

Harcourt Butler Technological Institute, Kanpur
New Study & Evaluation Scheme [Effective from the Session 2013-14]

B.Tech. Mechanical Engineering

YEAR I, SEMESTER-I Branch: Common to all branches

| Sl No | Course Code | Subject | Periods | | | Evaluation Scheme | | | | Subject Total | Credit |
|-----------------------------------|---------------|---|-----------|----------|----------|-------------------|----|-------|-----|---------------|--------|
| | | | | | | Sessional Exam | | | ESE | | |
| | | | L | T | P | CT | TA | Total | | | |
| THEORY | | | | | | | | | | | |
| 1 | IMA101 | Mathematics-I | 3 | 1 | 0 | 30 | 20 | 50 | 100 | 150 | 4 |
| 2 | IPH101/ICY101 | Physics/Chemistry | 3 | 1 | 0 | 30 | 20 | 50 | 100 | 150 | 4 |
| 3 | IEE101/IET101 | Electrical Engg./Electronics and Instrumentation Engg | 3 | 1 | 0 | 30 | 20 | 50 | 100 | 150 | 4 |
| 4 | IME101/ICS101 | Engg Mechanics/Computer Concepts and C Programming | 3 | 1 | 0 | 30 | 20 | 50 | 100 | 150 | 4 |
| 5 | IHU101/ICE101 | Professional Communication/Engineering Graphics | 3 | 1 | 0 | 30 | 20 | 50 | 100 | 150 | 4 |
| 6 | IHU102/ICE102 | Remedial English/Environment and Ecology* | 2 | 0 | 0 | | | | 50 | 50 | Audit |
| PRACTICAL/TRAINING/PROJECT | | | | | | | | | | | |
| 7 | IPH151/ICY151 | Physics/Chemistry | 0 | 0 | 3 | 10 | 10 | 20 | 30 | 50 | 1 |
| 8 | IHU151/ICS151 | Language Lab/Computer Lab | 0 | 0 | 3 | 10 | 10 | 20 | 30 | 50 | 1 |
| 9 | IEE151/TWS151 | Electrical Engg/Workshop Practice | 0 | 1 | 3 | 30 | 20 | 50 | 50 | 100 | 2 |
| 10 | IGP101 | General Proficiency | | | | | | 50 | | 50 | |
| | | Total | 17 | 6 | 9 | | | | | 1000 | |

**Environment ecology and Remedial English Language is compulsory Audit-courses.
Candidate has to secure minimum 30% pass marks.*

YEAR I, SEMESTER-II Branch: Common to all branches

| Sl No | Course Code | Subject | Periods | | | Evaluation Scheme | | | | Subject Total | Credit |
|-----------------------------------|---------------|---|-----------|----------|----------|-------------------|----|-------|-----|---------------|--------|
| | | | | | | Sessional Exam | | | ESE | | |
| | | | L | T | P | CT | TA | Total | | | |
| THEORY | | | | | | | | | | | |
| 1 | IMA201 | Mathematics-II | 3 | 1 | 0 | 30 | 20 | 50 | 100 | 150 | 4 |
| 2 | IPH201/ICY201 | Physics/Chemistry | 3 | 1 | 0 | 30 | 20 | 50 | 100 | 150 | 4 |
| 3 | IEE201/IET201 | Electrical Engg./Electronics and Instrumentation Engg | 3 | 1 | 0 | 30 | 20 | 50 | 100 | 150 | 4 |
| 4 | IME201/ICS201 | Engg Mechanics/Computer Concepts and C Programming | 3 | 1 | 0 | 30 | 20 | 50 | 100 | 150 | 4 |
| 5 | IHU201/ICE201 | Professional Communication/Engineering Graphics | 3 | 1 | 0 | 30 | 20 | 50 | 100 | 150 | 4 |
| 6 | IHU202/ICE202 | Remedial English/Environment and Ecology* | 2 | 0 | 0 | - | - | - | 50 | 50 | Audit |
| PRACTICAL/TRAINING/PROJECT | | | | | | | | | | | |
| 7 | IPH251/ICY251 | Physics/Chemistry | 0 | 0 | 3 | 10 | 10 | 20 | 30 | 50 | 1 |
| 8 | IHU251/ICS251 | Language Lab/Computer Lab | 0 | 0 | 3 | 10 | 10 | 20 | 30 | 50 | 1 |
| 9 | IEE251/TWS251 | Electrical Engg/Workshop Practice | 0 | 1 | 3 | 30 | 20 | 50 | 50 | 100 | 2 |
| 10 | IGP201 | General Proficiency | | | | | | 50 | | 50 | |
| | | Total | 17 | 6 | 9 | | | | | 1000 | |

**Environment ecology and Remedial English Language is compulsory Audit-courses.
Candidate has to secure minimum 30% pass marks.*

Note: Upto 2nd Semester common with all branches

Harcourt Butler Technological Institute, Kanpur
New Study & Evaluation Scheme [Effective from the Session 2014-15]
B.Tech. Mechanical Engineering
YEAR II, SEMESTER-III

| Sl No | Course Code | Subject | Periods | | | Evaluation Scheme | | | | Subject Total | Credits |
|-----------------------------------|-------------|----------------------------|-----------|----------|----------|-------------------|----|-------|-----|---------------|-----------|
| | | | | | | Sessional Exam | | | ESE | | |
| | | | L | T | P | CT | TA | Total | | | |
| THEORY | | | | | | | | | | | |
| 1 | IMA | Mathematics III # | 3 | 1 | 0 | 30 | 20 | 50 | 100 | 150 | 4 |
| 2 | ICE | Fluid Mechanics* | 3 | 1 | 0 | 30 | 20 | 50 | 100 | 150 | 4 |
| 3 | IME-301 | Strength of Materials | 3 | 1 | 0 | 30 | 20 | 50 | 100 | 150 | 4 |
| 4 | IME-302 | Materials Science | 3 | 1 | 0 | 30 | 20 | 50 | 100 | 150 | 4 |
| 5 | IME-303 | Engineering Thermodynamics | 3 | 1 | 0 | 30 | 20 | 50 | 100 | 150 | 4 |
| PRACTICAL/TRAINING/PROJECT | | | | | | | | | | | |
| 6 | IME-351 | Applied Mechanics Lab | 0 | 0 | 2 | 10 | 10 | 20 | 30 | 50 | 1 |
| 7 | IME-352 | Material Science Lab | 0 | 0 | 2 | 10 | 10 | 20 | 30 | 50 | 1 |
| 8 | IME-353 | Machine Drawing Lab | 0 | 0 | 2 | 10 | 10 | 20 | 30 | 50 | 1 |
| 9 | ICE | Fluid Mechanics Lab* | 0 | 0 | 2 | 10 | 10 | 20 | 30 | 50 | 1 |
| 10 | IGP-301 | General Proficiency | | | | | | 50 | | 50 | 1 |
| | | Total | 15 | 5 | 8 | | | | | 1000 | 25 |

**To be offered by Civil Engg. Dept., # To be offered by Mathematics Dept.*

YEAR II, SEMESTER-IV

| Sl No | Course Code | Subject | Periods | | | Evaluation Scheme | | | | Subject Total | Credits |
|-----------------------------------|-------------|---|-----------|----------|----------|-------------------|----|-------|-----|---------------|-----------|
| | | | | | | Sessional Exam | | | ESE | | |
| | | | L | T | P | CT | TA | Total | | | |
| THEORY | | | | | | | | | | | |
| 1 | IME-401 | Manufacturing Sc & Engg – I | 3 | 1 | 0 | 30 | 20 | 50 | 100 | 150 | 4 |
| 2 | IME-402 | Heat and Mass Transfer | 3 | 1 | 0 | 30 | 20 | 50 | 100 | 150 | 4 |
| 3 | IME-403 | Energy Conversion Systems | 3 | 1 | 0 | 30 | 20 | 50 | 100 | 150 | 4 |
| 4 | IME-404 | Kinematics of Machines | 3 | 1 | 0 | 30 | 20 | 50 | 100 | 150 | 4 |
| 5 | IMA | Computer Oriented Numerical Methods# | 3 | 1 | 0 | 30 | 20 | 50 | 100 | 150 | 4 |
| 6 | ICS-401 | Cyber Security (For CE,CH,CS,EE,ET,ME only) | 2 | 0 | 0 | | | | 50 | 50 | Audit |
| PRACTICAL/TRAINING/PROJECT | | | | | | | | | | | |
| 6 | IME-451 | Manufacturing Sc & Engg-I Lab | 0 | 0 | 2 | 10 | 10 | 20 | 30 | 50 | 1 |
| 7 | IME-452 | Heat & Mass Transfer Lab | 0 | 0 | 2 | 10 | 10 | 20 | 30 | 50 | 1 |
| 8 | IME-453 | Energy Conversion Lab | 0 | 0 | 2 | 10 | 10 | 20 | 30 | 50 | 1 |
| 9 | IMA | Numerical Techniques Lab# | 0 | 0 | 2 | 10 | 10 | 20 | 30 | 50 | 1 |
| 10 | IGP-401 | General Proficiency | | | | | | 50 | | 50 | 1 |
| | | Total | 17 | 5 | 8 | | | | | 1000 | 25 |

To be offered by Mathematics Dept.

Harcourt Butler Technological Institute, Kanpur
New Study & Evaluation Scheme [Effective from the Session 2015-16]
B.Tech. Mechanical Engineering
YEAR III, SEMESTER-V

| Sl No | Course Code | Subject | Periods | | | Evaluation Scheme | | | | Subject Total | Credits |
|-----------------------------------|-------------|--|-----------|----------|----------|-------------------|----|-------|-----|---------------|-----------|
| | | | L | T | P | Sessional Exam | | | ESE | | |
| | | | | | | CT | TA | Total | | | |
| THEORY | | | | | | | | | | | |
| 1 | IME-501 | Manufacturing Science & Engineering II | 3 | 1 | 0 | 30 | 20 | 50 | 100 | 150 | 4 |
| 2 | IME-502 | IC Engines | 3 | 1 | 0 | 30 | 20 | 50 | 100 | 150 | 4 |
| 3 | IME-503 | Dynamics of Machines | 3 | 1 | 0 | 30 | 20 | 50 | 100 | 150 | 4 |
| 4 | IME-504 | Elements of Mechanical Design | 3 | 1 | 0 | 30 | 20 | 50 | 100 | 150 | 4 |
| 5 | IME-505 | Measurement Systems | 3 | 1 | 0 | 30 | 20 | 50 | 100 | 150 | 4 |
| PRACTICAL/TRAINING/PROJECT | | | | | | | | | | | |
| 6 | IME-551 | MSE-II Lab | 0 | 0 | 2 | 10 | 10 | 20 | 30 | 50 | 1 |
| 7 | IME-552 | I C Engine Lab | 0 | 0 | 2 | 10 | 10 | 20 | 30 | 50 | 1 |
| 8 | IME-553 | Theory of Machine Lab | 0 | 0 | 2 | 10 | 10 | 20 | 30 | 50 | 1 |
| 9 | IME-554 | Machine Design – I Lab | 0 | 0 | 2 | 10 | 10 | 20 | 30 | 50 | 1 |
| 10 | IGP-501 | General Proficiency | - | - | - | - | - | 50 | - | 50 | 1 |
| | | Total | 15 | 5 | 8 | | | | | 1000 | 25 |

YEAR III, SEMESTER-VI

| Sl No | Course Code | Subject | Periods | | | Evaluation Scheme | | | | Subject Total | Credits |
|---|----------------|---------------------------------|-----------|----------|----------|-------------------|----|-------|-----|---------------|-----------|
| | | | L | T | P | Sessional Exam | | | ESE | | |
| | | | | | | CT | TA | Total | | | |
| THEORY | | | | | | | | | | | |
| 1 | IME-601 | Fluid Machinery | 3 | 1 | 0 | 30 | 20 | 50 | 100 | 150 | 4 |
| 2 | IME-602 | Design of Mechanical Components | 3 | 1 | 0 | 30 | 20 | 50 | 100 | 150 | 4 |
| 3 | IME-603 | Computer Aided Design | 3 | 1 | 0 | 30 | 20 | 50 | 100 | 150 | 4 |
| 4 | IME-604 | Management of Production System | 3 | 1 | 0 | 30 | 20 | 50 | 100 | 150 | 4 |
| 5 | IME-611 to 617 | Elective I | 3 | 1 | 0 | 30 | 20 | 50 | 100 | 150 | 4 |
| PRACTICAL/TRAINING/PROJECT | | | | | | | | | | | |
| 6 | IME-651 | Fluid Machinery Lab | 0 | 0 | 2 | 10 | 10 | 20 | 30 | 50 | 1 |
| 7 | IME-652 | Machine Design II Lab | 0 | 0 | 2 | 10 | 10 | 20 | 30 | 50 | 1 |
| 8 | IME-653 | Measurement & Metrology Lab | 0 | 0 | 2 | 10 | 10 | 20 | 30 | 50 | 1 |
| 9 | IME-654 | Seminar | 0 | 0 | 3 | - | - | 50 | - | 50 | 1 |
| 10 | IGP-601 | General Proficiency | - | - | - | - | - | 50 | - | 50 | 1 |
| | | Total | 15 | 5 | 9 | | | | | 1000 | 25 |
| Industrial Training of 4-6 weeks after VI Semester will be evaluated in VII sem. | | | | | | | | | | | |

ELECTIVE I

- Product Design and Development (IME-611)
- Engineering Materials (IME-612)
- Mechatronics ((IME-613)
- Advanced Fluid Mechanics (IME-614)
- Introduction to Nuclear Engg. (IME-615)
- Production Planning & Control (IME-616)
- Industrial Automation (IME-617)

Theory Course for III B.Tech. BE,FT,OT,PT,PL,LT: IME-506 Elements of Mechanical Engineering (3-1-0) is offered by the Department of Mechanical Engineering

Note: Theory Course for III. B.Tech. BE,FT,OT,PT,PL,LT: IME-605: Machine Design (3-1-0) is offered by the Department of Mechanical Engineering

