

JS UNIVERSITY

ASSIGNMENT FOR BTECH IN MECHANICAL 6th SEM.

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

June-19

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 been Divided into two hours theory and practical class.

The faculty will maintain this attendance paper wise for his/her batch.

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SUBJECT CODE	SUBJECT NAME
BME 1	Machine Design-II
BME 2	Dynamics of Machines
BME 3	Refrigeration & Air Conditioning
BME 4	Fluid Machinery
BME 5	Unconventional Manufacturing Processes
BME6	Industrial Management

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Cover page of Assignment

_ID NUMBER

NAME

COURSE BTECH.....

STREAM MECHANICAL.....

SEM 2nd

SUBJECT CODE

SUBJECT NAME

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

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Machine Design-II

PART-A

1. What is the basic procedure in machine design ? Explain in brief.
2. Write short notes on the following :
 - (a) Types, functions and applications of springs
 - (b) End styles of springs.
3. The cylinder of a 4-stroke diesel engine has the following specifications : Brake power = 3.75 kW, Speed = 1000 rpm Indicated mean effective pressure = 0.35 MPa and Mechanical efficiency = 80%. Determine the diameter and length of the cylinder liner..
4. Explain the modified Goodman diagram for Axial and Bending stresses.
5. Explain the term "Damping" and give the characteristics of different types of damping.

PART-B

Describe with sketches the equation of deflections for uniform straight beams on elastic foundation.

2. Write short notes on any four of the following :
 - (a) Design Synthesis and Creativity in Design
 - (b) Limits, Fits and Tolerances
 - (c) Types of Keys
 - (d) Rankine Buckling Load
 - (e) Morgan's Colour Code ASME Code for Shaft Design

Dynamics of Machines

PART-A

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- Q.1** what is mean by pinion crank effort?
- Q.2** define coefficient fluctuation of speed?
- Q.3** Mention the importance of dynamics of balancing.
- Q.4** what is the mean by swaying couple in locomotive.
- Q.5** Define dynamic magnifier.

PART-B

- Q.1** What is axis of precession.
- Q.2** Differentiate transverse and torsional vibration.

Refrigeration & Air Conditioning

PART-A

- Q1. Explain the term ``Tonne of refrigeration ``.
- Q2. Why in practice a throttle valve is used in vapour compression refrigerator rather than an expansion cylinder to reduce pressure between the condenser and the evaporator?
- Q3. A completely odourless refrigerant is not desirable``, discuss the statement.
- Q4. Discuss the function of absorber in vapour absorption refrigeration system.
- Q5. What is the difference between wet bulb temperature and thermodynamic wet bulb temperature?

PART-B

- Q1. Describe a centrifugal fan with the help of a neat sketch?
- Q2. Explain in detail about heat pump circuits?

Fluid Machinery

PART-A

- Q.1 Explain the momentum equation.
- Q.2 Deference between impulse turbine and reactor turbine.
- Q.3 Explain hydroelectric powerplant with neat sketch.

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Q.4 List the characteristic curve of hydraulic turbine.

Q.5 What is the main advantage of model testing?

PART-B

Q.1 Derive the expression of work done by centrifugal pump on water.

Q.2 What are the function of nozzle in impulse turbine?

Unconventional Manufacturing Processes

PART-A

Q.1 Why directional solidification is necessary? How it helps in the production of sound castings? What are the factors through which directional solidification of castings can be controlled?

Q.2 Write a short note on Ultrasonic inspection. Discuss its advantages and disadvantages. **3.** What is need of carburetor an automobile ? Explain its working principle.

Q.3 Differentiate between soldering and brazing. Write their applications also.

Q.4 Explain the principle of resistance welding. Discuss spot welding technique with neat sketch.

Q.5 What are the main materials used for making the investment pattern?

PART-B

Q.1 Name the various defects that occur in sand casting and state their probable causes and remedies.

Q.2 What is welding? Classify the welding processes. Explain the Electric Arc welding process with neat sketch and state its applications

Industrial Management

PART-A

Q1. List out the functions of a good management.

Q2. What is Taylor's Scientific Management Theory?

Q3. What do you mean by virtual organization?

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Q4. Describe the inverted pyramid structure.

Q5. Define value analysis.

PART-B

Q.1 Compare rural and urban areas in connection with selection of site for industry.

Q2. State and explain the various types of plant layouts.