GOVT. POLYTECHNIC, BARGARH

Discipline : MECHANICAL ENGINEERING
Semester : 4TH
Name of the Teaching Faculty : Sri SHEKHAR KUMAR SAHU, Lect. (Mech, Engg.)
Subject : THEORY OF MACHINE
SUBJECT CODE : TH 1
No of Days/week class allotted : 04
Session : 2019-20

Week	Class Day	Theory/Practical Topics	Remarks
1	1-4	**SIMPLE MECHANISM** 1.1 Link , kinematic chain , mechanism , machine 1.2 Inversion , four bar link mechanism and its inversion	
2	5-8	1.3 Lower pair and higher pair 1.4 Cam and follower	
3	9-12	**FRICTION** 2.1 revision of topic previously taught 2.2 Friction between nut and screw for square thread , screw jack	
4	13-16	2.3 bearing and its classification. Description of roller, needle and ball bearing 2.4 torque transmission in flat pivot ,& conical bearing	
5	17-20	2.5 flat collar bearing for single and multiple type 2.6 torque transmission for single and multiple clutch	
6	21-24	2.7 working of simple friction brakes 2.8 working of absorption type dynamometer	
7	25-28	**POWER TRANSMISSION** 3.1 Concept of power transmission 3.2 Types of belt drive , gear and chain drive 3.3 Computation of velocity ratio , length of belts (open and closed) with and without slip 3.4 Ratio of belt tensions , centrifugal tension and initial tension	
8	29-32	3.5 power transmitted by belt 3.6 V belts and v belt pulley 3.7 Concept of crowning of pulleys	
9	33-36	3.8 gear drives and its terminology 3.9 gear trains, Working of simple , compound , reverted and epicycle gear train	
10	37-40	**GOVERNOT AND FLYWHEEL** 4.1 Function of governor 4.2 classification of governor 4.3 working of Watt , Porter ,Proel , and Hartnell governor	
11	41-44	4.3 working of Watt , Porter ,Proel , and Hartnell governor	

		4.4 Conceptual explanation of sensitivity , stability and isochronisms	
	45-48	**BALANCING OF MACHINE** 5.1 Concept of static and dynamic balancing 5.2 Static balancing of routing parts	
13	49-52	5.3 principle of balancing of reciprocating parts 5.4 cause and effect of unbalance 5.5 difference between static and dynamic balancing	
114	53-56	**VIBRATION OF MACHINE PARTS** 6.1 introduction of vibration and related terms (Amplitude , Time period , cycle) 6.2 Classification of Vibration 6.3 Tortional and longitudinal 6.4 Cause and remedies of vibration	
14	57-60	**REVISION & PREVIOUS YEAR QUESTIONS DISCUSSION**	
		Shekhar Kumar Sahu **Signature of faculty** **Signature of H.O.D**	

GOVT. POLYTECHNIC, BARGARH

Discipline : MECHANICAL ENGINEERING
Semester : 4TH
Name of the Teaching Faculty : Sri SUBHASIS SAHOO, Lect. (Mech. Engg.)
Subject : MANUFACTURING TECHNOLOGY
SUBJECT CODE : TH (2)
No of Days/week class allotted : 04
Session : 2019-20

WEEK	LESSON	Theory/Practical Topics	Remarks
1	1-4	**TOOL MATERIALS** 1.1 Composition of various tool materials 1.2 Physical properties& uses of such tool materials	
2	5-8	**CUTTING TOOLS** 2.1 Cutting action of various and tools such as Chisel, hacksaw blade, dies and reamer 2.2 Turning tool geometry and purpose of tool angle	
3	9-12	2.3 Machining process parameters (Speed, feed and depth of cut) 2.4 Coolants and lubricants in machining and purpose	
4	13-16	**LATHE MACHINE** 3.1 Construction and working of lathe and CNC lathe • Major components of a lathe and their function • Operations carried out in a lathe(Turning, thread cutting, taper turning, internal machining, parting off, facing, knurling) 3.2 Capstan lathe • Difference with respect to engine lathe • Major components and their function	
5	17-20	3.3 Turret Lathe • Difference with respect to capstan lathe • Major components and their function 3.4 Draw the tooling layout for preparation of a hexagonal bolt &bush	
6	21-24	**SHAPER** 4.1 Potential application areas of a shaper machine. 4.2 Major components and their function. 4.3 Explain the automatic able feed mechanism.	
7	25-28	4.4 Explain the construction &working of tool head. 4.5 Explain the quick return mechanism through sketch. 4.6 State the specification of a shaping machine.	
8	29-32	**PLANNING MACHINE** 5.1 Application area of a planer and its difference with respect to shaper. 5.2 Major components and their functions 5.3 The table drive mechanism.	
9	33-36	5.4 Working of tool and tool support. 5.5 Clamping of work through sketch.	
10	37-40	**MILLING MACHINE** 6.1 Types of milling machine and operations performed by them and also same for CNC milling machine.	

		6.2 Explain work holding attachment 6.3 Construction & working of simple dividing head, universal dividing head	
	41-44	6.4 Procedure of simple and compound indexing 6.5 Illustration of different indexing methods. **SLOTTER** 7.1 Major components and their function 7.2 Construction and working of slotter machine 7.3 Tools used in slotter	
12	45-48	**GRINDING** 8.1 Significance of grinding operations 8.2 Manufacturing of grinding wheels 8.3 Criteria for selecting of grinding wheels 8.4 Specification of grinding wheels	
13	49-52	**INTERNAL MACHINING OPERATIONS** 9.1 Working of Bench drilling machine • Pillar drilling machine • Radial drilling machine 9.2 Boring • Basic Principle of Boring • Different between Boring and drilling	
14	53-56	9.3 Broaching • Types of Broaching(pull type, push type) • Advantages of Broaching and applications	
15	57-60	**SURFACE FINISH & LAPPING** 10.1 Definition of Surface finish 10.2 Description of lapping& explain their specific cutting	
		Subhasis Sahoo **SIGNATURE OF FACULTY** **SIGNATURE OF H.O.D.** 09/12/19	

LESSON PLAN

Discipline: Mechanical Engg. GP,Bargarh
Semester: 4th
Name of the Teaching Faculty: Miss.Shradha Suman Adabar,Lect.(Mech Engg.)
Subject: TH3-**FLUID MECHANICS**
No of Days/week class allotted: 04
Session: 2019-20

Week	Class Day	Theory/Practical Topics	Remarks
1	1-4	**1.0 Properties of Fluid** 1.1 Define fluid 1.2 Description of fluid properties like Density, Specific weight, specific gravity, specific volume and solve simple problems. 1.3 Definitions and Units of Dynamic viscosity, kinematic viscosity, surface tension Capillary phenomenon	
2	5-8	**2.0Fluid Pressure and its measurements** ***2.1 Definitions and units of fluid pressure, pressure intensity and pressure head.*** ***2.2 Statement of Pascal's Law.*** ***2.3 Concept of atmospheric pressure, gauge pressure, vacuum pressure and absolute pressure***	
3	9-12	2.4 Pressure measuring instruments Manometers (Simple and Differential) 2.4.1 Bourdon tube pressure gauge(Simple Numerical) 2.5 Solve simple problems on Manometer.	
4	13-16	**3.0 Hydrostatics** 3.1 Definition of hydrostatic pressure 3.2 Total pressure and Centre of pressure on immersed bodies (Horizontal and Vertical Bodies) 3.3 Solve Simple problems.	

5	17-20	3.4 Archimedes 'principle, concept of buoyancy, meta center and meta centric height (Definition only) 3.5 Concept of floatation	
6	21-24	**4.0Kinematics of Flow** 4.1 Types of fluid flow 4.2 Continuity equation(Statement and proof for one dimensional flow) 4.3 Bernoulli's theorem(Statement and proof)	
7	25-28	Applications and limitations of Bernoulli's theorem (Venturimeter, pitot tube) 4.4 Solve simple problems	
8	28-32	**5.0 Orifices, notches & weirs** 5.1 Define orifice 5.2 Flow through orifice 5.3Orifices coefficient & the relation between the orifice coefficients 5.4 Classifications of notches & weirs	
9	32-36	5.5 Discharge over a rectangular notch or weir 5.6 Discharge over a triangular notch or weir 5.7 Simple problems on above	
10	37-40	5.7 Simple problems on above	
11	41-44	**6.0 Flow through pipe** 6.1Definition of pipe. 6.2Loss of energy in pipes. 6.3 Head loss due to friction: Darcy's and Chezy's formula (Expression only)	
12	45-48	.6.4 Solve Problems using Darcy's and Chezy's formula. 6.5 Hydraulic gradient and total gradient line	
13	48-52	**7.0 Impact of jets** 7.1 Impact of jet on fixed and moving vertical flat plates	
14	52-56	7.2 Derivation of work done on series of vanes and condition for maximum efficiency.	
15	56-60	7.3 Impact of jet on moving curved vanes, illustration using velocity triangles, derivation of work done, efficiency.	

	Signature of Faculty: 09/12/19 Signature of HOD: 09/12/19	

GOVT. POLYTECHNIC, BARGARH

Discipline : MECHANICAL ENGINEERING
Semester : 4TH
Name of the Teaching Faculty : Sri SUBHASIS SAHOO, Lect. (Mech. Engg.)
Subject : THERMAL ENGINEERING-II
SUBJECT CODE : TH (4)
No of Days/week class allotted : 04
Session : 2019-20

WEEK	LESSON	Theory/Practical Topics	Remarks
1	1-4	**PERFORMANCE OF I.C ENGINE** 1.1 Define mechanical efficiency, Indicated thermal efficiency, Relative Efficiency, brake thermal efficiency overall efficiency. Mean effective pressure &specific fuel consumption. 1.2 Define air-fuel ratio & calorific value of fuel	
2	5-8	1.3 Work out problems to determine efficiencies & specific fuel consumption.	
3	9-12	**AIR COMPRESSOR** 2.1 Explain functions of compressor & industrial use of compressor air 2.2 Classify air compressor & principle of operation	
4	13-16	2.3 Describe the parts and working principle of reciprocating Air compressor. 2.4Explain the terminology of reciprocating compressor such as bore, stroke, pressure ratio free air delivered &Volumetric efficiency	
5	17-20	2.5 Derive the work done of single stage & two stage compressor with and without clearance. 2.6 Solve simple problems (without clearance only)	
6	21-24	**PROPERTIES OF STEAM** 3.1 Difference between gas & vapours. 3.2 Formation of steam. 3.3 Representation on P-V, T-S, H-S, & T-H diagram	
7	25-28	3.4 Definition & Properties of Steam. 3.5 Use of steam table & mollier chart for finding unknown properties. 3.6 Non flow & flow process of vapour	
8	29-32	3.7 P-V, T-S & H-S, diagram. 3.8 Determine the changes in properties & solve simple numerical.	
9	33-36	**STEAM GENERATOR** 4.1 Classification & types of Boiler. 4.2 Important terms for Boiler. 4.3 Comparison between fire tube & Water tube Boiler	
10	37-40	4.4 Description & working of common boilers (Cochran, Lancashire, Babcock & Wilcox Boiler) .	
11	41-44	4.5 Boiler Draught (Forced, induced & balanced) 4.6 Boiler mountings & accessories.	

	45-48	5.1 Carnot cycle with vapour. 5.2 Derive work & efficiency of the cycle.5.3 Rankine cycle. 5.3.1 Representation in P-V, T-S & h-s diagram. 5.3.2 Derive Work & Efficiency 5.3 Rankine cycle. 5.3.1 Representation in P-V, T-S & H-S diagram.	
13	49-52	5.3.2 Derive Work & Efficiency 5.4 Solve simple numerical on Carnot vapour Cycle & Rankine Cycle.	
14	53-56	**HEAT TRANSFER** 6.1 Modes of Heat Transfer (Conduction, Convection, Radiation). 6.2 Fourier law of heat conduction and thermal conductivity (k). 6.3 Newton's laws of cooling	
15	57-60	6.4 Radiation heat transfer (Stefan, Boltzmann & Kirchhoff's law) only statement, no derivation & no numerical problem. 6.5 Black body Radiation, Definition of Emissivity, absorptivity, & transmissibility.	
		Subhasis Sahoo **SIGNATURE OF FACULTY** **SIGNATURE OF H.O.D.** 09/12/19	

LESSON PLAN

Discipline: Mechanical Engg. GP,Bargarh
Semester: 6TH
Name of the Teaching Faculty: Sri ChittaRanjanMeher,Lect.(MechEngg.)
Subject: ENVIRONMENTAL STUDIES (BST501)

No of Days/week class allotted: 05
Session: 2019-20

Week	Class Day	Theory/Practical Topics	Remarks
1	1-5	**The Multidisciplinary nature ofenvironmentalstudies** Definition, scope and importance, Need for public awareness.	
2	6-10	**NaturalResources** **Renewable and non renewable resources:** Naturalresourcesandassociatedproblems. Forestresources:Useandover-exploitation,deforestation,casestudies, Timberextractionmining,damsandtheireffectsonforestsand tribal people. Waterresources:Useandover-utilizationofsurfaceandgroundwater, floods,drought,conflictsoverwater,dam'sbenefitsandproblems. Mineral Resources: Use and exploitation, environmental effects of extracting and using mineral resources.	
3	11-15	Food Resources: World food problems, changes caused by agriculture and over grazing, effects of modern agriculture, fertilizers-pesticides problems,waterlogging,salinity,. EnergyResources:Growingenergyneed,renewableandnon-renewable energysources,useofalternateenergysources,casestudies. LandResources:Landasaresource,landdegradation,manind	

		uces landslides,soilerosion,anddesertification. Roleofindividualinconservationofnaturalresources.Equitableuseof resourcesforsustainablelifestyles.	
4	16-20	**Systems** Conceptofanecosystem. Structureandfunctionofanecosystem. Producers, consumers,decomposers. Energyflowintheecosystems.	
5	21-25	Ecologicalsuccession. Foodchains,foodwebsandecologicalpyramids. Introduction,types,characteristicfeatures,structureandfunc tionofthe following ecosystem:	
6	26-30	Forestecosystem: Aquaticecosystems(ponds,streams,lakes,rivers,oceans,estuaries).	
7	31-35	**Biodiversity andit'sConservation** Introduction-Definition:genetics,speciesandecosystemdiversity. Biogeographicallyclassificationofl ndia. Valueofbiodiversity:consumptiveuse,productiveuse,sociale thical, aesthetic and optionvalues.	
8	36-40	Biodiversityatglobal,nationalandlocallevel. Threatstobiodiversity:Habitatsloss,poachingofwildlife,man wildlife conflicts.	
9	41-45	Definition Causes, effects and control measures of: Airpollution. Waterpollution. Soilpollution Marine pollution	

10	46-50	Noisepollution. Thermalpollution Nuclear hazards.	
11	51-55	SolidwasteManagement: Causes, effects and control measures of urban and industrialwastes. Role of an individual in prevention of pollution. Disaster management: Floods, earth quake, cyclone and landslides.	
12	56-60	**Social issues andtheEnvironment** Formunsustainabletosustainabledevelopment. Urbanproblemsrelatedtoenergy. Waterconservation,rainwaterharvesting,watershedmanagement. Resettlement and rehabilitation of people; its problem and concern. Environmental ethics: issue and possible solutions.	
13	61-65	Climate change, global warming, acid rain, ozone layer depletion, nuclearaccidentsandholocaust,casestudies. Air(preventionandcontrolofpollution)Act. Water(preventionandcontrolofpollution)Act. Public awareness.	
14	66-70	**Human population andthe environment** Populationgrowthandvariationamongnations. Populationexplosion-familywelfareprogram. Environment and human health.	
15	71-75	Humanrights. Valueeducation Role of information technology in environment and human health.	

Signature of Faculty:	Chittaranjan Mehera
Signature of HOD:	09/12/19

LESSON PLAN

Discipline: Mechanical Engg. GP,Bargarh
Semester: 6th
Name of the Teaching Faculty: Miss.Shradha Suman Adabar,Lect.(Mech Engg.)
Subject: MET-602 AUTOMOBILE ENGINEERING
No of Days/week class allotted: 04
Session: 2019-20

Week	Class Day	Theory/Practical Topics	Remarks
1	1-4	**1.0 Introduction** 1.1 Automobiles: Definition, need and classification 1.2 Layout of automobile chassis with major components (Line diagram) 1.3 Manufacturer's specification of auto engines of motorcycle, scooter, car & bus one from each. 1.4 State the classification of engines basing on working principle, fuel used, position of cylinder, arrangement of cylinder.	
2	5-8	***2.0 Transmission system*** ***2.1 Clutch System: Need, Types (Single & Multiple) and Working principle with*** ***sketch*** ***2.2 Gear Box: Purpose of gear box, Construction and working of a 4 speed gear*** ***box, Concept of automatic gear changing mechanisms***	
3	9-12	2.3 Propeller shaft: Constructional features 2.4 Differential: Need, Types and Working principle	
4	13-16	**3.0 Braking system** 3.1 Braking systems in automobiles: Need and types. 3.2 Mechanical Brake 3.3 Hydraulic brake	
5	17-20	3.4 Air brake 3.5 Air assisted hydraulic brake 3.6 Vacuum Brake	
6	21-24	4.0 Auto electric system 4.1 Wiring diagram of Horn circuit, Lighting circuit, Cut-out circuit, Voltage current regulator circuit and Flasher circuit (Sketch and description)	

7	25-28	4.2 State the common ignition troubles and its remedies. 4.3 Spark plugs: Purpose, construction and specifications	
8	28-32	5.0 Suspension System: 5.1 Description of the conventional suspension system for Rear and Front axle. 5.2 Description of independent suspension system used in cars (coil spring and tension bars)	
9	5	5.3 Constructional features and working of a telescopic shock absorber. 5.4 State tyre specifications. 5.5 Explain the causes and remedies of tyre wear	
10	37-40	6.0 Cooling and Lubrication 6.1 Describe necessity of engine cooling. 6.2 Describe defects of cooling and their remedial measures.	
11	41-44	6.3 Describe the Function of lubrication. 6.4 Describe the lubrication System of I.C. engine.	
12	45-48	7.0 Fuel and Ignition system: 7.1 For petrol Engine: 7.1.1 Describe carburetion and Air fuel ratio	
13	48-52	7.1.3 Describe the Battery ignition and Magnet ignition system. 7.1.4 Describe Multipoint fuel injection system.	
14	52-56	7.2 For Diesel engine: 7.2.1 Describe the working principle of Fuel feed pump, Injector and Fuel filter	
15	56-60	8.2.2 Describe the working principle of fuel injection system for multi cylinder engine.	
	Signature of Faculty:		
	Signature of HOD: 09/12/19		

LESSON PLAN

Discipline: Mechanical Engg. GP,Bargarh
Semester: 6th
Name of the Teaching Faculty: Miss.Shradha Suman Adabar,Lect.(Mech Engg.)
Subject: MET-603 ADVANCED MANUFACTURING AND CAD/CAM
No of Days/week class allotted: 04
Session: 2019-20

Week	Class Day	Theory/Practical Topics	Remarks
1	1-4	1.0 Non conventional machining process: Periods Explain the Working principle, advantages, disadvantages and area of application of 14 1.1 Electro chemical machining process 1.2 Electro discharge machining process	
2	5-8	***1.3 Plasma arc machining process*** ***1.4 Laser beam machining process***	
3	9-12	1.5 Abrasive jet machining process 1.6 Electron beam machining process	
4	13-16	2.0 Automation: 6 2.1 Define Automation 2.2 List types of Automation 2.3 Explain need for Automation	
5	17-20	3.0 Numerical Control: 16 3.1 Define Numerical Control 3.2 Explain the NC system with block diagram. 3.3 Describe the types of NC co-ordinate: Point – to – point, Straight Cut, and Contouring.	
6	21-24	3.4 NC part programming: G code and M-code. Reference Point (Machine Zero, Work zero, Tool zero & Tool offset). Simple part program for lathe	
7	25-28	3.5 Explain the Extension of NC with the block diagram	

		(i) DNC (Direct numerical Control) (ii) CNC (Computer numerical Control) (iii) Adaptive Control	
8	28-32	4.0 Robot Technology 4.1 Defining a robot (ISO) Fields of application of robots 4.2 Explain Robot anatomy	
9	5	4.3 Describe Robot Configuration	
10	37-40	5.0 Flexible Manufacturing System (FMS): 8 5.1 Need for FMS 5.2 Explain the components of FMS: Processing Station, Material handling & storage and Computer Control System.	
11	41-44	6.0 CAD / CAM and CIM: 8 6.1 Define CAD, CAM and CIM 6.2 Explain the benefits of CAD. CAD software and hardware	
12	45-48	6.3 Explain the benefits of CAM, differentiate between CAD and CAM	
13	48-52	6.4 Explain the concept, background. Software and hardware of CIM.	
14	52-56	Revision of syllabus	
15	56-60	Practicing of previous year question	
	Signature of Faculty: 09/12/19 Signature of HOD: 09/12/19		

LESSON PLAN

Discipline: Mechanical Engg. GP,Bargarh
Semester: 6TH
Name of the Teaching Faculty: ShriArunkumarSahu,Lect.(MechEngg.)
Subject: ALTERNATE ENERGY SOURCES AND MANAGEMENT(MET 604)

No of Days/week class allotted: 04
Session: 2019-20

Week	Class Day	Theory/Practical Topics	Remarks
1	1-4	**1.0 Introduction:** 1.1 Global energy scene, World energy consumption. 1.2 Explain nonconventional renewable energy source and potential of renewable energy source	
2	5-8	1.3 Pollution aspects of conventional sources of energy. Global warming and Green House effects. **2.0 Solar radiation:** 8 2.1 Solar constant, Solar radiation at earth's surface.	
3	9-12	2.2 Instruments for measuring solar radiation: Pyranometer, Pryheliometer. 2.3 Determination of solar radiation on earth surface on a particular day of a year.	
4	13-16	3.2 Explain Liquid flat plate collectors and solar water heaters, 3.3 Explain Solar air heater and parabolic collector.	
5	17-20	3.4 Explain Flat plate collectors with plane reflectors. **4.0 Solar energy storage: (**No mathematical treatment**)** 7 4.1 Methods of storing solar energy.	
6	21-24	4.2 Define Solar pond, Working principle and description of solar pond with a schematic diagram. 4.3 Application of solar pond.	
7	25-28	**5.0 Solar energy application: (**No mathematical treatment**)** 6	

		5.1 Explain Solar water heater: natural circulation type &forcedcirculation type. **5.2 Explain Solar drier – cabinet type and convective type.**	
8	29-32	5.3 Explain Solar cooker - box type. **6.0 Wind energy: (**No mathematical treatment**)** 8 6.1 Introduction 6.2 Power developed by wind forces on the blades of a wind mill.	
9	33-36	6.3 Wind data – energy estimation. 6.4 Wind mill construction details & working principle.	
10	37-40	6.5 Type of wind mill. **7.0 Tidal energy:** 8 7.1 Introduction 7.2 Components of tidal power plant.	
11	41-44	7.3 Methods of utilization of tidal energy.	
12	45-48	7.4 Advantages & limitation of tidal power generation.	
13	49-52	**Bio-energy:** 10 8.1 Introduction to bio-mass and bio-mass conversion into energy. 8.2 Bio-gas generation, composition & properties of bio-gas.	
14	53-56	8.3 Utilisation of bio-gas classification of bio-gas plants - Continuous & batch type. 8.4 Explain the drum type bio-gas plants. 8.5 Construction details and working principle of fixed dome type and **floating gas holder type bio-gas plants.**	
15	57-60	8.6 Materials used for bio-gas generation 8.7 Capacity of biogas plant and starting of bio-gas plant.	

Signature of Faculty: Arun Kumar Sahu

Signature of HOD: 09/12/19

LESSON PLAN

Discipline :Mechanical Engg. GP,Bargarh
Semester : 6th
Name of the Teaching Faculty :Sri Subhasis Sahoo,Lect.(MechEngg.)
Subject : **INDUSTRIAL ENGINEERING QUALITY CONTROL (MET601)**

No of Days/week class allotted : 04
Session : 2019-20

Week	Class Day	Theory/Practical Topics	Remarks
1	1-4	**FUNDAMENTAL** Describe the features governing plant location, Define plant layout	
2	5-8	**LAYOUT** Describe the objective and principles of plant layout. Explain Process Layout, Product Layout and Combination Layout.	
3	9-12	**OPERATION RESEARCH** Introduction to Operations Research and its applications, Define Linear Programming Problem, Solution of L.P.P. by graphical method.	
4	13-16	Evaluation of Project completion time by Critical Path Method and PERT (Simple problems) - Explain distinct features of PERT with respect to CPM.	
5	17-20	**INVENTORY CONTROL** Classification of inventory. Objective of inventory control. Describe the functions of inventories. Describe the functions of inventories.	
6	21-24	**E.O.Q** Explain and Derive economic order quantity for Basic model. (Solve numerical).	
7	25-28	Explain and Derive economic order quantity for Basic model.	

		(Solve numerical)Define and Explain ABC analysis.	
8	29-32	**PLANT MAINTENANCE** Describe the objectives of plant maintenance. Describe the duties, functions and responsibilities of plant maintenance department.	
9	33-36	Describe the types of maintenance: Preventive, Breakdown, Scheduled and Predictive maintenance.	
10	37-40	**INSPECTION & QUALITY CONTROL** Define Inspection and Quality control. Describe planning of inspection.	
11	41-44	Describe types of inspection. Study of factors influencing the quality of manufacture.	
12	45-48	Explain the Concept of statistical quality control, Control charts (X, R, P and C - charts). Solve related problems.	
13	49-52	**QUALITY MANAGEMENT CONCEPTS** Concept of total quality management (TQM).	
14	53-56	ISO-9000/14000, concept & its evolution & implications. JIT, Six Sigma, 7S, Lean manufacturing.	
15	57-60	**REVISION & PREVIOUS YEAR QUESTION DICUSSIONS**	
	Signature of Faculty: Subhasis Sahoo Signature of HOD:		