave device. Explain the necessity of direct energy conversion. Briefly explain the Carnot cycle in direct energy conversion.

BTCE-81

TRANSPORTATION ENGINEERING 2

PART-A

- 1.Write the expression for radius of a horizontal curve for the comfort condition.
2. Determine the value of radius of horizontal curve for a national highway.

- 3.Explain aggregate impact test conducted for aggregates.
- 4.Explain different types of joint in concrete pavements.
5. How the requirements for the maintenance of a road are evaluated ?

PART-B

7. How the alignment of a railway line is selected ?
8. Explain the degree of curve and cant. Discuss guidelines for the site selection of a bridge across a river.

BTCE-82

WATER RESOURCE

SYSTEM

PART-A

- 1-Explain the method of determination of optimum number of raingauges in a catchmen. Compare Thiessen polygon method and isohyetal method for determination of average precipitation over a catchment
- 2- Explain rainfall mass curve and hyetograph. Explain the factors affecting runoff from a catchment
- 3- Enlist the uses and limitations of unit hydrograph theory. Define Duty and Delta.
- 4- Define safe yield and average yield of reservoirs.
- 5- Explain the method of determination of yield of reservoirs with a given capacity.

PART-B

- 1-Describe the vertical distribution of ground water. What is Infiltration? What are the factors affecting Infiltration?
- 2-Differentiate (i) open well and tube well (ii) flowing well and artesian well

BTCE-83

RIVER ENGINEERING

PART-A

- 1-Discuss in detail about the classification of rivers? Write short notes on : - Bandalling.
- 2- Explain the use of Levees for protecting cities from floods.Differentiate between the following : - Flashy and Virgin rivers .
- 3- What do you understand by river morphology ? Explain the terms : training for discharge.
- 4- What are the uses of guide banks ?
- 5- Differentiate between : (i) Submerged and unsubmerged groynes

PART-B

- 1-Enlist the various theories for mechanisms of meander development. Explain “English theory” in detail.
- 2- Explain in brief the various parameters is responsible for the instability of rive