J S University

Assignment For Diploma in Automobile Engineering 5th 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:

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

Cover page of Assignment

ID NUMBER ……

NAME ……

COURSE Diploma

STREAM Automobile

SEM V ……

SUBJECT CODE ……

SUBJECT NAME ……

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

INDEX

INDUSTRIAL MANAGEMENT AND ENTREPRENEURSHIP DEVELOPMENT

PART A

Q1 Definition of management, Administration organisation,Functions management,Planning, Organizing, Co-ordination and control?

Q2 Factors determining motivation, Positive and negative motivation, Methods for imporving motivation, Incentives, Pay?

Q3 Interoduction, Staff development and career development,Training strategies and methods?

Q4 Human relations and performance in organisation, Understand self and others for effective behaviour, Industrial relatios and disputes, Charcteristics of group behaviour and Trade unionism?

Q5 Responsibilities of human resource management - Policies and functions, Selection - Mode of selection - Procedure - training of workers?

PART B

Q1 Explain Fixed and working capital - resource of capital, Shares,types preference and equity shares, Debentureptypes, Public deposits, Factory costing?

Q2 - ABC analysis of inventory, Procurement and conumption cycle, Reorder level,Lead time, Economic order quantity, Pruchasing procedure,Stock keeping, Bin card.

THEORY OF MACHINES:

PART A

Q1 Definition, Kinematic pairs, types of mechanism?

Q2 Synthesis of mechanisms - Crank Rockers, Four Bar Mechanisms, Slider Crank Mechanisms?

Q3 Flywheel analysis, Gyroscopic action in mechines?

Q4 Types and classification, Principle of working of gravity controlled and spring controlled governors?

Q5 Origin of unbalanced forces and moments and effects of unbalance, Unbalance in rotating bodies and balancing of discs and rotors, Balancing machines?

PART B

Q1 Purpose of using cam- Follower mechanisms, types of cams and cam follower mechanisms?

Q2 Characteristics of involute tooth gear - Pinon to system, Under cutting and interference, Minimum number teeth, types of gears, Various gear drives - Spur, Helical, worm and Bevel gear?

MACHINE TOOL TECHNOLOGY & MAINTENANCE

PART A

Q1 Various types of machining operations and machine tools.Common features of all basic machine tools, work holding and tool holding devices, Drive systems, sources of power, Bed,body or frame. Mechainaical drive system for providing?

Q2 The centre lathe and its principle of working. Types of lathes, Lathe specification and size, Features of lathe bed.

Q3 Tools post, Apron mechanism, lathe accessories, Chucks, Face plate,Angle plate, Driving plate, Lathe dogs, mandrils, Steady rest, Lathe attachements.

Q4 Working principles of planer, shaper and slotter.Differences and similarties among them, quick return mechanism applied to the machines.

Q5 Types of tools used in drilling and boring. Classification of drilling and boring machines, principle of working and constructional details of simple and radial drilling M/C and general and periodic maintenance?

PART B

Q1 Types of milling machines, constructional features of horizontal milling M/C. general maintenance of the machine, types of milling cutters, milling operations like plane milling, space milling, angular milling form milling?

Q2 Introduction to CNC Machine tools (Computer Numerical Control Lathe) and FMS (Flexible Manufacturing System) Introduction?

DESIGN AND ESTIMATION

PART A

Q1 General design consideration in machine parts. Mechanical properties of materials of construction steps in machine design. Factor of safety, Selection of materials?

Q2 .Punching and shearing. Design of cotter and Knuckle joints?

Q3 s.Punching and shearing. Design of cotter and Knuckle joints? Turning, Facing, Chamfering, Knurling, Taper Turning,Threading, Drilling, Boring, Shaping and planing, Milling, Broaching, Simple problems pertaining to above?

Q4 Eccentric load and eccentricity. Max. and minimum stress intensities?

Q5 Selection of material, Design analysing, Lewis equation,Stress concentration, Dynamic load, Surface compressive stress, Beam strength?

PART B

Q1 Estimation of weight of simple machine parts. Review of the area/volume of triangle?

Q2 Turning, Facing, Chamfering, Knurling, Taper Turning,Threading, Drilling, Boring, Shaping and planing, Milling, Broaching, Simple problems pertaining to above?

AUTOMOBILE ENGINE

PART A

Q1 Their classification name and make of some India made automobiles. Layout of chasis. Meaning of the terms : Front wheel drive, Rear wheel drive, Four wheel drive, Front and Rear wheeled vechicles?

Q2 Gas turbine, Electric motor and I.C. engine; their suitability to automobile needs. Draw back of I.C. engine to meet these needs?

Q3 .Advantage of multicylinder engine for automobiles use,Firing order, Arrangment of cylinders?

Q4 Fuel supply circuit components (fuel tank to engine),their function. Exhaust pipe and silencer. Construction and working of mechanical and electrical fuel pumps,curburettor, its function.

Q5 Necessity for cooling the engine Air cooling, Shapes of cooling fins. Field of application for air cooling. Water Cooling- Thermosyphon system, Pump circulated water cooling system. Details of water cooling system-Water jackets, Hose,radiators and fans?

PARTB

Q1 Principle of lubrication on multicylinder petrol/diesel engine. Types of lubrication systems-Splash type, Pressure type and Combined?

Q2. ExplainConstruction and working of fuel pump and fuel injection pump