Sai Nath University

Assignment For Diploma in Mechanical Engineering 3rd 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:

> ➢ 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.

Subject Code	Subject Name
DEME	STRENGTH OF MATERIALS
DEME	THERMODYNAMICS
DEME	BASICS OF E.E ENGG.
DEME	WORKSHOP TECHNOLOGY-1
DEME	MACHINE DRAWING
DEME	WORKSHOP PRACTICE - I

SAI NATH UNIVERSITY

Cover page of Assignment

ID NUMBER …………………………………

NAME …………………………………

COURSE Diploma Engineering ……………

STREAM Mechanical………………………………

SEM 3rd …………………………………

SUBJECT CODE …………………………………

SUBJECT NAME …………………………………

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

DEME

STRENGTH OF MATERIALS

Part A

Q.1 Differentiate between strain energy and shear strain energy.
Q.2 what is stress.classify the type of stress.
Q.3 What is hook's law.Explain the stress strain diagram.
Q.4 Classify the type of beam and loading with diagram.
Q.5 What is stiffness and angle of twist.

PartB

Q.6 Draw the shear force and bending moment diagram of cantilever beam.
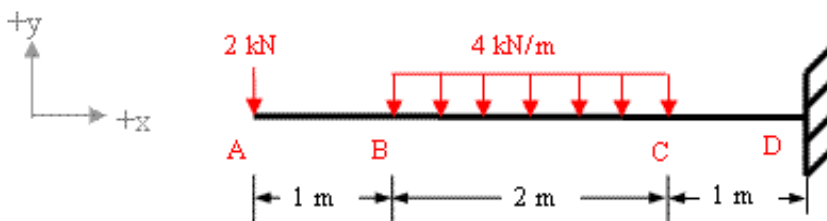
Q.7 What is difference between open and closed coil spring.

DEME
THERMODYNAMICS

Part A

1. What is a thermodynamic cycle ? What do you understand by homogeneous and heterogeneous systems ? Give examples. What are intensive and extensive properties ?.
2. Give the Clausius' statement of the second law. What is a PMM2 ? Why is it impossible ? Explain.
3. Write short notes on any four of the following :
4. (a) Point function 2.
     (b) Quasi-static process (c) Specific heat at constant pressure (Cp) (d) Irreversibility (e) Availability (0 Heat engine
5. What is entropy ? What is the principle of Increase of Entropy ? Explain.
6. Explain first law of thermodynamics with jules experiments.

Part B

1. Derive expression for gas constant.
2. Derive relation between sp.heat at constant pressure (Cp) and sp. Heat at constant volume (Cv).
3. What is a thermodynamic cycle ? What do you understand by homogeneous and heterogeneous systems ? Give examples. What are intensive and extensive properties ?
4. What is ideal gas? Derive the expression for gas constant and what is the numeric value of gas constant.
5. State whether the following statements are true or false :
    (a) Energy can flow in and out of a dosed system, but mass cannot.
    (b) Mixture of ice and water is a heterogeneous system.
    (c) Amount of work done is a point function
     (d) The cyclic integral of a thermodynornic property is always zero.
     (e) It is not possible to construct a PMM1.

DEME
BASICS OF E.E ENGG.

Part A

Q.1 write the difference between AC and DC supply

Q.2 drive the EMF equation of transformer

Q.3 draw the key diagram three phase transmission and distribution system.

Q.4 what is electrical shock ? write the precaution.

Q.5 write the classification of fuses

Part B

Q.6 what is semiconductor ? explain types.

Q.7 explain the working of NPN and PNP transistor.

DEME
WORKSHOP TECHNOLOGY-1
Part A

Q.1 Classification of welding processes.Explain the advantage and limitations of welding.

Q.2 Explain the arc welding with neat diagram.

Q.3 Explain the type of welding defect and inspection of welding defect.

Q.4 Explain the moulding sand properties and types of molding boxes.

Q.5 Explain the working of injection moulding machine.

Part B

Q.6 Explain the types of presses and type of dies.

Q.7 Explain the forging processes

DEME

MACHINE DRAWING

Part A

Q.1 What is limits and explain the types of limits.

Q.2 What is fits and explain the types of fits with diagram.

Q.3 Explain the types of lines with neat diagram.

Q.4 What is deviation.Explain the types of deviation.

Q.5 draw the universal coupling(assembly) in sheets.

Part B

Q.6 Drawing the mechanical screw jack in sheets.

Q.7 Draw the lathe tool holder of the sheets.

DEME

WORKSHOP PRACTICE - 1

Instructions for Laboratory

1. The objective of the laboratory is learning.
2. The experiments are designed to illustrate phenomena in different areas of Workshop and to expose you to uses of instruments. Conduct the job with interest and an attitude of learning.
3. You need to come well prepared for the job.
4. Work quietly and carefully (the whole purpose of experimentation is to make reliable measurements!) and equally share the work with your partners.
5. All presentations of job and diagram should be neatly and carefully done.
6. Diagrams should be neatly drawn with pencil. Always display units.
7. Come equipped with scales, pencils etc.
8. Do not fiddle idly with apparatus. Handle instruments with care. Report any breakage to the Instructor. Return all the equipment you have signed out for the purpose of your experiment.

Part A

Q(1)- What is the angle in a single and a double cut?

Q(2)- Classify different types of files.

Q(3)- List all specifications you need to identify a file in a market.

Q(4)-How do we classify files on the basis of cut? Which type of file is used for softer/harder metals: single cut or double cut and why?

Q(5)-List all specifications you need to identify a file in a market

Part B

Q(1) -Define NOTCHING, BLANKING & PUNCHING.

Q(2)- Difference between piercing and punching?