

Sai Nath University

Assignment For Diploma in Civil Engineering 3rd Sem.

The Assignment will consist of two parts, A and B. Part A will have 5 questions(40-60 words) of 4 marks each. Part B will have 5 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:

➤ DEC

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.



SAINATH UNIVERSITY

Cover page of Assignment

ID NUMBER
NAME
COURSE Diploma Engineering...LE.....
STREAM Civil.....
SEM 5th
SUBJECT CODE
SUBJECT NAME

Subject name

1. STEEL STRUCTURES DESIGN
2. HIGHWAY ENGINEERING
3. BUILDING CONSTRUCTION SYSTEM 2
4. HYDRAULICS
5. THEORY OF STRUCTURE

STEEL STRUCTURES DESIGN

Part A

1. Describe Types of rivets, permissible stresses in rivets.
2. Describe types of riveted joints, specifications for riveted joints as per IS 800.
3. Describe Types of bolts and bolted joints, specifications for bolted joints as per IS: 800 – 2007.
4. Types of welds and welded joints, advantages and disadvantages of welded joints and bolted joints design of fillet and butt weld
5. Design of riveted joints for axially loaded members (No Staggered riveting).

Part B

1. Describe Concept of buckling of columns.
2. effective length and slenderness ratio, permissible stresses in compression as per IS:800 for different end conditions.
3. Analysis and Design of axially loaded single section steel column.
4. Types of column bases.
5. Describe Beam and column, frame and seated connections.

HIGHWAY ENGINEERING

Part A

1. Importance of Highway engineering.
2. IRC classification of roads.
3. Define Right of way, formation width, road margin, road shoulder, carriage way, side slopes, kerbs, formation levels, camber and gradient
4. Describe Necessity of curves.
5. What is stopping and passing sight distance.

Part B

1. Different types of road materials in use; soil, aggregate, binders – bitumen.
2. What is Binders: Common binders; bitumen, properties as per BIS specifications, penetration, softening point.
3. What is Flexible and rigid pavement.
4. What is Water Bound Macadam (WBM).
5. What is Dense Bituminous Macadam (DBM).

BUILDING CONSTRUCTION SYSTEM 2

Part A

1. what is different ingredients of good brick.
2. explain different types of bricks.
3. what is plywood and manufacturing process of plywood.
4. what is mortar and describe the various ingredients of mortar.
5. What is Concept of foundation and its purpose.

Part B

1. what is Brick Masonry: Definition of terms like header, stretcher, queen closer, king closer.
2. What is the Meaning and use of arches and lintels.
3. Doors, Windows and Ventilators.
4. Types of floor finishes - cast-in-situ, concrete flooring (monolithic, bonded) Terrazzo tile flooring, stone (marble and kota) flooring.
5. Define Staircase, winders, landing, stringer, newel, baluster, riser, tread, width of staircase, hand-rail.

HYDRAULICS

Part A

1. What is fluid mechanics ?
2. Define the density, weight density of fluid?
3. Define the real and ideal fluid?
4. A litre of crude oil weight 9.6 n calculate, specific weight and density?
5. Comparison between hydrostatics and hydrokinematics?

Part B

6. Derive the pascal's law?
7. What is specific weight?
8. A simple U tube manometer containing mercury is connected to a pipe in which a fluid of specific gravity 0.9 and having vacuum pressure is following find the vacuum pressure
9. Define newtonian and nonnewtonian fluid?
10. Explain the newton's law?

THEORY OF STRUCTURE

Part A

1. What is shear force and Bending moment ?
2. How many types of Beams and Load ?
3. How many types of Stresses ?
4. Do you Know about Hookes law ?
5. Sign Convention for shear force and Bending moment ?

Part B

6. define the tension and compression stress also draw figure.
7. Find the moment of Inertia a T-section with flange as 150 mm*50mm and web as 150*50mm about and Y-Y axis through the center of gravity of the section.
8. A steel wire of 5mm diameter is bent into a circular shape of 5m radius. Determine the maximum stress induced in the wire.
 $E=200 \text{ GPa}$
9. Assumption in the Theory of simple bending.
10. Draw the cantilever beam on loaded U.D.L full spam.