

PEOPLE'S UNIVERSITY, BHOPAL**(Applicable for Admitted from Academic Session 2019-20 onwards)**Programme: **Diploma in Engineering****Semester –IV**

| Subject Code | Subject Title | Credit | | | Theory | | | Practical | | |
|--------------|---------------------------|--------|---|---|---------------|---------------|-------------------------------------|-----------|----------|-------|
| | | L | T | P | External (70) | Internal (30) | Total (100) Min: 40 (D Grade) | External | Internal | Total |
| DPE14011 | E-Commerce and E-Business | 3 | 1 | - | | | | Nil | Nil | Nil |

Duration of Theory (Externals): 3 Hours

| | | |
|--|---|--|
| Theory Internal- Max Marks: 30 | Best of Two Mid Semester Test- Max Marks: 15 | Assignment/Quiz/Attendance- Max. Marks: 15 |
| Practical Internal Max Marks: Nil | Lab work & Sessional – Max Marks: Nil | Assignment / Quiz/Attendance- Max. Marks: Nil |

| | |
|-----------------------|---|
| Pre-Requisite | General study of E-Commerce and E- Business. |
| Course Outcome | 1. To understand technical aspect of E-Commerce and E-Business. |
| | 2. To describe the process of E-Commerce and E-Business. |
| | 3. To understand Infrastructure design issues of E-Commerce. |

| Unit | Contents (<i>Theory</i>) | Marks Weightage |
|------|---|-----------------|
| I | Introduction of E-Commerce: Definition of E-Commerce, different types of E-commerce, E-Commerce trade cycle, commerce Advantages and disadvantages of E-Commerce, Traditional commerce Vs E- Commerce. | 14 |
| II | Overview Of Hardware And Software Technologies Of E-Commerce: Client side programming (Dream weaver, Front page), Server side programming (PHP), Database connectivity, session tracking , middleware Technologies from E- Commerce. | 14 |
| III | Payment System Of E-Commerce: Traditional payment model, Characteristics of payment, system, SET Protocol for credit card payment, E-cash, E-check, smart cards. | 14 |
| IV | Introduction to E business : Definition of E- business , Characteristics , Elements of E- business, roles , Impact of E- business , Challenges of E- business . | 14 |
| V | Developing E Business-models: E- business structure, Evolution of E –business and its business models stages, Characteristics of Internet based software and E-business solutions. | 14 |

Text Book/References Books/ Websites:

1. Henry Chan ;E-Commerce Fundamentals and application; Wiley publication
2. Dave Chaffey; E –business and E – commerce Management ; Pearson , 3rd edition

Suggested List of Laboratory Experiments :- (Expandable): Nil

PEOPLE'S UNIVERSITY, BHOPAL**(Applicable for Admitted from Academic Session 2019-20 onwards)**Programme: **Diploma in Engineering****Semester –IV**

| Subject Code | Subject Title | Credit | | | Theory | | | Practical | | |
|--------------|--|--------|---|---|---------------|---------------|-------------------|-----------|----------|-------|
| | | L | T | P | External (70) | Internal (30) | Total (100) | External | Internal | Total |
| DPE14012 | Rural Technology & Community Development | 3 | 1 | - | | | Min: 40 (D Grade) | Nil | Nil | Nil |
| | | | | | | | | | | |

Duration of Theory (Externals): 3 Hours

| | | |
|--|---|---|
| Theory Internal- Max Marks: 30 | Best of Two Mid Semester Test - Max Marks: 15 | Assignment/Quiz/Attendance - Max. Marks: 15 |
| Practical Internal Max Marks: Nil | Lab work & Sessional Max Marks: Nil | Assignment / Quiz/Attendance- Max. Marks: Nil |

| | |
|-----------------------|--|
| Pre-Requisite | Nil |
| Course Outcome | 1. To understand Rural areas problems |
| | 2. To describe the process by which we improve the living conditions of rural India. |
| | 3. To understand how we help community of rural areas |

| Unit | Contents (Theory) | Marks Weightage |
|------------|--|-----------------|
| I | Introduction: Introduction to Rural Technology, Technology for Natural Resources Development and Conservation, Technology for Rural Livelihood Development , Technology for Infrastructure | 14 |
| II | Rural Energy Planning: Energy sources - conventional, non-conventional-wind, bio-gas, solar; Energy audits: Energy conversion & conservation program, elements of energy accounting, Energy planning: demand and supply forecasting | 14 |
| III | Housing: Housing in Rural Areas: Rural Housing Programs, Low Cost Housing Appropriate Technologies in Rural Housing, Drinking Water Supply, Sources Problems, Programs to Solve Drinking Water Problems; Problems of Sanitation in Rural Areas Low Cost Toilets | 14 |
| IV | Rural Community Facilities & Services: Types of Community Facilities and Services: Water, sanitation, electricity; Provider of Community Facilities: Government, Non-Governmental Organizations, Philanthropic Organization; | 14 |
| V | Various Programs Under Community Facilities And Services: Various Models in Providing Drinking Water and Sanitation in India. Rural Transportation system - modes of transportation - rural economy. Rural Health Care and Delivery Systems | 14 |

Text Book/References Books/ Websites

1. Vikram Singh ; Rural Development in India; Satyam Law International.
2. Katar Singh; Rural Development Principle Policies & Management;
3. Jerry W. Rabinson; Introduction to Community Development; SAGE.
4. Rhonda Phillips, Robert H. Pittman; An Introduction to Community Development; Taylor & Francis

Suggested List of Laboratory Experiments :- (Expandable):Nil

PEOPLE'S UNIVERSITY, BHOPAL***(Applicable for Admitted from Academic Session 2019-20 onwards)***Programme: **Diploma in Engineering****Semester –IV**

| Subject Code | Subject Title | Credit | | | Theory | | | Practical | | |
|--------------|------------------|--------|---|---|---------------|---------------|-------------------|-----------|----------|-------|
| | | L | T | P | External | Internal | Total (100) | External | Internal | Total |
| DPE14013 | Waste Management | 3 | 1 | - | External (70) | Internal (30) | Min: 40 (D Grade) | Nil | Nil | Nil |
| | | | | | | | | | | |

Duration of Theory (Externals): 3 Hours

| | | |
|--|--|---|
| Theory Internal- Max Marks: 30 | Best of Two Mid Semester Test – Max Marks: 15 | Assignment/Quiz/Attendance- Max. Marks: 15 |
| Practical Internal Max Marks: Nil | Lab work & Sessional – Max Marks: Nil | Assignment / Quiz/Attendance Max. Marks: Nil |

| | |
|-----------------------|---|
| Pre-Requisite | Nil |
| Course Outcome | 1. To understand about basic concept of waste management. |
| | 2. To understand about recycling of various wastes. |
| | 3. To understand about waste collection, handling and disposal. |

| Unit | Contents (Theory) | Marks Weightage |
|------------|---|-----------------|
| I | Introduction: Definition, various sources, types of waste, problem associated with waste, effects of waste- on society, on human health, on animals. Recycling of waste. | 14 |
| II | Municipal & Solid waste: Definition-Sources of solid waste, types of solid waste, Composition of solid waste, collection methods and techniques of solid waste, industrial & agricultural waste. | 14 |
| III | Hazardous & E-waste: Definition- sources of hazardous waste, collection of hazardous waste. Medical waste & Nuclear waste, disposal method and treatment. Definition- sources of E-Waste, E-waste – non-recycling impacts, recycling of e-waste. | 14 |
| IV | Collection, Treatment & Disposal: methods of residential and commercial waste collection, collection vehicles, manpower. Segregation & composting of solid wastes. Method & techniques for treatment of solid waste. | 14 |
| V | Disposal of Solid Wastes: Refuse disposal systems, incinerations, principle features of an incinerator, site selection and plant layout of an incinerator. Sanitary landfill, advantages and disadvantages of sanitary land fill - site selection. Dumping-open & sea dumping. | 14 |

Text Book/References Books/ Websites:

1. Jagbir Singh, AL. Ramanathan; Solid Waste Management : Present and future challenges; I.K. International Publishing House Pvt Ltd
2. George Tchobanoglous and Hillary Theisen, Samuel Vigil; Integrated solid waste management, McGraw Hill.
3. T. V. Ramachandra; Management of Municipal Solid Waste; TERI press.

Suggested List of Laboratory Experiments (Expandable): Nil

PEOPLE'S UNIVERSITY, BHOPAL*(Applicable for Admitted from Academic Session 2019-20 onwards)*Programme: **Diploma in Engineering****Semester –IV**

| Subject Code | Subject Title | Credit | | | Theory | | | Practical | | |
|--------------|-------------------------|--------|---|---|---------------|---------------|-------------------|-----------|----------|-------|
| | | L | T | P | External | Internal | Total (100) | External | Internal | Total |
| DME1402 | Power Plant Engineering | 3 | 1 | - | External (70) | Internal (30) | Min: 40 (D Grade) | Nil | Nil | Nil |
| | | | | | | | | | | |

Duration of Theory (Externals): 3 Hours

| | | |
|--|--|--|
| Theory Internal- Max Marks: 30 | Best of Two Mid Semester Test – Max Marks: 15 | Assignment/Quiz/Attendance- Max. Marks: 15 |
| Practical Internal Max Marks: Nil | Lab work & Sessional – Max Marks: Nil | Assignment / Quiz/Attendance- Max. Marks: Nil |

| | |
|-----------------------|---|
| Pre-Requisite | Basic knowledge of Thermal Engineering. |
| Course Outcome | 1. Describe energy conversion in power plants. |
| | 2. Identify elements and their functions of Renewable and Non-Renewable Power Plants. |
| | 3. Economics of power plant. |

| Unit | Contents (Theory) | Marks Weightage |
|------------|--|-----------------|
| I | Introduction to Power Plant : Power scenario in India ,Types of power plants – Hydro, Nuclear, Thermal, Future trends in power sector , Analysis of steam cycles- Carnot, Rankine, Reheat cycle, Regenerative cycle, Methods of reheating, Advantages and disadvantages of reheat cycle, Gas turbine cycle | 14 |
| II | Nuclear Power Plant: Fusion and fission reaction, general criteria for selection of site , Elements of nuclear power station, layout, types of nuclear reactors , Nuclear fuels, coolant & moderators , Working of PWR, BWR, CANDU, type reactor , Safety precautions and waste disposals. | 14 |
| III | Gas Turbine Power Plant: General Layout, selection of site, Gas turbine power plants in India, components of gas turbine plants, gas turbine Fuels, Comparison of Gas turbine plant with diesel and Steam power plant. Environmental impact of gas turbine power plant. | 14 |
| IV | Sources of Waste Heat : Heat recovery forms & methods – Sensible and latent Heat recovery , Use of waste heat- Agricultural, green house, Animal shelter, Aqua cultural uses, process heating , waste Heat recovery boilers | 14 |
| V | Non Conventional Power Generation Plants: Geothermal power plant , Tidal power plant-factors affecting suitability of site, Working , advantages and disadvantages , Wind power plant- different types, advantages and Disadvantages , Solar power plant , Magneto Hydro dynamics power plant , Small hydro power plant , Introduction to Plasma technology | 14 |

Text Book/References Books/ Websites

1. P. K. Nag , Power plant Engineering, by Tata McGraw hill.
2. Morse , Power plant Engineering, by Van Nostrand Reinhold Inc.,U.S
3. Domkundawar , Power plant Engineering by Dhanpat Rai & Co.
4. P.C.Sharma , Power plant Engineering by Sk Kataria & Sons
5. Rajput , Power plant Engineering by Laxmi Publications

Suggested List of Laboratory Experiments :- (Expandable): Nil

School of Research and Technology

Department: Mechanical Engineering

PEOPLE'S UNIVERSITY, BHOPAL**(Applicable for Admitted from Academic Session 2019-20 onwards)**Programme: **Diploma in Engineering****Semester –IV**

| Subject Code | Subject Title | Credit | | | Theory | | | Practical | | |
|--------------|-----------------|--------|---|---|---------------|---------------|-------------------|---------------|---------------|-------------------|
| | | L | T | P | External (70) | Internal (30) | Total (100) | External (35) | Internal (15) | Total (50) |
| DME1403 | Fluid Mechanics | 3 | 1 | 1 | | | Min: 40 (D Grade) | | | Min: 20 (D Grade) |

Duration of Theory (Externals): 3 Hours

| | | |
|---|--|--|
| Theory Internal- Max Marks: 30 | Best of Two Mid Semester Test – Max Marks: 15 | Assignment/Quiz/Attendance- Max. Marks: 15 |
| Practical Internal Max Marks: 15 | Lab work & Sessional – Max Marks: 10 | Assignment / Quiz/Attendance Max. Marks: 05 |

| | |
|-----------------------|---|
| Pre-Requisite | Nil |
| Course Outcome | 1. To understand and apply the basic concepts of Fluid Mechanics. |
| | 2. Apply scientific method strategies to fluid mechanics: analyze qualitatively and quantitatively the problem situation, propose hypotheses and solutions. |
| | 3. Use specific vocabulary and terminology and the appropriate means to effectively communicate knowledge, procedures, results, skills and aspects inherent to fluid mechanics. |

| Unit | Contents (Theory) | Marks Weightage |
|------------|--|-----------------|
| I | Properties of fluid: Density, Specific Gravity, Specific Weight, Specific Volume , Dynamic Viscosity, Kinematic Viscosity, Surface tension, Capillarity , Vapour Pressure, Compressibility, Fluid pressure, Pressure head, Pressure intensity , Concept of absolute vacuum, gauge pressure, Atmospheric Pressure, Absolute Pressure , Manometers . | 14 |
| II | Fluid Flow: Types of fluid flows , Continuity equation , Bernoulli's theorem , Venturimeter – Construction, principle of working, Coefficient of discharge, Orifice meter – Construction, Principle of working, Pitot tube – Construction, Principle of Working. | 14 |
| III | Flow Through Pipes: Laws of fluid friction (Laminar and turbulent) , Darcy's equation and Chezy's equation for frictional losses , Minor losses in pipes , Hydraulic power transmission through pipe. | 14 |
| IV | Pumps : Centrifugal Pumps - Construction , principle of working and applications, Priming and, Cavitation , Manometric head, Work done, Manometric efficiency, Overall efficiency, Performance Characteristics of Centrifugal pumps Reciprocating Pump - Construction ,working principle and applications of single and double acting reciprocating pumps , slip , Cavitation and separation. | 14 |
| V | Hydraulic Turbines: Layout of hydroelectric power plant , Features of Hydroelectric power plant , Classification of hydraulic turbines , Selection of turbine on the basis of head and discharge available Construction and working principle of Pelton wheel, Francis and Kaplan turbine , Calculation of Work done, Power, efficiency of turbine. | 14 |

Text Book/References Books/ Websites

1. S .Ramamrutham: Hydraulic Fluid Mechanics & Fluid Machines, by Dhanpat Rai and Sons New Delhi.
2. Modi P. N. and Seth S. M. Hydraulics and fluid mechanics including Hydraulic. machines Standard Book House. New Delhi.
3. K. Subramanya One Thousand Solved Problems in Fluid Mechanics Tata McGraw Hill

School of Research and Technology

Department: Mechanical Engineering

PEOPLE'S UNIVERSITY, BHOPAL***(Applicable for Admitted from Academic Session 2019-20 onwards)***Programme: **Diploma in Engineering**Semester –IV

Suggested List of Laboratory Experiments (Expandable):-

1. To understand pressure measurement procedure and related instruments/devices.
2. To determine metacentric height of floating body
3. Verification of Bernoulli's theorem.
4. To measure the velocity of flow using Pitot tube.
5. To determine the Coefficient of discharge through different flow meters. (Any two out of Orifice meter, Venturimeter and Nozzle meter.)
6. To determine the Coefficient of discharge through open channel flow over a Notch. (Rectangular or V notch)
7. To determine the different types of flow Patterns by Reynolds's experiment.
8. To determine the Friction factor for the different pipes.
9. To determine the loss coefficients for different pipe fittings.
10. To determine the viscosity of fluid by viscometer (Redwood or Saybolt).

Approved From Academic Council

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| Subject Code | Subject Title | Credit | | | Theory | | | Practical | | |
|--------------|----------------------|--------|---|---|---------------|---------------|-------------------|---------------|---------------|-------------------|
| | | L | T | P | External (70) | Internal (30) | Total (100) | External (35) | Internal (15) | Total (50) |
| DME1404 | Thermal Engineering. | 3 | 1 | 1 | | | Min: 40 (D Grade) | | | Min: 20 (D Grade) |
| | | | | | | | | | | |

Duration of Theory (Externals): 3 Hours

| | | |
|---|--|---|
| Theory Internal- Max Marks: 30 | Best of Two Mid Semester Test – Max Marks: 15 | Assignment/Quiz/Attendance Max. Marks: 15 |
| Practical Internal Max Marks: 15 | Lab work & Sessional – Max Marks: 10 | Assignment / Quiz/ Attendance Max. Marks: 05 |

| | |
|-----------------------|--|
| Pre-Requisite | Engineering Physics. |
| Course Outcome | 1. Students will be able to define intensive/extensive properties and explain the law of thermodynamics. |
| | 2. Students will be able to define the ideal gas and state the ideal gas relation. |
| | 3. Students will be able to solve the problems of steam Turbine and Boilers. |

| Unit | Contents (Theory) | Marks Weightage |
|------|--|-----------------|
| I | Fundamentals of Thermodynamics: Concepts of pure substance, types of systems, properties of systems, Extensive and Intensive properties and temperature. Point function and path function. Work and Energy- Thermodynamic definition of work, heat, difference between heat and work, P.E., K.E, Internal Energy, Flow work, concepts of enthalpy, entropy. | 14 |
| II | Laws of Thermodynamic: Zeroth Law, Temperature measurement, principle of energy conservation, irreversibility, Second Law of Thermodynamics, Kelvin Plank, Clausius statements and their equivalence, Concept of perpetual motion machine 1 and 2, Application of Thermodynamic laws - Steady Flow Energy equation and its application | 14 |
| III | Ideal Gases: Concept of Ideal gas, Charle's law, Boyle's law, Avogadro's law, equation of state, Characteristic gas constant and universal gas constant. Ideal gas processes: - Isobaric, Isochoric, Isothermal, Adiabatic, Polytropic, Isentropic with representation of the processes on P-V and T-S diagram (only simple numerical) | 14 |
| IV | Steam and Steam Boiler : Properties of steam and use of steam table, Quality of steam and its Vapour process : - constant pressure, constant volume, constant enthalpy, constant entropy (numericals using steam table and Mollier chart), Classification of boilers- Construction and working of - Cochran, Babcock and Wilcox., Boiler, Boiler mounting and accessories [to be covered in practical]. | 14 |
| V | Steam Turbines and Condensers: Classification of turbines, Construction and working of Impulse and Reaction turbine. Steam condenser: -Dalton's law of partial pressure, function and classification of condensers, construction and working of surface condensers. Cooling Towers. - Force draught, natural draught and induced draught | 14 |

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Semester –IV

Text Book/References Books/ Websites

1. V. M. Domkundwar.; Course in Thermal Engineering; Dhanpat Rai & Co
2. P.L.Ballaney , Thermal Engineering, by Khanna Publishers.
3. R.S.Khurmi ,Text Book of Thermal Engineering, , S.Chand & Co. Ltd..
4. R. k. Jain , Automobile Engineering, ,by Tata McGraw Hill.

Suggested List of Laboratory Experiments (Expandable):-

1. Study of Cochran boiler
2. Study of Babcock and Wilcox Boiler
3. Numerical on vapour processes and ideal gas processes (minimum two problems on each)
4. Study of fuel pump
5. Study fuel injector
6. Study of Carburetor
7. Study of steam turbine.
8. To Study the Rankine Cyler Power Plant
9. Study of the processes of Heat Engine
10. To investigate the first law and Second law of thermodynamic using heat Engine

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| Subject Code | Subject Title | Credit | | | Theory | | | Practical | | |
|--------------|--------------------|--------|---|---|---------------|---------------|----------------------------------|---------------|---------------|---------------------------------|
| | | L | T | P | External (70) | Internal (30) | Total (100) Min: 40 (D Grade) | External (35) | Internal (15) | Total (50) Min: 20 (D Grade) |
| DME1405 | Production Process | 3 | 1 | 1 | | | | | | |

Duration of Theory (Externals): 3 Hours

| | | |
|---|--|---|
| Theory Internal- Max Marks: 30 | Best of Two Mid Semester Test – Max Marks: 15 | Assignment/Quiz/Attendance Max. Marks: 15 |
| Practical Internal Max Marks: 15 | Lab work & Sessional – Max Marks: 10 | Assignment/ Quiz/Attendance Max. Marks: 05 |

| | |
|-----------------------|--|
| Pre-Requisite | General study of different machines and tools |
| Course Outcome | 1. Differentiate chip forming processes such as turning, milling, drilling, etc. 2. Illustrate the concept of producing polymer components and ceramic components. 3. Distinguish between the conventional and modern machine tools. |

| Unit | Contents (Theory) | Marks Weightage |
|------|---|-----------------|
| I | Turning Lathe: V-Angle calculations for taper turning , Cutting tool nomenclature and tool signature , Cutting parameters and machining time calculation. CNC Lathe - Introduction, classification, advantages, positioning system, constructional features, Part programming: programming format, word, statement, block , Preparatory and miscellaneous code, Fixed cycles in programming – canned cycle, do-loop, subroutine. | 14 |
| II | Drilling: Twist drill nomenclature. Cutting parameters, machining time calculation, Deep hole drilling. Gear cutting: Gear cutting on milling machine –Dividing head and Indexing methods Gear hobbing, Principle of operation, Advantages And limitations. | 14 |
| III | Milling Machine : Cutting parameters, machining time calculation, Milling operations – plain milling, side and face milling, form milling, gang milling, end milling, face milling, T-slot milling, slitting. | 14 |
| IV | Grinding: Classification of machines , Grinding wheel composition, types and shapes, Designation. Types of Grinding operations. | 14 |
| V | Plastic Moulding: Types of plastic, Compression molding, Transfer moulding, Injection moulding, blow molding, vacuum forming, extrusion, calendaring, rotational moulding. | 14 |

Text Book/References Books/ Websites

1. S. K. Hajra Chaudary, Bose, Roy Elements of workshop Technology-Volume I & II Media Promoters and Publishers Limited.
2. O. P. Khanna & Lal Production Technology Volume- I & II Dhanpat Rai Publications.
3. W. A. J. Chapman, S. J. Martin Workshop Technology- Volume –I,II & III Viva Books (p) Ltd.
4. O.P. Khanna A text book of Foundry Tech. Dhanpat Rai Publications.
5. R.B. Gupta Production Technology Satya Prakashan New Delhi

PEOPLE'S UNIVERSITY, BHOPAL***(Applicable for Admitted from Academic Session 2019-20 onwards)***Programme: **Diploma in Engineering**Semester –IV

Suggested List of Laboratory Experiments (Expandable):-

1. One assignment on cutting tool nomenclature and tool signature of single point cutting tool.
2. One job on lathe containing the operations like plain turning, threading, boring, taper turning.
3. One job on CNC lathe containing the operations like plain turning, taper turning and curvature.
4. One job containing drilling, milling, reaming, gear cutting (spur gear) per job max. two students.
5. One job containing surface grinding / cylindrical grinding for tolerances ± 30 micron,(For the job already made on milling machine /lathe).
6. One assignment on accessories & attachment – chucks, mandrels, carrier and catch plates rests, face plate and angle plate, grinding attachment used on lathe.
7. One assignment on accessories & attachment, work holding & tool holding devises used on milling machine.
8. One assignment on shaper Machine
9. One assignment on tool nomenclature & geometry of milling cutters.

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|--------------|---------------|--------|---|---|----------|----------|-------|-----------|----------|-------------------|
| | | L | T | P | External | Internal | Total | External | Internal | Total (50) |
| DME1406 | CNC lab | - | - | 1 | (Nil) | (Nil) | (Nil) | (35) | (15) | Min: 20 (D Grade) |

Duration of Theory (Externals): Nil

| | | |
|---|---|---|
| Theory Internal- Max Marks: Nil | Best of Two Mid Semester Test – Max Marks: Nil | Assignment/Quiz/Attendance Max. Marks: Nil |
| Practical Internal Max Marks: 15 | Lab work & Sessional – Max Marks: 10 | Assignment / Quiz Max. Marks: 05 |

| | |
|-----------------------|--|
| Pre-Requisite | Knowledge of Machine Operations and Tool Engineering. |
| Course Outcome | 1. Use an understanding of General and Machine (G & M) code to generate or edit a program which will operate a CNC Lathe. 2. Apply mathematical methods to calculate Cartesian coordinates. |

| Unit | Contents (Theory) | Marks Weightage |
|------|--|-----------------|
| | 1. Introduction to Turner Trade. a) First Aid. b) Security Measures. c) Machines and Tools. d) Measuring Instruments. e) Cutting Tools f) Lathe Machine. g) Cutting Speed ,Feed ,time, 2. Introduction to Computer Numerical Control (CNC) a) Numerical control b) Functions of a machine tool c) Concept of numerical control d) Advantages of CNC machine tools e) Evolution of CNC f) Advantages of CNC g) Limitations of CNC h) G-code and M-code for CNC operations i) Classification of CNC Machine Tools | 50 |

Text Book/References Books/ Websites: Nil**Suggested List of Laboratory Experiments (Expandable):-***Students should prepare atleast five part Programing.*

PEOPLE'S UNIVERSITY, BHOPAL***(Applicable for Admitted from Academic Session 2019-20 onwards)***Programme: **Diploma in Engineering**

Semester –IV

| Subject Code | Subject Title | Credit | | | Theory | | | Practical | | |
|--------------|-----------------------|--------|---|---|----------------|----------------|-------|---------------|---------------|-------------------|
| | | L | T | P | External (Nil) | Internal (Nil) | Total | External (70) | Internal (30) | Total (100) |
| DME1407 | Industrial Training-I | - | - | 2 | (Nil) | (Nil) | Nil | (70) | (30) | Min: 40 (D Grade) |

Duration of Theory (Externals): Nil

| | | |
|---|--|--|
| Theory Internal- Max Marks: -Nil | Best of Two Mid Semester Test – Max Marks: -Nil | Assignment/Quiz/Attendance Max. Marks: -Nil |
| Practical Internal Max Marks: 30 | Lab work & Sessional – Max Marks: 25 | Assignment / Quiz Max. Marks: 05 |

| | |
|-----------------------|--|
| Pre-Requisite | Fundamental Engineering Concepts. |
| Course Outcome | 1. To develop general confidence, ability to communicate and attitude, in addition to basic technological concepts through Industrial visits, expert lectures, seminars on technical topics and group discussion. 2. Ability to learn under actual working environment. |

| Unit | Contents (Theory) | Marks Weightage |
|------|--|-----------------|
| I | <p>As a part of the Diploma in Engineering curriculum, DPE 407, Industrial Training -I is a Practical course, which the students should undergo in reputed Private / Public Sector / Government organization / companies as industrial training of minimum two weeks to be undergone by the student in the semester break after III semester theory examinations.</p> <p>Training period: Minimum of two weeks or 15 (Fifteen) Days.</p> <p>Companies / Areas covered: Any field related to concern branch / discipline of Diploma in Engineering.</p> <p>Grading: As per Scheme.</p> <p>Note: Presentation will take place the following week after you complete your training. The presentation is evaluated by your class in charge. Report must be submitted during power point presentation. A Viva voce comprising comprehensive questions based on training undergone.</p> <p>Etiquette: Dress properly, Behave well, Portray good image as a university student, Be punctual, Observe work ethics, Concern for safety, Be professional.</p> | 100 |

Text Book/References Books/ Websites: Nil**Suggested List of Laboratory Experiments :- (Expandable): Nil**