Sai Nath University

Assignment For Diploma in CIVIL Engineering 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 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:

➢ Session-2019

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
DCE 1	CONCRETE TECHNOLOGY
DCE 2	WATER SUPPLY AND WATER WASTE ENGG
DCE 3	IRRIGATION
DCE 4	R.C.C DESIGN
DEE 5	CIVIL ENGG. DRAWING-2
DCE 6	SURVEY-2

SAI NATH UNIVERSITY

Cover page of Assignment

ID NUMBER   …………………………………

NAME   …………………………………

COURSE   Diploma Engineering

STREAM   CIVIL……………………………

SEM   4th …………………………………

SUBJECT CODE   …………………………………

SUBJECT NAME   …………………………………

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

Concrete Tech.

Assignment

SEC A

Q1. What are the various requirements for warehouse of cement?

Q.2 What is the method's of batching aggregate ?

Q.3 Define the various types of mixture.

Q4. Find out working hour required to complete a concrete slab 30*30*0.2m using 200 T
mixture with 4 min. complete cycle ? (Take efficiency 90 %)

Q5. Weight of moist soil sample with containers 3 kg after over during for 24 hrs. the
weight of container with soil sample remains 3 kg 198 gram . Calculate water
content.

Sec B

Q1. Explain oven during method for determination of water content .

Q2. Define water cement ratio and effect of water cement ratio on physical
structure of hydrated cement.

DIPLOMA 4th SEMESTER

WATER SUPPLY AND WASTE WATER ENGINEERING

Assignment

SEC A

Q.1 Define systems. Explain different types of systems.

Q.2 What is the necessity of regional planning ? Explain in detail.

Q.3 What is system analysis ? What are the basic problems in system

analysis ?

Q.4 (a) Explain water system dynamics in detail.

(b) Discuss the linear programming models commonly used in water

resources engineering.

Q.5 (a) What is dynamic programming ? Explain.

(b) What is multi-objective planning ? Explain

Sec B

Q1. What is flocculation ? Differentiate between coagulation and

flocculation.

Q2. The average daily demand in a town has been estimated as 8 million litres per day. Design a suitable sedimentation tank assuming a detention period of 5 hours and velocity of flow of 22 cm per minute.

DIPLOMA 4th SEMESTER

IRRIGATION ENGINEERING

Assignment

SEC A

Q.1 Discuss non-recording and recording type rain gauges giving one example of each, with neat sketches.

Q.2 If the rice requires about 12 cm depth of water at an interval of 10 days with the base period for rice being 120 days, find out the delta for rice.

Q.3 Discuss what is meant by "Command Area" in detail.

Q.4 (a) Draw a typical layout of an Irrigation Canal System.

(b) Draw a neat sketch for canal structures for flow regulation and control. Describe them.

Q.5 (a) Describe components and functions of a spillway.

(b) Discuss in detail different sub-surface zones of water in the soil mantle.

Sec B

Q1. Write short notes on any four of the following :

(a) Classification of Water Based on Sodium Hazard.

(b) Causes of Water Logging .

(c) Types of Surface Drain.

(d) Energy Dissipators.

(e) Shotcrete Lining.

Q2. What are the different infiltration models ? Explain in detail Horton's model.

ENERGY SOURCES AND MANAGEMENT OF ELECTRICAL ENERGY

Part A

1 Qus. What is the importance of non conventional sources of energy?

2 Qus. Describe the working of solar furnace ?

3 Qus. Describe the Bio-mass conversion technologies- wet and dry processes?

4 Qus. Write the short note on Magneto Hydro Dynamic (MHD) Power Generation?

5 Qus.what is Wind energy conversion

Part B

1 Qus. Explain the Design and operating principles of a fuel cell?

2 Qus. What is the Need for energy conservation with brief description of oil and coal crisis.

SURVEING ENGG.- II

Part A

Q.1 Describe the temporary adjustments of theodolite.

Q.2 Discuss the basic principle of traverse survey. Also describe various types of traverse.

Q.3 What is the different b/w surveyor compass and prismatic compass ?

Q.4 Describe the following .

    (a). Arrow

    (b) . Peg .

    (c). Ranging Rod.

Q.5 Discuss the subtense bar method of tacheometric surveying. What are its advantages ? Explain.

Part B

Q1. A length 2000m was measured with the help of 25 m chain . at the end of 1500 m chain was 15 cm too short and at the end of 2000 m , the chain was 25 cm too short . If the chain was initially correct the find the actual length of line.

Q2. Write short notes on the following :

    (a) Topographic Survey

    (b) Transition Curves

    (c) Project Survey

    (d) Geodetic Survey

R.C.C DESIGN

Part A

Q.1   What is the physical properties of ordinary Portland cement ?

Q.2   What are the properties of plain cement concrete ?

Q.3 What are the tensile strength of concrete ?

Q.4   (a) What are the grades of steel used in R.C.C ?

    (b) What are the merits and demerits of R.C.C ?

Q.5 (a) What is main function of steel in R.C.C ?

    (b) Define the bending theory of beam. What assumption are taken

    into account ?

Part B

Q1. In working stress method , What stress are taken for different concrete
grades as well as steel grades ?

Q2.   What   are   critical   and   actual   neutral   axis   in   R.C.C   beams   and   how   do
we find Xa and Xc ?

CIVIL ENGG. DRAWING.-2

PART-A

1. What is the Izod test of impact ? How is it different from the Charpy
   impact test ?
2. What is hardness of a material and how can it be measured ?
3. Explain briefly the Portal method.
4. Write the advantages and disadvantages of indeterminate structure
   analysis through different methods.
5. Explain in detail the stiffness matrix method with the help of a
   suitable example.

PART-B

1.   Three wires of the same material and cross-section support a rigid bar which further
      supports a weight of 5 kN. The length of the wires is 5 m, 8 m and 6 m in order. The
      spacing between the wires is 2 m and the weight acts 1.6 m from the first wire. Determine
      the load carried by each wire.

2.   Write down the design steps for the following members of a square steel tank :

      (a) Vertical side walls
      (b) Base slab