Government Polytechnic, Pune
(An Autonomous Institute of Government of Maharashtra)

Department of Computer Engineering

Level IV - B Curriculum

Management Courses

Government Polytechnic, Pune

'180OB' – Scheme

Programme	**Diploma in CE/EE /CM/ME/MT/ET/IT**
Programme code	01/02/03/04/05/**06**/07/08/15/16/17/18/19/21/22/23/24/**26**
Name of Course	**Entrepreneurship and Startup**
Course Code	**MA 4101**
Prerequisite course code and name	**NA**
Class Declaration	**NO**

1. TEACHING AND EXAMINATION SCHEME

Teaching Scheme (In Hours)			Total Credits (L+T+P)		Examination Scheme				
					Theory		Practical		Total Marks
L	T	P	C		#ESE	PA	ESE	PA	
02	00	00	02	Marks	40	10	-	-	50
				Exam Duration	2 Hrs	1/2 Hr	-	-	

Legends: L- Lecture, P- Practical, T- Tutorial, C- Credit, ESE-End Semester Examination, PA- Progressive Assessment (Test I, II/Term Work), *- Practical Exam, $- Oral Exam, #- Online Examination each Lecture/Practical period is of one clock hour;

2. RATIONALE

Globalization, liberalization and privatization along with revolution in information technology have opened up new opportunities transforming lives of masses. In this context, there is immense opportunity of establishing manufacturing, service, trading, marketing and consultancy enterprises by diploma engineer**.** Our fast growing economy provides ample scope for diploma engineers to succeed as an entrepreneur. Entrepreneurship requires distinct skill sets which are attempted to be developed through this course. To begin with, this course aims to develop the competency and the related outcomes in order to start small enterprises. Government of India also motivates the young engineers to come up with new idea to promote Start ups.

3. COMPETENCY

The aim of this course is to attend following industry identified competency through various teaching learning experiences:

- **Develop project proposals for launching small scale enterprises and starts up.**

COURSE OUTCOMES (COs)

The theory, practical experiences and relevant soft skills associated with this course are to be taught and implemented, so that the student demonstrates the following industry oriented COs associated with the above-mentioned competency**:**

1 Identify entrepreneurial traits.
2 Collect information from stakeholder for starting starts up
3 Identify support systems available for Starts up
4 Execute plans for managing enterprise effectively.

4. SUGGESTED PRACTICALS/ EXERCISES

NA

5. MAJOR EQUIPMENT/ INSTRUMENTSREQUIRED

NA

6. THEORY COMPONENTS

The following topics/subtopics should be taught and assessed in order to develop UOs for achieving the COs to attain the identified competency**.**

Unit Outcomes (UOs) (in cognitive domain)	**Topics and Sub-topics**
Unit-I Introduction to Entrepreneurship Development (08 Hrs, 10 Marks)	
1a. Describe procedure to evaluate entrepreneurial traits as a career option for given product 1b. Explain given terms related to Entrepreneurship 1c. Describe salient features of the resources required for starting the specified enterprise. 1d. Identify characteristics for a given type of enterprise.	1.1 Entrepreneurship as a career 1.2 Traits of successful entrepreneur: consistency, creativity, initiative, independent decision making, assertiveness, persuasion, persistence, information seeking, handling business communication, commitment to work contract, calculated risk taking. 1.3 Entrepreneurship: scope in local and global market. 1.4 Types of enterprises and their features: manufacturing, service and trading.
Unit-II Startup Selection Process (10 Hrs, 14 Marks)	
2a. Describe scheme(s) offered by the government for starting the specified enterprise. 2b. Suggest suitable place for setting up the specified enterprise on the basis of given data/circumstances with justification. 2c. Suggest steps for the selection process of an enterprise for the specified product or service with justification. 2d. Describe market study procedure of the specified enterprise.	2.1 Product/Service selection: Process, core competence, product/service life cycle, new product/ service development process, mortality curve, creativity and innovation in product/ service modification / development. 2.2 Process selection: Technology life cycle forms and cost of transformation, factors affecting process selection, location for an industry, material handling. 2.3 Market study procedures: questionnaire design, sampling, market survey, data analysis 2.4 Getting information from concerned stakeholders such as Maharashtra Centre for Entrepreneurship Development[MCED], National Institute for Micro, Small and Medium Enterprises [NI-MSME], Prime Minister Employment Generation Program [PMEGP], Directorate of Industries[DI], Khadi Village Industries Commission[KVIC]
Unit-III Support System for Startup (08 Hrs, 10 Marks)	

3a. Describe support system required for the specified enterprise. 3b. Describe help provided by the government agencies for the specified product/service. 3c. Describe help provided by the non-governmental agencies for the specified product/service. 3d. Compute breakeven point for the specified business enterprise, stating the assumptions made.	3.1 Categorization of MSME, ancillary industries 3.2 Support systems- government agencies: MCED, NI-MSME, PMEGP,DI, KVIC 3.3 Support agencies for entrepreneurship guidance, training, registration, technical consultation, technology transfer and quality control, marketing and finance. 3.4 Breakeven point, return on investment and return on sales.
Unit-IV Managing Enterprise (06 Hrs, 06 Marks)	
4a. Explain key elements for the given business plan with respect to their purpose/size. 4b. Justify USP of the given product/ service from marketing point of view. 4c. Formulate business policy for the given product/service. 4d. Choose relevant negotiation techniques for the given product/ service with justification. 4e. Identify risks that you may encounter for the given type of business/enterprise with justification. 4f. Describe role of the incubation centre for the given product/service.	4.1 Sources of Product for Business : Feasibility study 4.2 Ownership, Capital, Budgeting, Matching entrepreneur with the project , feasibility report preparation and evaluation criteria 4.3 Unique Selling Proposition [U.S.P.]: Identification, developing a marketing plan. 4.4 Preparing strategies of handling business: policy making, negotiation and bargaining techniques. 4.5 Risk Management: Planning for calculated risk taking, initiation with low cost projects, integrated futuristic planning, angel investors, venture capitalist. 4.6 Incubation centers: Role and procedure.

8. SUGGESTED SPECIFICATION TABLE FORQUESTION PAPER DESIGN

Unit No.	Unit Title	Teaching Hours	Distribution of Theory Marks			
			R Level	U Level	A Level	Total Marks
I	Introduction to EDP	08	2	2	6	10
II	Entrepreneurial Opportunities and selection Process	10	2	4	8	14
III	Support System	08	2	4	4	10
IV	Managing Enterprise	06	2	2	2	06
Total		32	**8**	**12**	**20**	**40**

9. SUGGESTED STUDENT ACTIVITIES

Other than the classroom and laboratory learning, following are the suggested student-related ***co-curricular*** activities which can be undertaken to accelerate the attainment of the various outcomes in this course: Students should conduct following activities in group and prepare reports of about 5 pages for each activity, also collect/record physical evidences for their (student's) portfolio which will be useful for their placement interviews:

a. Download product development and innovative films from internet.
b. Invite entrepreneurs, industry officials, bankers for interaction.

c. Identify your hobbies and interests and convert them into business idea.
d. Convert you project work into business.
e. Choose a product and design a unique selling preposition, brand name, logo, advertisement (print, radio, and television), jingle, packing, packaging, and label for it.

10. SUGGESTED SPECIAL INSTRUCTIONAL STRATEGIES (if any)

These are sample strategies, which the teacher can use to accelerate the attainment of the various outcomes in this course:

a. Massive open online courses (***MOOCs***) may be used to teach various topics/sub topics.
b. About ***15-20% of the topics/sub-topics*** which is relatively simpler or descriptive in nature is to be given to the students for ***self-directed learning*** and assess the development of the COs through classroom presentations (see implementation guideline for details).
c. With respect to item No.8, teachers need to ensure to create opportunities and provisions for ***co-curricular activities***.
d. Guide student(s) in undertaking micro-projects.
e. Correlate subtopics with power plant system and equipment.
f. Use proper equivalent analogy to explain different concepts.
g. Use Flash/Animations to explain various components, operation and
h. Teacher should ask the students to go through instruction and Technical manuals.

11. SUGGESTED MICRO-PROJECTS-

NA

12. SUGGESTED LEARNING RESOURCES

S.N.	Title	Author	Publisher, Edition and Year of publication ISBN Number
1	Reading Material of Entrepreneurship Awareness Camp	Gujral, Raman	Entrepreneurship Development Institute of India (EDI), GOI, 2016 Ahmedabad, ISBN: 9946302512012
2	Product Design and Manufacturing	Chitale, A K	PHI Learning, New Delhi, 2014; ISBN: 9788120348738
3	Entrepreneurship Development Small Business Entrepreneurship	Charantimath, Poornima	Pearson Education India,New Delhi; ISBN: 9788131762264
4	Entrepreneurship Development: Special edition for MSBTE	CPSC, Manila	Tata Mc-Graw Hill, New Delhi, ISBN: 9789432961123
5	Entrepreneurship and Small Business Management	Khanka, S.S.	S.Chand and Sons, New Delhi, ISBN: 978-93-5161-094-6

13. SOFTWARE/LEARNING WEBSITES

1. MCED Books links: http://www.mced.nic.in/UdyojakSpecial.aspx?linktype=Udyojak
2. MCED Product and Plan Details: http://www.mced.nic.in/allproduct.aspx
3. The National Institute for Entrepreneurship and Small Business Development Publications: http://niesbud.nic.in/Publication.html
4. Courses : The National Institute for Entrepreneurship and Small Business Development: http://niesbud.nic.in/docs/1standardized.pdf
5. Entrepreneur.com: https://www.entrepreneur.com/lists
6. Govt. Sponsored Schemes: https://www.nabard.org/content1.aspx?id=23andcatid=23andmid=530
7. NABARD - Information Centre: https://www.nabard.org/Tenders.aspx?cid=501andid=24
8. NABARD – What we Do: http://www.nabard.org/content1.aspx?id=8andcatid=8andmid=488
9. Market Review: http://www.businesstoday.in/markets
10. Start Up India: http://www.startupindia.gov.in/pdffile.php?title=Startup%20India%20Action%20Planandtype=Actionandq=Action%20Plan.pdfandcontent_type=Actionandsubmenupoint=action
11. About - Entrepreneurship Development Institute of India (EDII): http://www.ediindia.org/institute.html
12. NSTEDB – Training: http://www.nstedb.com/training/training.htm
13. Tata Exposures: http://www.tatasocial-in.com/project-exposure
14. Ministry Of Micro, Small And Medium Enterprises: http://www.dcmsme.gov.in/schemes/TEQUPDetail.htm
15. List of Business Ideas for Small Scale Industry: https://smallb.sidbi.in/%20/thinking-starting-business/big-list-business-ideas-small-business
16. Thinking of Entrepreneurship: https://smallb.sidbi.in/entrepreneurship-stage/thinking-entrepreneurship
17. List of services for Small Scale Industry: http://www.archive.india.gov.in/business/Industry_services/illustrative.php
18. NSIC Schemes and Services: http://www.nsic.co.in/SCHSERV.ASP
19.

14. PO - COMPETENCY- CO MAPPING

	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	1	-	-	-	2	2	2
CO2	1	-	-	-	2	2	2
CO3	-	-	-	-		1	3
CO4	-	-	-	1	-	1	2

PSO - CO MAPPING (COMPUTER)

	PSO1	PSO2
CO1	-	-
CO2	-	1
CO3	1	1
CO4	-	1

Sign: Name:- Mr. S. S. Harip (Course Expert)	Sign: Name: Dr. N. G. Kulkarni. (Head of Department)
Sign: Name: - Dr. N. G. Kulkarni. (Program Head) (Mechanical Engg Dept.)	Sign: Name: Shri. A. .S. Zanpure. (CDC In charge)

Government Polytechnic, Pune.

'180OB' – Scheme

Programme	Diploma in **Electronics and Telecommunication**
Programme code	01/02/**03**/04/05/06/07/08/16/17/21/22/**23**/24/26
Name of Course	**Industrial Organization and Management**
Course Code	**MA 4102**
Prerequisite course code and name	**NA**
Class Declaration	**NO**

1. TEACHING AND EXAMINATION SCHEME

Teaching Scheme (In Hours)			Total Credits (L+T+P)		Examination Scheme				
					Theory		Practical		Total Marks
L	T	P	C		#ESE	PA	ESE	PA	50
02	00	00	02	**Marks**	40	10	NA	NA	
				Exam Duration	2 Hrs	1/2 Hr	--	--	

Legends: L- Lecture, P- Practical, T- Tutorial, C- Credit, ESE-End Semester Examination, PA- Progressive Assessment (Test I, II/Term Work), *- Practical Exam, $- Oral Exam, #- Online Examination each Lecture/Practical period is of one clock hour;

2. RATIONALE

The industrial organization is a structured organization which has different levels of management. There are different sections / divisions of industry in which, a diploma engineer is expected to work. There are various roles of diploma engineers at different levels of technical and administration departments in an industry. They must be aware of financing agencies, Market survey, marketing techniques, human relations management and different acts by which the industries are governed.

3. COMPETENCY

The aim of this course is to attend following industry identified competency through various teaching learning experiences:

- **Ability to work with various levels of management in industry, develop awareness about different departments of industry, acts by which, industries are governed, industrial ethics and leadership qualities.**

4. COURSE OUTCOMES (COs)

The theory experiences and behavioral skills associated with this course are to be taught and implemented, so the student will able to exhibit the following CO'S.

1: Understand different levels of Industry Organization and entrepreneurship.
2: Implement skills for organizing Market Survey and Managements technique.
3: Implement various Financial & Material Management technique.
. 4: Use the relevant acts applicable for factories .

5. SUGGESTED PRACTICALS/ EXERCISES

NA

6. MAJOR EQUIPMENT/ INSTRUMENTS REQUIRED

NA

7. THEORY COMPONENTS

Unit Outcomes (UOs) (in cognitive domain)	**Topics and Sub-topics**
Unit-I : **Overview of Business and Organizational Management** (Weightage-08 , Hrs-6)	
1.a.Students can describe types of business. 1.b Students can classify types of industries. 1.c Students can describe Organizational Structure of Industry. 1.d Students can describe forms of ownerships.	1.1 Classification of Industries: Engineering, IT, ITeS Banking, Retail. Small Scale, Large Scale, Pvt. Ltd, India Ltd, Multi-National, MSME. 1.2 Role of engineer in Manufacturing, Service-sector, Trade , Consultancy. 1.3 Introduction to Types of business: Manufacturing, service, Trade, Consultancy. 1.4 definition of Organization. Types : Line, Functional, Line and staff, Project. 1.5 Authority and delegation of power at different levels of organization. 1.6 Forms of Ownerships : Proprietorship, Partnership, Joint Stock, Cooperative Society, Government Sector.

Unit Outcomes (UOs) (in cognitive domain)	Topics and Sub-topics
Unit-II **Fundamentals of Management (**Weightage-08, Hrs-6)	
2.a Describe concept of Management. 2.b. Describe different levels of Management. 2.c Describe different functions of Management.	2.1 Definition of Management. 2.2 Role of management. 2.3 Levels of Management: Higher, Middle and Lower Level management. 2.4 Scientific management by FW Taylor. 2.5 Function of Management : Planning, Organizing, Directing, Coordinating, Controlling. 2.6.Role of Management with respect to feedback & Corrective actions.
Unit-III **Financial Management, Accounting and Material Management**. (Weightage-12, Hrs-10)	
3.a . Describe different types of capital generation. 3.b Describe different types of budgets. . 3.c Describe advantage of balance sheet to calculate Profit / Loss. . 3.d Describe concept of Inventory management.	3.1 Overview of : Capital generation and Management, Fixed & Working Capital. 3.2 Sources of raising Capital. 3.3 Budget & Accounts : Types of Budget viz. Production budget, fixed and variable budget (concept level) 3.4 (MRP)-function of MRP, input to MRP, benefit of MRP. 3.5 Basic concepts Enterprise resource planning (ERP)-concepts, advantages and disadvantages of ERP . 3.6 Accounts : Profit & Loss accounts, rules for debits & credits, books of accounts. 3.7 Balance Sheet : definition, sample format, various fields. 3.8 Material Management : Inventory (Concept, classification, functions.), Necessity of ABC analysis. 3.9 Standard steps in purchasing. Direct Purchase , tender method, E- Tendering. .
Unit-IV **Marketing, Industrial Safety and various Acts.** (Weightage-12, Hrs10)	
4.a Describe the concept of Market Survey and types of survey. 4.b List different techniques of increasing sales of product. 4.c List and Describe various types of accidents in industry. 4.d List and Describe various acts with respect to industry.	4.1 Market Survey: Need, Advantages and Types of market survey. 4.2 Different techniques of increasing sales of product. 4.3 Packaging of goods. 4.4 Industrial Safety: Types of accidents in industry, Causes of accidents, Preventive measures to avoid accidents. 4.5 Industrial legislation : Indian Factory Act, Minimum Wages Act, Workmen Compensation Act. (Main provisions in the acts). 4.6 Penal actions on violation of Acts. (provisions)

8. SUGGESTED SPECIFICATION TABLE FOR QUESTION PAPER DESIGN

Unit No.	Unit Title	Teaching Hours	Distribution of Theory Marks			
			R Level	U Level	A Level	Total Marks
I	**Overview of Business and Organizational Management.**	06	02	06	00	08
II	**Fundamentals of Management.**	06	02	06	00	08
III	**Financial Management, Accounting and Material Management.**	10	04	06	02	12
IV	**Marketing, Industrial Safety and various Acts.**	10	02	06	04	12
Total		32	10	**24**	**06**	**40**

9. SUGGESTED STUDENT ACTIVITIES:

1) Prepare/download information about different industrial acts.
2) Visit to manufacturing Industry and Prepare Report on**...**
   i) Structure of Organization/Department
   ii) Safety Measures taken in Organization
   iii) Procedure adopted for quality control
   iv) Any Specific observation you have noticed
3) Prepare the Technical details of 5 (Electronics Product like mobile phone, TV ,Laptop, Home Theatre, Projector etc. of different company including cost and Suggest which is cost effective to buy.
4) Prepare Project report which includes financial Viability of any product of your choice.
5) Prepare a questioner for market survey of electronic product of your choice.
6) Write detailed Processes to start the Partnership firm.

10. SUGGESTED SPECIAL INSTRUCTIONAL STRATEGIES (if any)

a. To arrange a Visit to an Industry and observe industrial safety norms followed in the industry. Students should submit a report based on their observations regarding the safety norms to be followed in the industry.

b. Arrange an Expert Lecture by a Lawyer to update the students regarding Amendments in Different acts (Factory act, Minimum Wages Act, Workmen Compensation Act) and Penal actions on violation of the acts.

11. SUGGESTED MICRO-PROJECTS:

NA

12. SUGGESTED LEARNING RESOURCES

S.N.	Title	Author	Publisher, Edition and Year of Publication, ISBN Number
1	Industrial Engineering and Management.	O.P. Khanna,	Dhanpat Rai and Sons ISBN-10:818992835X
2	Project Planning and Entrepreneurship.	T.R.Banga, Indu Banga,	CBS Publishers
3	Behavioral Process in Organizations.	Uday Parikh, T.V. Rao and D.M. Pestonjee,	Tata McGrawhill. ISBN-13: 9788120400313

13. SOFTWARE/LEARNING WEBSITES

1. www.nptel.com
2. www.slideshare.net

14. PO - COMPETENCY- CO MAPPING

	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	-	-	-	-	2	3	2
CO2	-	-	-	-	2	3	2
CO3	-	-	-	-	1	3	2
CO4	-	-	-	-	2	3	2

	PSO1	PSO2	PSO3
CO1	-	1	-
CO2	-	1	-
CO3	--	1	-
CO4	-	1	-

***NOTE:-**The department who will run this course please do the PSO - competency- CO mapping according to your PSOs as this mapping is done according to E&TC Engg. PSOs

Sign: Name: G.W. Sonone (Course Expert)	Sign: Name: Shri.R.N.Shikari (Program Head) (Electronics &Telecommunication Dept.)
Sign: Name: Shri.R.N.Shikari (Program Head) (Electronics &Telecommunication Dept.)	Sign: Name: Shri A.S.Zanpure (CDC)

Government Polytechnic, Pune

'180OB' – Scheme

Programme	**Diploma in Metallurgical Engineering**
Programme Code	01/02/03/04/**05**/06/07/08/15/16/17/18/**19**/21/22/23/24/26
Name of Course	**Materials Management**
Course Code	**MA4103**
Pre-requisite course code and name	**NA**
Class Declaration	**No**

1. TEACHING AND EXAMINATION SCHEME

Teaching Scheme (In Hours)			Total Credits (L+T+P)		Examination Scheme				
					Theory		Practical		Total Marks
L	T	P	C		#ESE	PA	ESE	PA	
02	00	00	02	Marks	40	10	--	--	50
				Exam Duration	2 Hrs	1/2 Hr	--	--	

(#): Online Examination

Legends : L- Lecture, P- Practical, T- Tutorial, C- Credits, ESE- End Semester Examination, PA- Progressive Assessment (Test I,II/Term Work), *- Practical Exam, $- Oral Exam, #- Online Examination. Each Lecture/Practical period is of one clock hour

2. RATIONALE

This course deals with management of materials. Smooth running of any industry depends upon the interdepartmental relations and planning for execution of work jointly. Efficiency of the production department also depends upon the availability of raw material of required quality and quantity. Therefore there should be proper coordination between the production department, production planning, stores department and purchase department. Incorrect materials planning can also lead to higher inventories & high cost.

3. COMPETENCY

The aim of this course is to attend following industry identified competency through various teaching learning experiences:

- **To acquaint with the latest techniques in materials management and inventory management.**

4. COURSE OUTCOMES (COs)

The theory, practical experiences and relevant soft skills associated with this course are to be taught and implemented so that the student demonstrates the following industry oriented COs associated with the above mentioned competency**:**

1. State the importance of materials and inventory management.
2. Describe different aspects of buying procedure and price forecasting.
3. To acquaint with latest techniques in materials management.

5. SUGGESTED PRACTICALS/ EXERCISES - NA

6. MAJOR EQUIPMENTS / INSTRUMENTS REQUIRED - NA

7. THEORY COMPONENTS

Unit Outcomes (UOs) (in cognitive domain)	**Topics and Sub-topics**
Unit – I Importance of Materials Management (08 hrs, 10 marks)	
1a. State needs of material management. 1b. List the fields of material management. 1c. State the objectives and functions of material management. 1d.Describe methods for organization of materials 1e. Explain importance of specifications in material management.	1.1 Growing importance of materials management. 1.2 Materials management: - Scope - Objectives - Functions 1.3 Organizing for materials management. 1.4 Introduction to materials planning. 1.5 Importance of specifications in materials management.
Unit – II Inventory Management (08 hrs, 10 marks)	
2a. Describe concept of inventory, ABC analysis. 2b. State advantages of ABC analysis mechanics.	2.1 Selective control – ABC analysis, purpose and objectives, advantages and limitations of ABC analysis. 2.2 Order point, lead time, safety stock, reorder point, standard order, economic order. 2.3 Economic order quantity concept, graphical representation, determination of EOQ.
Unit – III Buying & Inventory Control (08 hrs, 10 marks)	
3a. Describe purchase functions & procedures. 3b. State significance and approaches of price forecast 3c. Describe coding techniques for inventory. 3d. State importance of standardization.	3.1 Sourcing, buy or lease and purchase systems. 3.2 Value analysis framework, implementation methodology. 3.3 Ethics in purchasing. 3.4 Price forecasting- Importance & approaches. 3.5 Inventory turns ratios. 3.6 Standardization- need & importance. 3.7 Codification- concept, benefits.

Unit Outcomes (UOs) (in cognitive domain)	Topics and Sub-topics
Unit - IV Latest Techniques in Materials Management (08 hrs, 10 marks)	
4a. Explain Just in Time (JIT) inventory concept. 4b. State importance and applications of SAP.	4.1 Inventory concept - Just in Time (JIT). 4.2 Introduction to SAP - importance and applications of SAP. 4.3 Introduction to Supply chain management. 4.4 Objectives, importance, forecasting and applications of supply chain management.

8. SUGGESTED SPECIFICATION TABLE FOR QUESTION PAPER DESIGN

Unit No.	Unit Title	Teaching Hours	Distribution of Theory Marks			
			R Level	U Level	A Level	Total Marks
I	Importance of Materials Management	8	6	2	2	10
II	Inventory Management	8	2	4	4	10
III	Buying & Inventory control	8	2	2	6	10
IV	Latest Techniques in Materials Management	8	2	4	4	10
Total		**32**	**12**	**12**	**16**	**40**

9. SUGGESTED STUDENT ACTIVITIES

Other than the classroom and laboratory learning, following are the suggested student-related ***co-curricular*** activities which can be undertaken to accelerate the attainment of the various outcomes in this course: Students should conduct following activities in group and prepare reports of about 5 pages for each activity, also collect/record physical evidences for their (student's) portfolio which will be useful for their placement interviews:

a. Do survey and make a report on actual difficulties faced in materials management in different segments of industries.
b. Study and make a presentation on different Inventory management practices followed in industries.
c. Collect information and make a report on benefits achieved by maintaining good / optimum levels of inventory on the shop floor.
d. Study and make a report on different factors affecting the purchase cost in industrial materials management.
e. Do survey and make presentation on different classes of materials observed w.r.t materials management practices.

10. SUGGESTED SPECIAL INSTRUCTIONAL STRATEGIES (if any)

These are sample strategies, which the teacher can use to accelerate the attainment of the various outcomes in this course:

a. Massive open online courses (***MOOCs***) may be used to teach various topics/subtopics.
b. About ***15-20% of the topics/sub-topics*** which are relatively simpler or descriptive in nature is to be given to the students for ***self-directed learning*** and assess the development of the COs through classroom presentations (see implementation guideline for details).

c. With respect to item No.9, teachers need to ensure to create opportunities and provisions for co-curricular activities.
d. Guide student(s) in undertaking micro-projects.
e. Correlate subtopics with concerned equipments / technology.
f. Use the proper equivalent analogy to explain different concepts.
g. Use Flash/Animations to explain various components, operations, processes.
h. Teacher should ask the students to go through instruction and technical manuals.

11. SUGGESTED MICRO PROJECTS - NA

12. SUGGESTED LEARNING RESOURCES

S.N.	Title	Author	Publisher, Edition and Year of Publication, ISBN Number
1	Materials Management	Ammer Deans S	R.D. Irwin Hellions Publisher. ISBN10: 0210226765 ISBN13: 9780210226766
2	Materials Management An Integrated Approach	P. Gopalakrishnan and M. Sundaresan	Prentice – Hall of India Pvt. Ltd. New Delhi ISBN978-81-203-0027-9
3	An Integrated Concept of Materials Management	M.M. Shah	Tata McGraw Hill Publisher Co. Ltd. New Delhi. ISBN: 007451749X 9780074517499
4	Supply chain management strategy, planning and operation	Sunil Chopra	Kellogg School of Management Peter MeindlKepos Capital- Pearson Education, Inc., publishing as Prentice Hall. ISBN-13:978-0-13-274395-2 (alk. paper)

13. SOFTWARE/LEARNING WEBSITES

1. https://youtu.be/raqi4gjMLm8
2. https://youtu.be/abBvHqf26H8
3. https://nptel.ac.in/courses/110/105/110105095/
4. https://www.digimat.in/nptel/courses/video/110105095/L02.html
5. https://www.digimat.in/nptel/courses/video/110105095/L06.html

14. PO - COMPETENCY- CO MAPPING

	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	1	1	2	1	2	3	2
CO2	1	2	1	1	3	3	1
CO3	2	1	3	2	2	3	3

	PSO1	PSO2	PSO3	PSO4
CO1	1	-	-	1
CO2	1	-	-	2
CO3	1	-	-	1

***NOTE:-**The department which will run this course please do the PSO - competency- CO mapping according to your PSOs as this mapping is done according to Metallurgical Engg. PSOs.

Sign: Name: Shri. R. S. Tuljapurkar (Course Expert) Lecturer in Metallurgical Engg.	Sign: Name: Smt. N. S. Kadam (Head of Department) Department of Metallurgical Engg.
Sign: Name: Smt. N. S. Kadam (Program Head) Department of Metallurgical Engg.	Sign: Name: Shri A. S. Zanpure (CDC)

Government Polytechnic, Pune

'180OB' – Scheme

Programme	**Diploma** in **CE**/EE/ ET/ME/MT/CM/IT/DDGM
Programme code	**01**/02/03/04/05/06/07/08/**15**/16/17/18/19/**21**/22/23/24/26
Name of Course	**Disaster Management**
Course Code	**MA 4104**
Prerequisite course code and name	**NA**
Class Declaration	**No**

1. TEACHING AND EXAMINATION SCHEME

Teaching Scheme (In Hours)			Total Credits (L+T+P)		Examination Scheme				
					Theory		Practical		Total Marks
L	T	P	C		#ESE	PA	ESE	PA	
02	00	00	02	Marks	40	10	NA	NA	50
				Exam Duration	2Hrs	30 min	NA	NA	

Legends: L- Lecture, P- Practical, T- Tutorial, C- Credit, ESE-End Semester Examination, PA- Progressive Assessment (Test I, II/Term Work), *- Practical Exam, $- Oral Exam, #- Online Examination each Lecture/Practical period is of one clock hour;

2. RATIONALE

Sensitization of every citizen of the country regarding disaster management is of utmost importance. A diploma holder in any discipline has a greater role in disaster management owing to the technical skill sets possessed by him/her. The course is an attempt to sensitize the students pursuing diploma programme in Engineering / Technology about various aspects of Disaster management.

3. COMPETENCY

The aim of this course is to address following Society / Industry identified competency through various teaching learning experiences:

- **Exhibit capability to contribute in Disaster management related activities through the technical skill sets possessed.**

4. COURSE OUTCOMES (COs)

On completion of the course through theory and relevant soft skills, the student shall demonstrate the following tangible outcomes;

1. Define and emphasize the significance of various terms associated with disaster and disaster management.
2. Classify and distinguish various types of disasters.
3. Interpret and elaborate features of the disaster management setup in India
4. Elaborate on the disaster mitigation, disaster preparedness and relief operations.

5. SUGGESTED PRACTICALS/ EXERCISES

The teaching and examination scheme for the course does not mandate any practical for the course.

6. MAJOR EQUIPMENT/ INSTRUMENTS REQUIRED

Nil

7. THEORY COMPONENTS

Unit Outcomes (UOs) (in cognitive domain)	**Topics and Sub-topics**
UNIT 1. Disaster and Disaster Management Concepts (Hrs-6 , Marks- 6)	
1a. Define disaster and disaster management. 1b. Define terms associated with disaster and disaster management. 1c. Correlates the effect of Vulnerability and Coping capacity on disaster management.	**1.1 Disaster and Disaster management:** Definitions of Disaster and disaster management. **1.2 Definition of terms associated with disaster and disaster management:** Definition of terms Vulnerability to disaster, Hazard, Risk, Risk management, Coping capacity **1.3Correlation of Vulnerability and Coping capacity in Disaster management:** Effect of vulnerability to disaster on the effect of disaster and disaster management. Influence of coping capacity on disaster assessment and mitigation.
UNIT 2. Types of disasters (Hrs- 6 ,Marks: 8)	
2a. Classify disasters based on source. 2b.Classify Natural and Manmade disasters in to further categories. 2c.Further classification of disasters based on sequence of occurrence, Pace and scale.	2.1 Classification of disaster based on source as Natural and Manmade. 2.2 Classification of Natural disasters as atmospheric, Terrestrial, Aquatic and Biological. 2.3 Classification of manmade disasters as Industrial, Chemical, Technological, Nuclear, Gas leaks, Oil spills, Dam failures and canal breaches, Wars, Terrorist attacks, Biological, Transportation accidents. 2.4 Primary and secondary, Slow on set and rapid onset, simple and complex disasters.

UNIT 3 Disaster management in India (Hrs- 12, Marks: 16)	
3a. Elaborates the provisions of Disaster management Act 2005. 3b. Signifies the role of National Institute of Disaster Management (NIDM) and elaborates on its activities. 3c. Describes the evolution of disaster management set up at national / state / district levels.	3.1 Disaster scenario in India, its vulnerabilities, review of some of the notable disasters in Indian history. 3.2 National disaster management Act 2005, its provisions, authorities at different levels and their roles/ responsibilities. 3.3. National Institute of Disaster Management (NIDM) – the need for its establishment, activities, contributions to disaster management in India. 3.4. National disaster management policy 2009, National Disaster management plan 2016 and 2019, Maharashtra state disaster management plan 2016. Provisions, features and role in strengthening national disaster management.
UNIT 4. Disaster mitigation and relief (Hrs- 8, Marks: 10)	
4a.Describes various stages involved in disaster mitigation. 4b.Elaborates disaster risk reduction strategies. 4.c. Signifies the need for disaster preparedness in disaster management. 4.d.Elaborates Disaster relief and rehabilitation activities.	4.1 Disaster mitigation strategies as per national disaster management plan provisions. 4.2 Disaster risk reduction strategies and study of factors contributing to disaster vulnerability. 4.3 Study of disaster preparedness strategies and early warning systems to anticipate occurrences of disaster to improve preparedness. 4.4 Disaster relief activities as per the provisions of statutes and the action plans and procedures for disaster relief. Stake holders in disaster relief management. 4.5 Capacity building rehabilitation measures and long term reconstruction.

8. SUGGESTED SPECIFICATION TABLE FORQUESTION PAPER DESIGN

Unit No.	Unit Title	Teaching Hours	Distribution of Theory Marks			
			R Level	U Level	A Level	Total Marks
I	Disaster and Disaster Management Concepts	06	02	04	00	06
II	Types of disasters	06	04	04	00	08
III	Disaster management in India	12	04	12	00	16
IV	Disaster mitigation and relief	08	02	06	02	10
Total		32	**14**	**26**	**00**	**40**

9. SUGGESTED STUDENT ACTIVITIES

Other than the classroom, following student-related ***co-curricular*** activities are suggested which reinforce the cognitive learning and aid in attainment the course outcomes;

a. Individual student shall prepare a report on one natural and one manmade disaster that has occurred in India (Preferably in Maharashtra) in the last 10 years. The report shall

highlight classification of the disaster, magnitude, vulnerability of the disaster location/ site, mitigation measures, relief activities undertaken and long-term measures and their effect.

b. Individual student shall prepare a report on a successful disaster preparedness exercise executed in India in the near past. The report shall highlight the risk reduction strategies adopted, early warning systems used and reduction of vulnerability to hazard measures adopted.
c. Each individual student undergoing this course shall complete "Course 1 – Basics of disaster management under the self-study programme of National Institute of Disaster Management (NIDM) and secure certification for the same.

10. SUGGESTED SPECIAL INSTRUCTIONAL STRATEGIES (if any)

a. All the units of curriculum are supported by selective MOOCS prepared by Educational Multimedia Research Centre (EMRC) Osmania University on Disaster management. The Urls of the earmarked video clips for the course are listed as reference material in the curriculum. The students can access them.
b. The course teacher shall prepare study material to the students based on the MOOCs, reference materials listed.

11. SUGGESTED MICRO-PROJECTS

The scope of the course does not mandate any micro projects. However, suggested student activities suffice as micro projects.

12. SUGGESTED LEARNING RESOURCES

Sr.No.	Title	Author, Publisher, Edition and Year of publication	ISBN Number
1	The Disaster Management Act, 2005	Government of India	N A (pdf of the bare act is enclosed with curriculum)
2	National Disaster Management Plan (NDMP) 2016	Government of India	N A (pdf of the bare act is enclosed with curriculum)
3	Maharashtra State Disaster Management Plan 2016	Government of Maharashtra	N A (pdf of the bare act is enclosed with curriculum)
4	National Disaster Management Plan 2019	Government of India	N A (pdf of the bare act is enclosed with curriculum)
5	Draft National Disaster Management Plan Part II Disaster mitigation and response function plans	Government of India	N A (pdf of the bare act is enclosed with curriculum)

13 SOFTWARES / ONLINE LEARNING RESOURCES

The students and faculty can visit following earmarked urls for MOOCs of EMRC Osmania University without indulging in any acts violating copyright.

1. https://youtu.be/DExlZTfKZAM?list=PLC4PaTsQiLcbejXqJR7S59Ohk2OK1rgEG(Disaster and Disaster management concepts)
2. https://youtu.be/7ZhS_HrivqA?list=PLC4PaTsQiLcbejXqJR7S59Ohk2OK1rgEG (Types of Disaster)
3. https://youtu.be/BI38KKij9Nc?list=PLC4PaTsQiLcbejXqJR7S59Ohk2OK1rgEG (Natural Disasters)
4. https://youtu.be/cijSod44Q2g?list=PLC4PaTsQiLcbejXqJR7S59Ohk2OK1rgEG (Manmade Disaster)
5. https://youtu.be/zwIQVKqytD4?list=PLC4PaTsQiLcbejXqJR7S59Ohk2OK1rgEG (Slow onset and Rapid onset Disasters)
6. https://youtu.be/zBqvJkzbk-w?list=PLC4PaTsQiLcbejXqJR7S59Ohk2OK1rgEG (Simple and Complex Disaster)
7. https://youtu.be/e3MwwrRMfZ8?list=PLC4PaTsQiLcbejXqJR7S59Ohk2OK1rgEG (Evolution of Disaster in India)
8. https://youtu.be/iFPMSRCswG0?list=PLC4PaTsQiLcbejXqJR7S59Ohk2OK1rgEG (Disaster and disaster management in India)
9. https://youtu.be/u9ch6eqjG-Y?list=PLC4PaTsQiLcbejXqJR7S59Ohk2OK1rgEG (Disaster management act 2005)
10. https://youtu.be/e5KV2exJTeE?list=PLC4PaTsQiLcbejXqJR7S59Ohk2OK1rgEG (National Institute of Disaster Management)
11. https://youtu.be/6zFOS1VVGLw?list=PLC4PaTsQiLcbejXqJR7S59Ohk2OK1rgEG (National Policy on disaster management)
12. https://youtu.be/PHUf3WFtGfc?list=PLC4PaTsQiLcbejXqJR7S59Ohk2OK1rgEG (National disaster management plan 2016)
13. https://youtu.be/mgb7bs4Yv1g?list=PLC4PaTsQiLcbejXqJR7S59Ohk2OK1rgEG (Stake holders in disaster management)
14. https://youtu.be/GtFO-FaUwbM?list=PLC4PaTsQiLcbejXqJR7S59Ohk2OK1rgEG (Central Government as stake holder in disaster management)
15. https://youtu.be/J4oMdAOuUFQ?list=PLC4PaTsQiLcbejXqJR7S59Ohk2OK1rgEG (State Government as stake holder in disaster management)
16. https://youtu.be/7TFTXqOtARo?list=PLC4PaTsQiLcbejXqJR7S59Ohk2OK1rgEG (District administration as stake holder in disaster management)
17. https://youtu.be/rUziSTV2l9o?list=PLC4PaTsQiLcbejXqJR7S59Ohk2OK1rgEG (Armed forces as stake holder in disaster relief management)
18. https://youtu.be/lv80bN26KeE?list=PLC4PaTsQiLcbejXqJR7S59Ohk2OK1rgEG (Paramilitary forces as stake holder in disaster relief management)
19. https://youtu.be/lDhM8Co1pEs?list=PLC4PaTsQiLcbejXqJR7S59Ohk2OK1rgEG (Fire services as stake holder in disaster relief management)
20. https://youtu.be/ueqXlFC5bg0?list=PLC4PaTsQiLcbejXqJR7S59Ohk2OK1rgEG (Disaster risk reduction strategies)
21. https://youtu.be/VQ6tMdBZARM?list=PLC4PaTsQiLcbejXqJR7S59Ohk2OK1rgEG (Disaster preparedness plan)
22. https://youtu.be/TFLwWMcQll4?list=PLC4PaTsQiLcbejXqJR7S59Ohk2OK1rgEG (Early warning system in disaster preparedness)
23. https://youtu.be/972scfiEPtw?list=PLC4PaTsQiLcbejXqJR7S59Ohk2OK1rgEG (Factors contributing to disaster vulnerability)
24. https://youtu.be/9e-iiKwQ3I4?list=PLC4PaTsQiLcbejXqJR7S59Ohk2OK1rgEG (Disaster risk reduction master plan for the future)
25. https://youtu.be/y0qui7QWTQU?list=PLC4PaTsQiLcbejXqJR7S59Ohk2OK1rgEG (Components of disaster relief)
26. https://youtu.be/9EWZvwE2548?list=PLC4PaTsQiLcbejXqJR7S59Ohk2OK1rgEG (Capacity building rehabilitation measures and long term reconstruction)

14 PO - COMPETENCY- CO MAPPING

	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	-	-	-	-	-	-	1
CO2	-	-	-	-	1	-	1
CO3	-	1	2	1	2	1	2
CO4	1	1	2	1	2	2	2

	PSO1	PSO2	PSO3
CO1	--	--	--
CO2	1	--	--
CO3	1	1	1
CO4	2	2	2

Sign: Dr. S M S Shashidhara Shri. V B Kondawar (Course Experts)	Sign: Name: (Dr. S.M.S.Shashidhara) (Former Head of Department) Shri. V G Tambe (HOD I Shift) Shri. V B Kondawar (HOD II shift)
Sign: Name: (Dr.S.M.S.Shashidhara) (Former Program Head) Shri. V G Tambe (Programme Head) Shri. V B Kondawar (Programme Head) (Civil Engineering Department)	Sign: Name: Shri A.S.Zanpure (CDC)

Government Polytechnic, Pune

'180 OB' – Scheme

Programme	**Diploma in CE/EE/ET/ME/MT/CM/IT/DDGM**
Programme code	01/02/03/04/05/**06**/**07**/08/16/17/21/22/23/24/**26**
Name of Course	**Introduction to E-Commerce**
Course Code	**MA4105**
Prerequisite course code and name	**NA**
Class Declaration	**NO**

1. TEACHING AND EXAMINATION SCHEME

Teaching Scheme (In Hours)			Total Credits (L+T+P)		Examination Scheme				
					Theory Marks		Practical Marks		Total Marks
L	**T**	**P**	**C**		**#ESE**	**PA**	**ESE**	**PA**	
02	00	00	02	**Marks**	40	10	-	-	50
				Exam Duration	2Hrs	1/2Hr	-	-	

Legends: L- Lecture, P- Practical, T- Tutorial, C- Credit, ESE-End Semester Examination, PA- Progressive Assessment (Test I, II/Term Work), *- Practical Exam, $- Oral Exam, #- Online Examination each Lecture/Practical period is of one clock hour;

2. RATIONALE

This course is aimed at providing the students with modules on the use of the Internet and e-commerce. It also includes all aspects of deploying e-business and e-commerce within an organization. It also provides theories and concepts and questions the validity of these models in the light of the differences between the Internet and other media.

3. COMPETENCY

The aim of this course is to attend following industry identified competency through various teaching learning experiences:

- **Understand real time problem solving and relevant soft skills.**

4. COURSE OUTCOMES (COs)

The theory, real time problem solving and relevant soft skills associated with this course are to be taught and implemented, so that the student demonstrates the following industry-oriented COs associated with the above-mentioned competency:

1. Define E-commerce and various business models.
2. Describe fundamental sales process.
3. Recognise the variants of the process of B2C and B2B.
4. Identify ethical aspects of ICT.

5. SUGGESTED PRACTICALS/ EXERCISES

NA

6. MAJOR EQUIPMENT/ INSTRUMENTS REQUIRED

NA

7. THEORY COMPONENTS

Unit Outcomes (UOs) (in cognitive domain)	**Topics and Sub-topics**
Unit- I Introduction to E-Commerce (Weightage-06, Hrs- 04)	
1a. Define E-commerce. 1b. Differentiate between various business models. 1c. Explain technical challenges. 1d. Explain economic challenges.	1.1 Basics and definitions – E-Commerce. 1.2 Business models related to E-Commerce. 1.3 Technical and economic challenges.
Unit-II Frameworks and Architectures (Weightage-10, Hrs- 08)	
2a. Explain fundamental sales process. 2b. List out Technological elements.	2.1 Actors and Stakeholders. 2.2 Fundamental sales process. 2.3 Technological elements.
Unit-III B2C Business (Weightage-10, Hrs- 08)	
3a. Explain the variants of the process of B2C. 3b. Differentiate between various challenges. 3c. Understand CRM.	3.1 The process model and its variants. 3.2 The pricing challenges. 3.3 The fulfilment challenges. 3.4 The payment challenges. 3.5 B2C-business and CRM. 3.6 B2C software systems.
Unit-IV B2B Business (Weightage-08, Hrs- 06)	
4a. Explain the variants of the process of B2B. 4b. Identify B2B software systems.	4.1 The process model and its variants. 4.2 B2B software systems.
Unit-V Impact of E-Commerce (Weightage-06, Hrs- 06)	
5a. Identify ethical aspects of ICT. 5b. List out different impacts of E-Commerce.	5.1 Ethics, morale and technology. 5.2 Ethical aspects of ICT. 5.3 Overall impacts of E-Commerce. 5.4 Specific impacts of E-Commerce.

8. SUGGESTED SPECIFICATION TABLE FOR QUESTION PAPER DESIGN

Unit No.	Unit Title	Teaching Hours	Distribution of Theory Marks			
			R Level	U Level	A Level	Total Marks
I	Introduction To E-Commerce	04	02	02	02	06
II	Frameworks and Architectures	08	02	04	04	10
III	B2C Business	08	02	04	04	10
IV	B2B Business	06	02	02	02	06
V	Impact of E-Commerce	06	02	04	02	08
Total		**32**	**10**	**16**	**14**	**40**

9. SUGGESTED STUDENT ACTIVITIES

Other than the classroom and laboratory learning, following are the suggested student-related ***co-curricular*** activities which can be undertaken to accelerate the attainment of the various outcomes in this course: Students should conduct following activities in group and prepare reports of about 5 pages for each activity, also collect/record physical evidences for their (student's) portfolio which will be useful for their placement interviews: -Student can study and prepare report on any application in which e-commerce they used.

10. SUGGESTED SPECIAL INSTRUCTIONAL STRATEGIES (if any)

These are strategies, which can be used to accelerate the attainment of the various outcomes in this course:

Sr. No.	Topic	Instructional Strategy
1	Introduction To E-Commerce	Class room teaching
2	Frameworks and Architectures	Class room teaching
3	B2C Business	Class room teaching
4	B2B Business	Class room teaching
5	Impact of E-Commerce	Class room teaching

11. SUGGESTED MICRO-PROJECTS

NA

12. SUGGESTED LEARNING RESOURCES

S. No.	Title of Book	Author	Publisher, Edition and Year of publication ISBN Number
1	Introduction to E-Commerce: Combining Business and Information Technology	Prof. Dr. Martin Kutz	1st Edition Jan 2020 ISBN 9788740315202

13. SOFTWARE/ LEARNING WEBSITES

NA

14. PO - COMPETENCY- CO MAPPING

	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	-	-	-	-	1	3	2
CO2	1	1	-	1	1	3	2
CO3	1	-	-	1	1	3	3
CO4	1	1	-	1	1	3	3

	PSO1	PSO2
CO1	-	2
CO2	-	2
CO3	-	2
CO4	-	2

***NOTE: -**The department who will run this course please do the PSO - competency- CO mapping according to your PSOs as this mapping is done according to Computer Engg. PSOs

Sign: Name: 1. Smt. H. S. Pawar 2. Smt. N. R. Wagh 3. Smt. P. N. Yewale 4. Smt. S. S. Ingavale 5. Smt. S. J. Siraskar 6. Smt. S. R. Hande (Course Experts)	Sign: Name: Mr. U.V. Kokate Dr. S. B. Nikam. (Head of Department) (Department of Computer Engineering)
Sign: Name: Mr. U.V. Kokate Dr. S. B. Nikam (Programme Head) (Computer Engineering)	Sign: Name: Mr. A.S. Zanpure (CDC In-charge)

Government Polytechnic, Pune

'180OB' – Scheme

Program Name	**Diploma in CE/EE/ET/ME/MT/CM/IT/DDGM**
Program Code	**01/02/03/04/05/06/07/08/16/17/21/22/23/24/26**
Course Title	**Information Management**
Course Code	**MA4106**
Prerequisite course code and name	**NA**
Class Declaration	**No**

1. TEACHING AND EXAMINATION SCHEME

Teaching Scheme (In Hours)			Total Credits (L+T+P)	Examination Scheme				
				Theory Marks		Practical Marks		Total Marks
L	T	P	C	# ESE	PA	ESE	PA	
02	00	00	02	40	10	--	--	50
				2 Hrs	½ Hr	--	--	--

Legends: L- Lecture, P- Practical, T- Tutorial, C- Credit, ESE-End Semester Examination, PA-Progressive Assessment (Test I, II/Term Work), *- Practical Exam, $- Oral Exam, #- Online Examination each Lecture/Practical period is of one clock hour;

2. RATIONALE

Organizations of all sizes generate and work on information. Collection and management of Information becomes an important aspect in each and every field. This course is aimed at providing the students with the basics of Information Management.

3. COMPETENCY

The aim of this course is to help the student to attain the following industry identified competency through various teaching learning experiences:

- **Use information management system in industries.**

4. COURSE OUTCOMES (COs)

The theory, real time problem solving and relevant soft skills associated with this course are to be taught and implemented, so that the student demonstrates the following industry-oriented COs associated with the above-mentioned competency:

1. Recognize information system in any organization.
2. Enlist types of Information Systems.
3. Identify the competitive environment of business.
4. Identifying challenges in Information management.
5. State Social and Ethical issues with Information Management.

5. PRACTICALS/ EXERCISES

(Not Applicable)

6. MAJOR EQUIPMENT/ INSTRUMENTS REQUIRED

(Not Applicable)

7. THEORY COMPONENTS

Unit Outcomes (UOs) (in cognitive domain)	Topics and Sub-topics
Unit-I Organizations and Information Systems (Weightage-08, Hrs-06)	
1a. List different types of modern organizations. 1b. Explain IT interaction model. 1c. Identify challenges for the manager.	1.1 Modern Organization- IT enabled, Net-worked, Dispersed, Knowledge Information Systems in Organizations. 1.2Managing Information Systems in Organization. 1.3 Challenges for the manager. 1.4 The Role of Internet 1.5 Managing the Internet era
Unit-II Concepts of Management Information Systems (Weightage-08, Hrs-06)	
2a. Enlist types of Information Technology. 2b. Enlist types of Information Systems. 2c. Differentiate between various decisions. 2d. Explain communication in organizations.	2.1 Data and Information, Information as a re-source. 2.2 Information in organizational functions. 2.3 Types of Information Technology, Types of Information Systems. 2.4 Decision making with MIS. 2.5 Communication in organization.
Unit-III Information Systems and Management Strategy (Weightage-10, Hrs-08)	
3a. Identify the competitive environment of business. 3b. Find out the properties of Information Goods. 3c. Explain value chain.	3.1 The competitive environment of business. 3.2 Using IT for competing. 3.3 Information Goods. 3.4 Information Systems and Competitive strategy.
Unit-IV Managing Information Systems (Weightage-08, Hrs-06)	
4a. Understand the challenges of managing the IT function. 4b. Identify vendor. 4c. Explain the role of CIO.	4.1 Challenges of managing the IT function. 4.2 Vendor Management. 4.3 The Role of CIO.
Unit-V Ethical and Social Issues (Weightage-06, Hrs-06)	
5a. Explain Ethical issues. 5b. Explain Social issues.	5.1 Ethical issues- Privacy, Workplace Monitoring, Power over Users. 5.2 Social issues- Workplace behavior and Health, De-skilling and Alienation, Tele- commuting, E-Waste.

8. SPECIFICATION TABLE FOR QUESTION PAPER DESIGN

Unit No.	Unit Title	Teaching Hours	Distribution of Theory Marks			
			R Level	U Level	A Level	Total Marks
I	Organizations and Information Systems	6	4	2	2	08
II	Concepts of Management Information Systems	6	4	2	2	08
III	Information Systems and Management Strategy	8	4	4	2	10
IV	Managing Information Systems	6	2	4	2	08
V	Ethical and Social Issues	6	2	2	2	06
Total		32	16	14	10	40

9. STUDENT ACTIVITIES

Other than the classroom learning, following are the suggested student-related *co-curricular* activities which can be undertaken to accelerate the attainment of the various outcomes in this course: Students should conduct following activities in group and prepare reports of about 5 pages for the activity mentioned, also collect/record physical evidences for their (student's) portfolio which will be useful for their placement interviews: -
Student can study and prepare report on information management as done in any small setup like cyber café, canteen, medical or grocery shops etc.

10. SPECIAL INSTRUCTIONAL STRATEGIES (if any)

These are strategies, which can be used to accelerate the attainment of the various outcomes inthis course:

Sr. No.	Topic	Instructional Strategy
1	Organizations and Information Systems	Class room teaching
2	Concepts of Management Information Systems	Class room teaching
3	Information Systems and Management Strategy	Class room teaching
4	Managing Information Systems	Class room teaching
5	Ethical and Social Issues	Class room teaching
6	Organizations and Information Systems	Class room teaching

11. SUGGESTED LIST OF MICROPROJECTS: -
Not Applicable

12. LEARNING RESOURCES

S. No.	Title of Book	Author	Publisher, Edition and Year of publication ISBN Number
1	MIS Managing Information System in Business, Government and Society	Rahul De	Wiley publication, Second Edition, 2018, ISBN: 988126571222

13. SOFTWARE/LEARNING WEBSITES

1. https://en.wikipedia.org/wiki/Information_system

14. PO - COMPETENCY- CO MAPPING

	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	-	-	-	-	2	2	3
CO2	-	-	-	-	1	2	3
CO3	-	-	-	-	2	2	3
CO4	-	-	-	-	1	3	3
CO5	-	-	-	-	3	2	3

	PSO 1	PSO2
CO1	1	1
CO2	-	2
CO3	-	1
CO4	-	1
CO5	1	1

Sign: 1. Smt. P. N. Yewale 2. Smt.G.B.Garud 3. Smt. A.S.Paike 4. Smt.P.K.Zade 5. Smt.S.R.Hande (Course Expert)	Sign: Mr.U.V. Kokate Dr. S. B. Nikam (Head of the Department) (Department of Computer Engineering)
Sign: Mr.U.V. Kokate Dr. S. B. Nikam (Program Head) (Department of Computer Engineering)	Sign: Mr. A.S. Zanpure (CDC In-charge)