

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM
CHOICE BASED CREDIT SYSTEM (CBCS)
SCHEME OF TEACHING AND EXAMINATION 2016-2017

M.Tech. MANUFACTURING SCIENCE & ENGINEERING (MSE)

I SEMESTER

| Sl. No | Subject Code | Title | Teaching Hours /Week | | Examination | | | | Credit |
|--------------|--------------|-----------------------------------|----------------------|---------------------------------|-------------|------------|------------------------|-------------|-----------|
| | | | Theory | Practical/Field Work/Assignment | Duration | I.A. Marks | Theory/Practical Marks | Total Marks | |
| 1 | 16MSE11 | Quality & Reliability Engineering | 4 | | 3 | 20 | 80 | 100 | 4 |
| 2 | 16 MSE12 | Advanced Foundry Technology | 4 | | 3 | 20 | 80 | 100 | 4 |
| 3 | 16 MSE13 | Theory of Metal Forming | 4 | | 3 | 20 | 80 | 100 | 4 |
| 4 | 16 MSE14 | Advanced Materials & Processing | 4 | | 3 | 20 | 80 | 100 | 4 |
| 5 | 16 MSE15X | Elective - I | 3 | | 3 | 20 | 80 | 100 | 3 |
| 6 | 16 MSEL16 | Manufacturing laboratory –I | | 3 | 3 | 20 | 80 | 100 | 2 |
| 7 | 16 MSE17 | Seminar | | 3 | | 100 | | 100 | 1 |
| TOTAL | | | 19 | 6 | 18 | 220 | 480 | 700 | 22 |

| Elective | |
|-----------------|--|
| 16 MSE151 | Applied Probability and Statistics |
| 16 MSE152 | Composite Materials |
| 16 MSE153 | Theory of Metal Cutting |
| 16 MSE154 | Computer Integrated Manufacturing & Automation |
| 16 MSE155 | Quantitative Techniques in Decision Making |
| 16 MSE156 | Operations Management |

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II SEMESTER

| Sl. No | Subject Code | Title | Teaching Hours /Week | | Examination | | | Credit | |
|--------------|--------------|-------------------------------------|----------------------|---------------------------------|-------------|------------|------------------------|------------|-------------|
| | | | Theory | Practical/Field Work/Assignment | Duration | I.A. Marks | Theory/Practical Marks | | Total Marks |
| 1 | 16MSE21 | Industrial Robotics | 4 | | 3 | 20 | 80 | 100 | 4 |
| 2 | 16MSE22 | Non-Traditional Machining Processes | 4 | | 3 | 20 | 80 | 100 | 4 |
| 3 | 16MSE23 | Non-Destructive Testing | 4 | | 3 | 20 | 80 | 100 | 4 |
| 4 | 16XX24 | Surface Treatment & Finishing | 4 | | 3 | 20 | 80 | 100 | 4 |
| 5 | 16MSE25X | Elective-II | 3 | | 3 | 20 | 80 | 100 | 3 |
| 6 | 16MSEL26 | Manufacturing Laboratory II | | 3 | 3 | 20 | 80 | 100 | 2 |
| 7 | 16MSE27 | Seminar | | 3 | | 100 | | 100 | 1 |
| TOTAL | | | 19 | 6 | 18 | 220 | 480 | 700 | 22 |

| Elective | |
|-----------------|--|
| 16MSE251 | Simulation & Modeling of Manufacturing Systems |
| 16MSE252 | Finite Element Methods |
| 16MSE253 | Agile manufacturing |
| 16MSE254 | Advanced Joining Processes |

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III SEMESTER: Internship

| Sl. No | Subject Code | Title | Teaching Hours /Week | | Examination | | | Credit | |
|--------------|--------------|--|----------------------|---------------------------------|-------------|------------|------------------------|------------|-------------|
| | | | Theory | Practical/Field Work/Assignment | Duration | I.A. Marks | Theory/Practical Marks | | Total Marks |
| 1 | 16MSE31 | Seminar / Presentation on Internship (After 8 weeks from the date of commencement) | | | | 25 | | 25 | 20 |
| 2 | 16MSE32 | Report on Internship | | | | 50 | | 50 | |
| 3 | 16MSE33 | Evaluation and Viva-Voce of Internship | | | | | 75 | 75 | |
| 4 | 16MSE34 | Evaluation of Project phase -1 | | | | 25 | | 25 | 1 |
| TOTAL | | | | | | 100 | 75 | 175 | 21 |

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IV SEMESTER

| Sl. No | Subject Code | Title | Teaching Hours /Week | | Examination | | | Credit | |
|--------------|--------------|-------------------------------------|----------------------|---------------------------------|-------------|------------|------------------------|------------|-------------|
| | | | Theory | Practical/Field Work/Assignment | Duration | I.A. Marks | Theory/Practical Marks | | Total Marks |
| 1 | 16MSE41 | Tool Design | 4 | | 3 | 20 | 80 | 100 | 4 |
| 2 | 16MSE42X | Elective-3 | 3 | | 3 | 20 | 80 | 100 | 3 |
| 3 | 16MSE43 | Evaluation of Project phase -2 | | | | 50 | | 50 | 3 |
| 4 | 16MSE44 | Evaluation of Project and Viva-Voce | | | 3 | | 100+100 | 200 | 10 |
| TOTAL | | | | | 6 | 60 | 75 | 450 | 20 |

| Elective | |
|-----------------|----------------------------------|
| 16MSE421 | Industrial Design & Ergonomics |
| 16MSE422 | Advanced Manufacturing Practices |
| 16MSE423 | Advanced Fluid Power Systems |
| 16MSE424 | Project Management |
| 16MSE425 | Nano Technology |

Note:

1. Project Phase-1: 6-week duration shall be carried out between 2nd and 3rd Semester vacation. Candidates in consultation with the guide shall carry out literature survey/ visit industries to finalize the topic of Project.

2. Project Phase-2: 16-week duration during 4th semester. Evaluation shall be done by the committee constituted comprising of HoD as Chairman, Guide and Senior faculty of the department.

3. Project Evaluation: Evaluation shall be taken up at the end of 4th semester. Project work evaluation and Viva-Voce examination shall be conducted

4. Project evaluation:

- a. Internal Examiner shall carry out the evaluation for 100 marks.
- b. External Examiner shall carry out the evaluation for 100 marks.
- c. The average of marks allotted by the internal and external examiner shall be the final marks of the project evaluation.
- d. Viva-Voce examination of Project work shall be conducted jointly by Internal and External examiner for 100 marks.