

|  <p style="text-align: center;">SAMRAT ASHOK TECHNOLOGICAL INSTITUTE VIDISHA (M.P.) (A Govt. Aided UGC Autonomous & NAAC Accredited Institute Affiliated to RGPV Bhopal)</p> <p style="text-align: center;">Scheme of Examination (Semester-III) Bachelor of Technology (B. Tech.) – Electrical Engg.</p> <p style="text-align: center;">for Batch Admitted in session - 2022-23</p> | | | | | | | | | | | | | | |
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| Subject Code | Subject Category | Subject Name | Maximum Marks Allotted | | | | | | | | Contact Hrs. | | | Total Credits |
| | | | Theory | | | | Practical | | | Total Marks | L | T | P | |
| | | | ES | MS | Assignment | Quiz | ES | LW | Quiz | | | | | |
| EE-301 | DC | Electro Mechanical Energy Conversion –I | 60 | 20 | 10 | 10 | 30 | 10 | 10 | 150 | 3 | 0 | 2 | 4 |
| EE-302 | DC | Electronics-II | 60 | 20 | 10 | 10 | 30 | 10 | 10 | 150 | 3 | 0 | 2 | 4 |
| EE-303 | DC | Network Analysis | 60 | 20 | 10 | 10 | 30 | 10 | 10 | 150 | 3 | 0 | 2 | 4 |
| EE-304 | DC | Electrical Instrumentation | 60 | 20 | 10 | 10 | - | - | - | 100 | 3 | 1 | - | 4 |
| OE-305 | OE | OE-1 | 60 | 20 | 10 | 10 | - | - | - | 100 | 3 | 0 | 0 | 3 |
| EE-306 | DL | Workshop –II (Electrical Instrumentation and Drawing Lab) | - | - | - | - | 30 | 10 | 10 | 50 | - | - | 4 | 2 |
| EE-307 | ILC | Internship-I (60 Hrs) Institute level (evaluation) | - | - | - | - | - | 50 | - | 50 | | | 4 | 2 |
| Total | | | 300 | 100 | 50 | 50 | 170 | 40 | 40 | 750 | 16 | 0 | 7 | 23 |
| | | Extracurricular Activities | Based on participation in extra curriculum activities, one credit per year to be endorsed in eight semester mark sheet. | | | | | | | | | | | |
| MAC201-308 | MAC* | Energy, Ecology, Environment & Society | - | 20 | 20 | 10 | - | - | - | - | - | - | - | Grade |
| HUM-309 | HEC* | Holistic Education Course - yoga | - | 20 | 20 | 10 | - | - | - | - | - | - | - | Grade |
| MST: Minimum two mid semester tests to be conducted during Semester, MAC: Mandatory courses classes will be conducted in off hours (Weekends) | | | | | | | | | | | | | | |

Open Course (OE – EE-305): A) Electrical Machine & Transformer, B) Network Analysis

Abbreviations: ES -End Semester, MS- Mid Semester, LW- Laboratory Work/Assignment. (L: Lecture, T: Tutorial, P: Practical), BSC- Basic Science Course, ESC- Engineering Science Course, HSMC- Humanities Science and Management Course, MAC- Mandatory, Audit Course, AC- Audit Course, HEC- Holistic Education Courses: NSS/NCC/NSO, ITC- Information Technology Course, ILC-Institute Level Course, DC- Department Course, DE-Department Elective, OC- Open Course, DLC- Department Laboratory, PROJ- Project Work, VA-Value Added Course

Signature of BoS members:



|  <p style="text-align: center;">SAMRAT ASHOK TECHNOLOGICAL INSTITUTE (Engineering College), VIDISHA M.P. (An Autonomous Institute Affiliated to RGPV Bhopal) Department of Electrical Engg.</p> | | | | | | | | | | | |
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| Semester/Year | | III /II | | Program | | | | B.Tech | | | |
| Subject Category | Departmental Course | Subject Code: | EE 301 | | Subject Name: | Electro Mechanical Energy Conversion. –I | | | | | |
| Maximum Marks Allotted | | | | | | | | Contact Hours | | | Total Credits |
| Theory | | | | Practical | | | Total Marks | L | T | P | |
| ES | MS | Quiz | Assig | ES | LW | Quiz | | | | | L |
| 60 | 20 | 10 | 10 | 30 | 10 | 10 | 150 | 3 | 0 | 2 | 4 |
| Prerequisites: | | | | | | | | | | | |
| Basic Law of Electric and Magnetic Circuits and their Application | | | | | | | | | | | |
| Course Objective: | | | | | | | | | | | |
| <ol style="list-style-type: none"> To recall basic knowledge of transformer and DC machines. To elaborate the knowledge of Electrical Machines used in the industries and domestic applications. To explain the construction, working principle, operation of 1-phase transformer. To explain the construction, working principle, operation, and speed control of D.C. machines and induction motor. | | | | | | | | | | | |
| Course Outcomes: | | | | | | | | | | | |
| At the end of this course, students will demonstrate the ability to | | | | | | | | | | | |
| CO1: Understand the constructional features and operating principles of transformers, both single-phase and three-phase and to determine the voltage regulation and performance characteristics of transformers. | | | | | | | | | | | |
| CO2: Evaluate the constructional details and performance characteristics of DC machines, including their operation as generators and motors. | | | | | | | | | | | |
| CO3: Review the constructional details of three-phase induction motors and understand their working principles, analyze the equivalent circuit, interpret the power flow diagram, phasor diagram and evaluate the characteristics. | | | | | | | | | | | |
| CO4: Analyze the starting methods of induction motors, importance of power factor control of Schrage motors. Apply open circuit and short circuit tests to determine the performance parameters and compare the performance characteristics of double cage and deep bar induction motors. | | | | | | | | | | | |
| CO5: Understand the concept of double revolving field theory; analyze the equivalent circuit of single-phase motors. Evaluate the characteristics and performance parameters; Assess the different starting methods of single-phase motors. | | | | | | | | | | | |
| UNITS | Descriptions | | | | | | | Hrs. | CO's | | |
| I | Transformer: Constructional review of single phase transformer, Equivalent circuits, voltage regulation, short circuit and open circuit tests, Autotransformers, All day efficiency. 3-phase transformers, constructional features, winding arrangements, Scott connections, conditions of parallel operation. | | | | | | | 10 | CO1 | | |

Signature of BoS members:

