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Diploma in Mechanical Engineering
SEMESTER VI (2022-2025)

COURSE CODE	CATE-GORY	COURSE NAME	TEACHING &EVALUATION SCHEME								
			THEORY			PRACTICAL		L	T	P	CREDITS
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
DTME601N	DC	COMPUTER INTERGRATED MANUFACTURING	60	20	20	30	20	2	1	2	4

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; **P** – Practical; **C** - Credit;
***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 20 marks.

Course Educational Objectives (CEOs):
The use of conventional machines is decreasing day by day. Evolution of information Technology, variety of manufacturing concepts with zero lead time demand and quality consciousness has supported fast adaption of Computer Aided Manufacturing.

Course Outcomes (COs):
After completion of this course the students will be able to demonstrate following knowledge, skills, and attitudes -

1. Understand the principle of CIM and automation used in various industrial area.
2. Know the constructional features of CNC machines.
3. Construct part programs using ISO format for given simple components.
4. Develop an FMS (Flexible Manufacturing System) layout for given simple part family, using group technology concepts and familiarize with computer aided process planning
5. Recognize use of robotics, in the field of manufacturing.

Syllabus: -

UNIT I
INTRODUCTION TO CIM & AUTOMATION **07Hrs.**
CIM – definition, scope, and elements of CIM system-benefits. Automation -definition- Basic elements of an automated system -Levels of automation.

UNIT II
NC AND CNC MACHINES **08 Hrs.**
Fundamentals of NC Technology- Basic Components of an NC System. Construction and Features of CNC- The Machine Control Unit for CNC- CNC Software, Various elements of CNC machines i.e., Automatic tool changer (ATC)- Automatic pallet changer (APC), feed drives, guide ways, spindle assembly. CNC Applications-Advantages and Disadvantages of CNC.

UNIT III - PART PROGRAMMING **07 Hrs.**
Introduction to Part Programming-Coordinate System-Dimensioning-Axes & motion nomenclature. CNC part programming- Structure of part-program Word addressed format-Preparatory func-

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tion(G)-Miscellaneous function(M)- Tool compensation- Subroutines (Macros)(L)-Canned cycles-Mirror image, Simple program on Milling and Turning operations

UNIT IV- GROUP TECHNOLOGY **07 Hrs.**

Definition-Group Technology, Part family formation-Classification and coding, Applications & benefits of GT, Cellular Manufacturing-Machining cell designs-Machining cell planning, Computer aided process planning-Approaches to CAPP-Implementation techniques,

UNIT V- ROBOTICS **07 Hrs.**

Introduction-definition of robot-Elements of a robotic system-Classification of robots based on mechanical configuration, Drive systems, Control systems, Performance, capabilities, specification, key feature, Applications of industrial robot.

Reference Books:

1. *Automation, Production Systems, and Computer Aided Manufacturing by Mikell P.Groover,Prentice-Hall International publication.*
2. *Mechatronics by HMT limited, McGraw Hill Education*
3. *CAD/CAM Principles and Applications by P N Rao, McGraw Hill Education.*
4. *CAD/CAM/CIM P. Radhakrishnan, S. Subramanian, V. Raju New Age International Publishers.*
5. *CNC Machines by Pabla B.S., Adithan M. New Age International, New Delhi,2014(reprint)*
6. *Computer Numerical Control-Turning and Machining centers by Quesada Robert Prentice Hall 2014.*
7. *CAD/CAM by Sareen Kuldeep, S.Chand 2012.*
8. *INDUSTRIAL ROBOTICS by Groover, McGraw Hill Education publication,2017.*

List Of Practical:

1. To write a program to obtain the turning cycle in the CNC lathe.
2. To write a program to obtain the facing cycle in the CNC lathe.
3. To write a program to obtain the Circular Interpolation in the CNC lathe.
4. To write a program to perform the mirroring operation.
5. To write a program to engrave the letters "SVVV" on the given work piece.

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DTME602	DC	REFRIGERATION AND AIR-CONDITIONING	60	20	20	30	20	2	1	2	4

Legends: **L** - Lecture; **T** - Tutorial/Teacher Guided Student Activity; **P** – Practical; **C** - Credit;
***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 20 marks.

Course Educational Objectives (CEOs):
To introduction with (A) Refrigeration, (B)Vapor Compression Refrigeration, (C) Refrigerants and Absorption Refrigeration (D)Psychometric and Air conditioning loads calculation.

Course Outcomes (COs):
After completion of this course the students are expected to be able to demonstrate following knowledge, skills, and attitudes -

1. Students would be able to understand the Refrigeration system, and its importance, need and applications.
2. Students would be able to analyses basics of vapor compression refrigeration.
3. Students would be able to understand desirable properties of refrigerants.
4. Students will be able to understand absorption refrigeration system.
5. Students would be able to calculation of psychometric properties of air by tables and charts.
6. Students would be able to calculation of summer & winter air conditioning load.

Syllabus

UNIT I

Introduction to Refrigeration: Principles and methods of refrigeration; unit of refrigeration, second law of thermodynamics, heat pump, heat engine efficiency and C.O.P.; Reverse Carnot cycle; types of air-refrigeration; Joule's cycle; Applications and limitations; advantages and disadvantages of air refrigeration cycle.

UNIT II

Vapor Compression Refrigeration: Working principle and essential components of the plant; Simple vapor compression refrigeration cycle - COP, Representation of cycle on T-S and p-h charts; Effects of sub cooling and super heating; Influence of various parameters on system performance; necessity of multi-staging.

UNITIII

Refrigerants and Absorption Refrigeration: Desirable properties of refrigerants; classification of refrigerants, nomenclature, environment friendly refrigerants and refrigerant mixtures; ozone Layer depletion; global warming; vapor absorption refrigeration; calculation of maximum COP; description and working of NH_3-H_2O and Li Br-H_2O system.

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UNITIV

Psychometric: Calculation of psychometric properties of air by table and charts; psychometric processes: sensible heating, Sensible cooling, evaporative cooling, cooling and dehumidification, heating and humidification, sensible heat factor.

UNITV

Air conditioning Loads: Principle of air conditioning; requirements of comfort air conditioning, ventilation standards; infiltrated air load; fresh air load human comfort; effective temperature & chart; Calculation of summer& winter air conditioning load; bypass factor of coil; calculation of supply air rate & its condition; room sensible heat factor; grand sensible heat factor; effective sensible heat factor; dehumidified air quantity; Problems on cooling load calculation.

Reference Books:

1. *Refrigeration and Air Conditioning by C. P. Arora, Tata McGraw Hill, 2008.*
2. *Refrigeration and Air Conditioning Technology by R. J. Dossat, Pearson Education India, 2002.*
3. *Refrigeration and Air Conditioning by P. L. Ballaney, New Delhi, 2014.*
4. *Refrigeration and Air Conditioning by Wilbert F. Stoecker and Jerold W. Jones, Tata McGraw Hill,2009.*
5. *Refrigeration & Air Conditioning by Domkundwar.Dhanpat Rai, 2010.*
6. *Refrigeration & Air Conditioning by Manohar Prasad, New Age International, 2011.*
7. *ASHRAE Handbook – Refrigeration 2010, ISBN- 9781933742922.*
8. *A Textbook of Refrigeration and AirConditioning, Khurmi R.S. and Gupta J.K., S.Chand publication,2017.*

List of Practical's:

1. General Study of vapor compression refrigeration system.
2. General Study of Ice Plant.
3. General Study of Electrolux Refrigeration.
4. General Study of Water cooler.
5. General Study of Psychometry (Absorption type)

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6. General Study and working of Gas charging Rig.
7. General Study of window Air Conditioner.
8. General Study and working of Vapor compression Air conditioning Test rig.
9. Experimentation on Vapor compression Air Conditioning test rig.
10. General Study and working of Vapor absorption refrigeration system.

Further Necessities: Cold storage visit give greater clarity about important refrigeration concepts and functioning of all components of refrigeration system, as students practically experience how these fundamental concepts are put into action.

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			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
DTME604A	DC	OPERATION RESEARCH AND SCM	60	20	20	0	0	2	1	0	3

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; **P** – Practical; **C** - Credit;
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Course Educational Objectives (CEOs):

Describe various theories of organizations, their characteristics, strengths, and Weaknesses (A)Operation Research (B)Application of operation research (C) Supply chain management and concepts.

Course Outcomes (COs):

The theory should be taught and practical should be conducted in such a manner that students are able to acquire different learning outcomes in cognitive, psychomotor, and affective domain to demonstrate following course outcomes:

1. Collaborative project experiences involving both written and oral presentations.
2. Courses with significant experiential learning components.
3. Experiences with identifying, accessing, evaluating, and interpreting information and data
4. In support of assignments, projects, or research.
5. Course experiences with large-scale datasets.

Syllabus

UNIT – I

Introduction: History and development of Operations Research; Scientific Methods; Characteristics; Scope; Models in Operations Research.

Linear Programming: Formulation; graphical methods; simplex method; Big- M- method.

UNIT – II

Assignment Models: Definition; Mathematical Representation; Formulation and Solution; Alternate optimal solution.

Transportation Models: Definition; Formulation and solution; Alternate optimal solution; steppingstone method; Modified distribution (MODI) or u-v method.

UNIT - III

Forecasting: Introduction, Definition, Need of Forecasting; Applications and Limitations of forecasting; forecasting methods-Qualitative vs. quantitative methods, Average approach Time series methods and Causal /forecasting accuracy econometric forecasting methods.

UNIT - IV

Network Analysis: Network diagram; Time estimation; Basic steps in PERT and CPM; PERT and

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DTME604A	DC	OPERATION RESEARCH AND SCM	60	20	20	0	0	2	1	0	3

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; **P** – Practical; **C** - Credit;
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CPM computation; critical path; Float; Cost analysis; crashing the network.

UNIT-V

Introduction to SCM: Definition; elements of supply chain; building blocks of supply chain network; drivers of supply chain; Decision making in supply chain; Decision making models; supply chain performance measurement.

References Books:

1. *"Operations Research," by Tasha Hamady 7th edition, (USA: Macmillan Publishing Company), 2003.*
2. *"Operations Research," by Tasha, Tata McGraw Hill.2002.*
3. *"Operations Research," by Wagner, PHI. New Delhi, 2003.*
4. *"Operations Research," by Ravi dram & Philips, Tata McGraw Hill, 2005.*
5. *"Operations Research," by Gupta & Hira, S. Chand. 1e, 2008.*

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DTME604B	DC	HYDRAULIC AND PNEUMATIC DEVICES	60	20	20	0	0	2	1	0	3

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; **P** – Practical; **C** - Credit;
***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 20 marks.

Course Educational Objectives (CEOs):
The course should be taught, and curriculum should be implemented with (A) The aim to develop required skills in the students (B) Identify and solve various Hydraulic and Pneumatic problems.

Course Outcomes (COs):
After completion of course students will be able to-

1. Understand hydraulic principles.
2. Understand hydraulic actuators and control components.
3. Understand and describe hydraulic circuits and systems.
4. Understand pneumatic principles and systems.
5. Understand the trouble shooting of hydraulic and pneumatic systems.
6. Develop efficient hydraulic circuits.
7. Maintain the pneumatic and hydraulic system

Syllabus

UNIT I

Hydraulic Principles and Hydraulic Pumps: Introduction to Fluid power, Advantages and Applications, Fluid power systems, Types of fluids Properties of fluids and selection, Basics of Hydraulics, Pascal's Law, Principles of flow, Friction loss, Sources of Hydraulic power: Pumping Theory, Pump Classification, Construction, Working, Design, Advantages, Disadvantages, Performance.

UNIT II

Hydraulic Actuators and Control Components: Hydraulic Actuators: Cylinders Types and construction, Application, Hydraulic cushioning, Hydraulic motors, Control Components: Direction Control, Flow control and pressure control valves, Types, Construction and Operation, Servo and Proportional valves, Applications, Accessories: Reservoirs, Pressure Switches, Applications, Fluid Power ANSI Symbols.

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DTME604B	DC	HYDRAULIC AND PNEUMATIC DEVICES	60	20	20	0	0	2	1	0	3

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; **P** – Practical; **C** - Credit;
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UNIT III

Hydraulic Circuits and System: Accumulators, Intensifiers, Industrial hydraulic circuits, Regenerative, Pump Unloading, Double- Pump, Pressure Intensifier, Air-over oil, Sequence, Reciprocation, Synchronization, Hydrostatic transmission, Electro hydraulic circuits, Mechanical hydraulic servo systems.

UNIT IV

Pneumatic and Electro Pneumatic System: Properties of air, Perfect Gas Laws, Compressor, Filters, Regulator, Lubricator, Muffler, Air control Valves, Quick Exhaust Valves, Design of Pneumatic circuit, Electro Pneumatic System, Elements, Ladder diagram.

UNIT V

Trouble Shooting and Applications: Installation, Selection, Maintenance, Trouble Shooting, Hydraulic and Pneumatic systems, Design of hydraulic circuits for Drilling, Planning, Shaping, Surface grinding, Press and Forklift applications. Design of Pneumatic circuits for Pick and Place applications and tool handling in CNC Machine tools.

References Books:

1. *"Hydraulic and Pneumatic controls", ShanmugamSundaram, S.Chand & Co, 2016.*
2. *"Oil Hydraulics Systems-Principles and Maintenance", Majumdar, S.R., Tata McGraw Hill, 2001*
3. *"Pneumatic Systems-Principles and Maintenance," Majumdar, S.R., Tata McGraw Hill, 2007.*

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DTME604D	DC	Entrepreneurship and Startup	60	20	20	0	0	2	1	0	3

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; **P** – Practical; **C** - Credit;
***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 20 marks.

Course Educational Objectives(CEOs):
The subject aims to provide the student with:

1. Understand the concept of entrepreneurship and its role in economic development.
2. Develop the ability to recognize market opportunities and generate viable business ideas.
3. Learn to formulate effective business plans, strategies, and marketing tactics for startup success.

Course Outcomes(COs):

1. Students will be able to identify entrepreneurial opportunities and develop innovative business ideas.
2. Students will gain proficiency in creating comprehensive business plans and strategies for start-up ventures.
3. Students will acquire knowledge and skills in securing funding and managing finances for entrepreneurial endeavors.

Syllabus

Unit 1: Introduction to Entrepreneurship

- Definition of entrepreneurship
- Historical perspectives on entrepreneurship
- Economic importance of entrepreneurship
- Characteristics and traits of successful entrepreneurs
- Role models and inspirational figures in entrepreneurship

Unit 2: Opportunity Recognition and Idea Generation

- Identifying market needs and gaps
- Techniques for idea generation (brainstorming, problem-solving)
- Assessing feasibility and viability of business ideas
- Case studies on successful start-ups and their origin stories
- Introduction to lean start-up methodology

Unit 3: Business Planning and Strategy

- Elements of a business plan (executive summary, market analysis, financial projections)

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Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; **P** – Practical; **C** - Credit;
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- Market research and competitive analysis
- Financial planning and budgeting
- Developing a business model canvas
- Strategic decision-making for start-ups

Unit 4: Marketing and Sales for Start-ups

- Marketing fundamentals for start-ups
- Branding and brand identity
- Digital marketing strategies (social media, content marketing)
- Sales techniques and customer relationship management
- Growth hacking tactics for start-ups

Unit 5: Funding and Finance

- Sources of funding for start-ups
- Venture capital, angel investment, and crowd funding
- Financial management and cash flow analysis
- Negotiating term sheets and investment agreements
- Bootstrapping and alternative financing options

Textbooks:

- Donald F. Kuratko, Entrepreneurship: Theory, Process, and Practice, Cengage Learning, 10th Edition (2020)
- Eric Ries The Lean Startup: How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses, Currency, 1st Edition (2011)
- Alexander Osterwalder, Yves Pigneur Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers, Wiley, 1st Edition (2010)

Reference Books:

- Blake Mycoskie, Start Something That Matters, Spiegel & Grau, Reprint Edition (2012)
- Alejandro Cremades, The Art of Startup Fundraising: Pitching Investors, Negotiating the Deal, and Everything Else Entrepreneurs Need to Know, John Wiley & Sons, 1st Edition (2016)

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			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
DTME606N	PW	MAJOR PROJECT	0	0	0	100	50	0	0	10	**5**

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; **P** – Practical; **C** - Credit;
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Course Educational Objectives (CEOs):
(A) To develop the ability to solve a specific problem right from its identification and literature review till the successful solution of the same (B) To train the students in preparing project reports and to face reviews and viva voce examination.

Course Outcomes (COs):
After completion of this course, the students will be able to
1. Identify real world problems of mechanical engineering and related systems.
2. Interpret the working of mechanical engineering systems.
3. Apply the principles of mechanical engineering in real world systems.
4. Criticize and experiment to arrive at solutions for real world mechanical engineering problems.
5. Analyze and evaluate to obtain solution for problems in mechanical engineering systems.
6. Develop a prototypes/models, experimental set-up, and software systems necessary to meet the objectives.
7. Identify methods and materials to conduct experiments/develop code.
8. Reorganize the procedures with a concern for society, environment, and ethics.
9. Analyze and discuss the results to draw valid conclusions.
10. Prepare a report as per recommended format and defend the work.

Syllabus
1. Major Project:
Each project will cover all the aspects (to the extent possible) of real-life application of concepts studied under the program; Alternately, a few research problems also may be identified for investigation; The project shall be driven by realistic constraints like that related to economic, environmental, social, political, ethical, health & safety, manufacturability, and sustainability.

2. Internship:
Alternately, student is encouraged to take an industrial project with reputed organizations or firms chosen by the institute. In such cases the student will stay with the firm and carry out the project. The project will be guided by the faculty member and the concerned officer in the industry. All the requirements spelt out under 'MAJOR PROJECT' above, shall be incorporated under this work also. However, reviews will be conducted in the institute which the student shall attend.

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Vishwavidyalaya, Indore	Vishwavidyalaya, Indore		

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SEMESTER VI (2022-2025)

COURSE CODE	CATE-GORY	COURSE NAME	TEACHING &EVALUATION SCHEME								
			THEORY			PRACTICAL		L	T	P	CREDITS
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2.1 Course Description:
An internship experience provides the student with an opportunity to explore career interests while applying knowledge and skills learned in the classroom in a work setting. The experience also helps students gain a clearer sense of what they still need to learn and provides an opportunity to build professional networks.

2.2 Learning Goals:
The internship will provide students with the opportunity to:

1. Gain practical experience within the business environment.
2. Acquire knowledge of the industry in which the internship is done.
3. Apply knowledge and skills learned in the classroom in a work setting.
4. Develop a greater understanding about career options while more clearly defining personal career goals.
5. Experience the activities and functions of business professionals.
6. Develop and refine oral and written communication skills.
7. Identify areas for future knowledge and skill development.

3. General Rules of Selection/Allotment of Dissertation Title and Its Submission:
3.1) The selection of dissertation title should be non-trivial, analytical, practical/hardware implementation based, application oriented (relevant to the need of industries) and should involve the elementary research and/or development effort based on a specific theme.

3.2) Students may be encouraged to undertake industry defined dissertation. For the industry defined dissertation there shall be one external supervisor of the industry and one internal supervisor of student's own department. It will be the sole responsibility of internal supervisor to define the research problem, scope, methodology and outcome from the dissertation in consultation with external supervisor.

3.3) Supervisors for the dissertation can suggest the titles of dissertation considering their long-term goal for research.
3.4) Students can also discuss the titles of their choice or titles given from industries with the supervisors and if feasible and accepted by supervisors, can be included in the list of suggested titles.

3.5) Consolidated list of suggested dissertation titles will be communicated to the students in semester VI.

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3.6) In case, if two students give choice for same title; title will be allotted based on merit.

3.7) Final allotment of titles and supervisors will be published on notice board in consultation with Head of the Department.

3.8) Requirement of change in the title of dissertation work should be applied to the Head of the Department with sufficient reasons for the change, before the exam of Dissertation Progress Review-I.

3.9) After Dissertation Progress Review-I exam, change of the title will be permitted based on the comments of internal examiner. Such cases should apply for the change in titles and should get approval from the Head of the Department.

4. Dissertation Work in Collaboration with Industry:

4.1) It is preferable that students, with the approval of the Head of the Department, visit industry or a Research Laboratory for data collection, discussion of the dissertation, experimental work, survey, field studies, etc. during the project period. Projects sponsored by the Industries or R&D organizations will be encouraged and a close liaison with such organizations will be maintained.

4.2) Students shall acknowledge the involvement and / or contribution of an Industries or R&D organizations for their dissertations.

4.3) Satisfactory completion certificate issued by the Industry or R&D organization should be attached with the dissertation report.

4.4) Internal supervisor, should monitor the progress of his/her students by remaining in contact with the students and external supervisors by emails, video conferencing and/or by making visits to the industries at least once in a month, depending on the need of project and as decided by concerned Head of the Department.

5. Supervisors:

5.1) Students shall be assigned one or two supervisors(s) from the Institute.

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5.2) In case any supervisor leaves the Institute permanently or temporarily for a period exceeding one semester, the Head of the Department shall appoint new supervisor for the concern students. Any such arrangements made, should get approval from Head of the Institute.

5.3) A faculty can supervise maximum 6 (Six) Dissertations at a time.

5.4) In case of interdisciplinary areas, at least one supervisor must belong to the discipline in which the student is registered.

6. Dissertation Evaluations:

6.1) For continuous evaluation (*CE), a comprehensive internal assessment of the dissertation work should be made by an internal review panel formed by Head of the Department, supervisor and at least two senior faculty with expertise in same field of dissertation work.

6.2) Internal review panel will review the progress of the students in the last week of 1st, 2nd, 3rd and 4th month of semester VI (i.e. four presentation in front of internal review panel) and finally give his/her assessment of the work done by the students for internal continuous evaluation marks with comments of the review.

6.3) Dissertation and External Viva-Voce:

1. If any student has not done satisfactory work, then internal review panel may not allow the student for external practical exam.
2. Review record for all the previous reviews along with remedial review (if applicable) should be maintained by the supervisor and marks will be allotted based on the review.
3. Students must submit a dissertation report on the project work conducted by him/her. The guidelines for preparation of dissertation report shall be followed by every student as per guidelines given by the department
4. The final dissertation report shall be submitted on or before the submission date mentioned in academic calendar.
5. For DISSERTATION, three hard bound copies (for supervisor, department library and student copy) along with a soft copy (in CD containing pdf of the report, certificate of paper published (if any) and detailed paper, with name, enrollment number, branch, year of admis-

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sion of the student written on the CD) of the dissertation report shall be submitted to the Head of the Department before final examination of DISSERTATION on or before the date notified by the University. Reports must be certified by the supervisor, Head of the Department, and the Head of the Institution.

6. Dissertation viva - voce will be held within the date fixed in the academic calendar and the grades will be finalized. External examiner will evaluate dissertation work in semester VI. For DISSERTATION External examiner shall be from outside the Institution. The external expert who examines the dissertation will conduct the viva voce.
7. Details of all internal review (Internal continuous evaluation) and external exams (External Practical) shall be adequately notified so as to enable interested faculty members and students to attend the same.

6.4) Work to be completed by the students till the internal review and external viva (External Pr) exam should be as follows:

Sem	Subject and Sub. Code	Details	Work to be complete
Sem VI	DISSERTATION PROGRESS REVIEW	DISSERTATION PROGRESS REVIEW I for continuous evaluation (To be taken at the end of 1st month of sem VI)	Students should demonstrate in-depth knowledge and thoughtful application in stating an in-depth analysis of key theories supporting the study, problem definition must be complete. In this Presentation students must teach the theory related to dissertation title with 10% of work completion.
		DISSERTATION PROGRESS REVIEW II for continuous evaluation (To be taken at the end of 2nd month of sem VI)	Literature review and problem definition with objectives should be complete. Presentation of literature review should be in terms of table comparing different points. 20% of work should be complete
		DISSERTATION PROGRESS REVIEW III for continuous evaluation	Demonstrate understanding, Application of relevant methodology, techniques, and analysis with 40% of

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		(To be taken at the end of 3rd month of Sem VI)	work completion.
		DISSERTATION PROGRESS REVIEW IV for continuous evaluation (To be taken at the 4thMonth of Sem VI)	60% of work should be complete, future action plan/methodology and outcomes must be clear. (If dissertation is based on simulation/analysis and hardware then 100% simulation/analysis work should be complete)
	FINAL DISSERTATION	**FINAL DISSERTATION** (External-Pr) (To be taken at the end of sem VI)	100% of work should be complete, reporting the study's main results/findings with clear interpretation and discussion of the results.

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