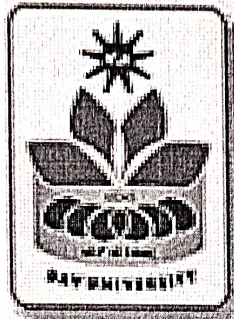


Master of Technology (Industrial and Production Engineering)-Part Time

DAV UNIVERSITY, JALANDHAR



Course Scheme & Syllabus

Master of Technology

(Part Time)

In

Industrial and Production Engineering

For Session 2019 onwards

PROGRAMME EDUCATIONAL OBJECTIVES (PEO's)

1. PG students will have a thorough grounding in the key principles and practices of Industrial & Production Engineering, and will apply their engineering skills and knowledge of fundamental principles to the design and implementation of practical systems to meet customer requirements.
2. PG students will be ready for successful employment in design and research in the engineering profession and will be actively engaged in learning, understanding, and applying new ideas and technologies as the field evolves.
3. To develop the capabilities among students so that they have the ability to participate in creative, activities related to Industrial & Production Engineering.
4. To develop communication skills so that the students are able to express ideas clearly and persuasively, in written and oral forms.
5. To develop ability to design and perform experiments in the industrial & production engineering and to acquire the ability to interpret and evaluate experimental results.
6. To develop the ability to work with others as a team, in professional and social environment.
7. To aware students about work ethics.

PROGRAMME OUTCOMES (PO's)

1. The students have proficiency in the area of Industrial & Production Engineering and have the ability to distinguish, estimate, scrutinize and create solutions for various mechanical engineering problems.
2. The students have ability to apply the fundamental knowledge to generate solutions for complex engineering problems. The student has capability to apply the basic research principles to conduct research in wider spectrum of theoretical and practical aspects of the problem.
3. The students have ability to conceptualize the problem and present a broad spectrum of solutions and finally arrive at a feasible and optimal solution.
4. The students have ability to apply research methodologies, tools and techniques to unfamiliar problems. The student has the ability to conduct the experiments, logically analyze and interpret the experimental or theoretical outcome.
5. The students have ability to create or apply modern IT tools and techniques to find out fundamental solutions of problems.
6. The students have ability to communicate efficiently with the society at large related to complex engineering activities. They also have ability to write effective reports and design documentation by adhering to suitable standards.

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SEMESTER-I

| S. No | Subject Code | Name of Subject | L | T | P | Credits | Course Type |
|--------------|--------------|---------------------------------------|-----------|----------|----------|-----------|-------------|
| 1. | MEC752 | Advanced Manufacturing Processes | 4 | 0 | 0 | 4 | Core |
| 2. | MEC753 | Metal Cutting and Machine tool design | 4 | 0 | 0 | 4 | Core |
| 3. | MEC756 | Advanced Manufacturing Technology Lab | 0 | 0 | 4 | 2 | Core |
| 4. | | Elective - 1* | 4 | 0 | 0 | 4 | PE |
| Total | | | 12 | 0 | 4 | 14 | |

SEMESTER-II

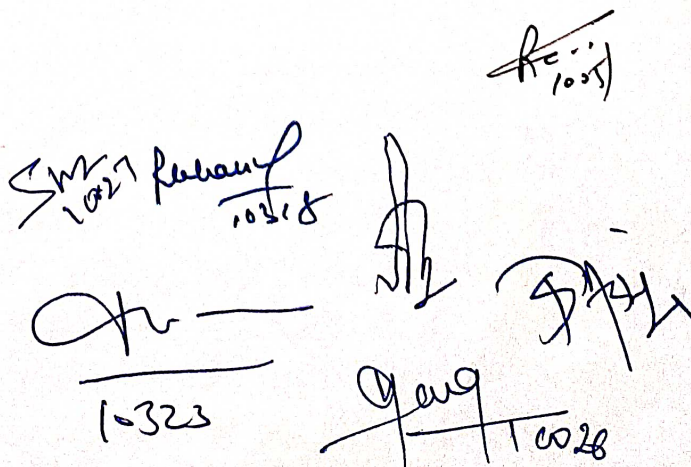
| S. No | Subject Code | Name of Subject | L | T | P | Credits | Course Type |
|--------------|--------------|---------------------------------|-----------|----------|----------|-----------|-------------|
| 1. | MEC754 | Production Planning and Control | 4 | 0 | 0 | 4 | Core |
| 2. | MEC715A | Research Methodology and IPR | 4 | 0 | 0 | 4 | Core |
| 3. | | Elective - 2* | 4 | 0 | 0 | 4 | PE |
| 4. | | Audit course-1 | 2 | 0 | 0 | 0 | AC |
| Total | | | 14 | 0 | 0 | 12 | |

SEMESTER-III

| S. No | Subject Code | Name of Subject | L | T | P | Credits | Course Type |
|--------------|--------------|--------------------------------|-----------|----------|----------|-----------|-------------|
| 1. | MEC755 | Product Design and Development | 4 | 0 | 0 | 4 | Core |
| 2. | | Elective - 3* | 4 | 0 | 0 | 4 | PE |
| 3. | | Open Elective* | 3 | 0 | 0 | 3 | OE |
| 4. | | Audit course-2 | 2 | 0 | 0 | 0 | AC |
| Total | | | 13 | 0 | 0 | 11 | |

SEMESTER-IV

| S. No | Subject Code | Name of Subject | L | T | P | Credits | Course Type |
|--------------|--------------|------------------------------------|----------|----------|----------|-----------|-------------|
| 1. | MEC763 | Methods Engineering and Ergonomics | 4 | 0 | 0 | 4 | Core |
| 2. | | Elective - 4* | 4 | 0 | 0 | 4 | PE |
| 3. | MEC764 | Industrial Engineering Lab | 0 | 0 | 4 | 2 | Core |
| 4. | MEC765 | Seminar and Dissertation Writing | 0 | 0 | 4 | 2 | MP |
| Total | | | 8 | 0 | 8 | 12 | |



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SEMESTER-V

| S. No | Subject Code | Name of Subject | L | T | P | Credits | Course Type |
|--------------|--------------|------------------------|----------|----------|-----------|-----------|--------------|
| 1. | | Elective - 5* | 4 | 0 | 0 | 4 | PE |
| 2. | MEC795 | Dissertation Phase - I | 0 | 0 | 12 | 6 | Dissertation |
| Total | | | 4 | 0 | 12 | 10 | |

SEMESTER-VI

| S. No | Subject Code | Name of Subject | L | T | P | Credits | Course Type |
|-------|--------------|-------------------------|---|---|----|---------|--------------|
| 1. | MEC796 | Dissertation Phase - II | 0 | 0 | 24 | 12 | Dissertation |

PE- Program Elective, MP - Mini Project, AC- Audit Course

*-ref page no. 6

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Program Elective (PE) Baskets

ELECTIVE-1

| S. No | Subject Code | Name of Subject | L | T | P | Credits |
|-------|--------------|-----------------------------------|---|---|---|---------|
| 1. | MEC711 | Computer Control of Machine Tools | 4 | 0 | 0 | 4 |
| 2. | MEC775 | Advanced Materials | 4 | 0 | 0 | 4 |
| 3. | MEC789 | Business Policy and Strategies | 4 | 0 | 0 | 4 |
| 4. | MEC790 | Instrumentation and Control | 4 | 0 | 0 | 4 |

ELECTIVE-2

| S. No | Subject Code | Name of Subject | L | T | P | Credits |
|-------|--------------|--|---|---|---|---------|
| 1. | MEC702 | Advanced Mechatronics | 4 | 0 | 0 | 4 |
| 2. | MEC703 | Computer Integrated Manufacturing System | 4 | 0 | 0 | 4 |
| 3. | MEC705 | Robotics | 4 | 0 | 0 | 4 |
| 4. | MEC721 | Industrial Automation | 4 | 0 | 0 | 4 |

ELECTIVE-3

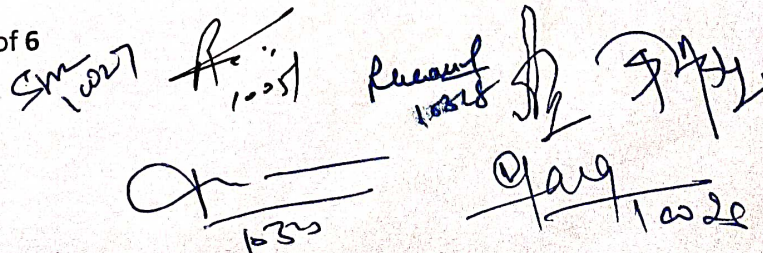
| S. No | Subject Code | Name of Subject | L | T | P | Credits |
|-------|--------------|---|---|---|---|---------|
| 1. | MEC751 | Casting and Welding Technology | 4 | 0 | 0 | 4 |
| 2. | MEC761 | Metrology and Computer Aided Inspection | 4 | 0 | 0 | 4 |
| 3. | MEC762 | Total Quality Management | 4 | 0 | 0 | 4 |
| 4. | MEC783 | Entrepreneurship | 4 | 0 | 0 | 4 |

ELECTIVE-4

| S. No | Subject Code | Name of Subject | L | T | P | Credits |
|-------|--------------|-----------------------------------|---|---|---|---------|
| 1. | MEC777A | Casting & Welding Metallurgy | 4 | 0 | 0 | 4 |
| 2. | MEC781 | Organization Theory and Behaviour | 4 | 0 | 0 | 4 |
| 3. | MEC782 | Material Management | 4 | 0 | 0 | 4 |
| 4. | MEC784 | Management Information System | 4 | 0 | 0 | 4 |

ELECTIVE-5

| S. No | Subject Code | Name of Subject | L | T | P | Credits |
|-------|--------------|-----------------------------|---|---|---|---------|
| 1. | MEC725 | Non-Destructive Testing | 4 | 0 | 0 | 4 |
| 2. | MEC785 | Industrial Psychology | 4 | 0 | 0 | 4 |
| 3. | MEC786 | Tribology | 4 | 0 | 0 | 4 |
| 4. | MEC787 | Maintenance and Reliability | 4 | 0 | 0 | 4 |



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OPEN ELECTIVE

| S. No | Subject Code | Name of Subject | L | T | P | Credits |
|-------|--------------|---|---|---|---|---------|
| 1. | MGT701 | Business Analytics | 3 | 0 | 0 | 3 |
| 2. | MEC707 | Industrial Safety | 3 | 0 | 0 | 3 |
| 3. | MEC788A | Operations Research | 3 | 0 | 0 | 3 |
| 4. | CIV903 | Cost Management of Engineering Projects | 3 | 0 | 0 | 3 |
| 5. | CIV904 | Composite Materials | 3 | 0 | 0 | 3 |
| 6. | CIV905 | Waste to Energy | 3 | 0 | 0 | 3 |

AUDIT COURSES

| S. No | Subject Code | Name of Subject | L | T | P | Credits |
|-------|-------------------|---|---|---|---|---------|
| 1. | ENG755 | English for Research Paper Writing | 2 | 0 | 0 | 0 |
| 2. | CIV906 | Disaster Management | 2 | 0 | 0 | 0 |
| 3. | SGS708 | Value Education | 2 | 0 | 0 | 0 |
| 4. | SGS709 | Constitution of India | 2 | 0 | 0 | 0 |
| 5. | EDU701 | Pedagogy Studies | 2 | 0 | 0 | 0 |
| 6. | PHE746 | Stress Management by Yoga | 2 | 0 | 0 | 0 |
| 7. | SGS710 | Personality Development through Life Enlightenment Skills | 2 | 0 | 0 | 0 |

* - MOOC courses

Students can also pursue MOOC courses of equivalent credits floated by NPTEL, SWAYAM in place of Elective courses provided content of such MOOC courses should not match with regular subjects. MOOC chosen against departmental elective has to be a technical course related to mechanical/ industrial and production engineering and for open elective course has to be from any other domain except mechanical engineering/ industrial and production.

Syllabus – strictly as per the regular course

Handwritten signatures and dates: SM 10/27, 10/27, 10/26, 10/26