



Gulbarga University

Course Outline and Syllabus for Master of Science (M. Sc) in Applied Electronics under CBCS and CAGP

| Semester | Code    | Title of the Course                         | Semester Exam | IA         | Total      | L | T | P | Credits   |
|----------|---------|---|---------------|------------|------------|---|---|---|-----------|
| First    |         | <b>Hard Core</b>                            |               |            |            |   |   |   |           |
|          | HCT1.1  | Semiconductor and Microwave Devices         | 80            | 20         | 100        | 4 | 0 | 0 | 4         |
|          | HCT 1.2 | Electronic Instrumentation                  | 80            | 20         | 100        | 4 | 0 | 0 | 4         |
|          | HCT 1.3 | Electromagnetics and Antennas               | 80            | 20         | 100        | 4 | 0 | 0 | 4         |
|          |         | <b>Soft Core (Any One)</b>                  |               |            |            |   |   |   |           |
|          | SCT 1.1 | Digital Electronics and 8085 Microprocessor | 80            | 20         | 100        | 4 | 0 | 0 | 4         |
|          | SCT 1.2 | Numerical Analysis                          | 80            | 20         | 100        | 4 | 0 | 0 | 4         |
|          |         | <b>Practical</b>                            |               |            |            |   |   |   |           |
|          | HCP 1.1 | Practical HCP 1.1                           | 40            | 10         | 50         | 0 | 0 | 2 | 2         |
|          | HCP 1.2 | Practical HCP 1.2                           | 40            | 10         | 50         | 0 | 0 | 2 | 2         |
|          | HCP 1.3 | Practical HCP 1.3                           | 40            | 10         | 50         | 0 | 0 | 2 | 2         |
|          |         | <b>Soft Core (Any One)</b>                  |               |            |            |   |   |   |           |
|          | SCP 1.1 | Practical SCP 1.1                           | 40            | 10         | 50         | 0 | 0 | 2 | 2         |
|          | SCP 1.2 | Practical SCP 1.2                           | 40            | 10         | 50         | 0 | 0 | 2 | 2         |
|          |         | <b>Total for First Semester</b>             | <b>480</b>    | <b>120</b> | <b>600</b> |   |   |   | <b>24</b> |
| Second   |         | <b>Hard Core</b>                            |               |            |            |   |   |   |           |
|          | HCT 2.1 | Computer Fundamentals and C Programming     | 80            | 20         | 100        | 4 | 0 | 0 | 4         |
|          | HCT 2.2 | 8086 Microprocessor and Interfacing         | 80            | 20         | 100        | 4 | 0 | 0 | 4         |
|          |         | <b>Soft Core (Any One)</b>                  |               |            |            |   |   |   |           |
|          | SCT 2.1 | Fiber Optic Communication                   | 80            | 20         | 100        | 4 | 0 | 0 | 4         |
|          | SCT 2.2 | Analog Control System Design                | 80            | 20         | 100        | 4 | 0 | 0 | 4         |
|          |         | <b>Open Elective (Any One)</b>              |               |            |            |   |   |   |           |
|          | OET 2.1 | Fundamentals of Electronics                 | 80            | 20         | 100        | 4 | 0 | 0 | 4         |
|          | OET 2.2 | Basic Electronics                           | 80            | 20         | 100        | 4 | 0 | 0 | 4         |
|          |         | <b>Practical</b>                            |               |            |            |   |   |   |           |
|          | HCP 2.1 | Practical HCP 2.1                           | 40            | 10         | 50         | 0 | 0 | 2 | 2         |
|          | HCP 2.2 | Practical HCP 2.2                           | 40            | 10         | 50         | 0 | 0 | 2 | 2         |
|          |         | <b>Soft Core (Any One)</b>                  |               |            |            |   |   |   |           |
|          | SCP 2.1 | Practical SCP 2.1                           | 40            | 10         | 50         | 0 | 0 | 2 | 2         |
|          | SCP 2.2 | Practical SCP 2.2                           | 40            | 10         | 50         | 0 | 0 | 2 | 2         |
|          |         | <b>Open Elective (Any One)</b>              |               |            |            |   |   |   |           |
|          | OEP 2.1 | Practical OEP 2.1                           | 40            | 10         | 50         | 0 | 0 | 2 | 2         |
|          | OEP 2.2 | Practical OEP 2.2                           | 40            | 10         | 50         | 0 | 0 | 2 | 2         |
|          |         | <b>Total for Second Semester</b>            | <b>480</b>    | <b>120</b> | <b>600</b> |   |   |   | <b>24</b> |
| Third    |         | <b>Hard Core</b>                            |               |            |            |   |   |   |           |
|          | HCT 3.1 | Networks and Systems                        | 80            | 20         | 100        | 4 | 0 | 0 | 4         |
|          | HCT 3.2 | Microwave Electronics and Measurements      | 80            | 20         | 100        | 4 | 0 | 0 | 4         |
|          |         | <b>Soft Core (Any One)</b>                  |               |            |            |   |   |   |           |
|          | SCT 3.1 | Modern Digital Communication                | 80            | 20         | 100        | 4 | 0 | 0 | 4         |
|          | SCT 3.2 | Power and Industrial Electronics            | 80            | 20         | 100        | 4 | 0 | 0 | 4         |
|          |         | <b>Open Elective (Any One)</b>              |               |            |            |   |   |   |           |
|          | OET 3.1 | Communication and Digital                   | 80            | 20         | 100        | 4 | 0 | 0 | 4         |

|        |          |  |            |            |            |   |   |   |           |
|--------|----------|--|------------|------------|------------|---|---|---|-----------|
|        |          | Electronics  |            |            |            |   |   |   |           |
|        | OET 3.2  | EM Theory and Microwave Devices                                    | 80         | 20         | 100        | 4 | 0 | 0 | 4         |
|        |          | <b>Practical</b>   |            |            |            |   |   |   |           |
|        | HCP 3.1  | Practical HCP 3.1  | 40         | 10         | 50         | 0 | 0 | 2 | 2         |
|        | HCP 3.2  | Practical HCP 3.2  | 40         | 10         | 50         | 0 | 0 | 2 | 2         |
|        |          | <b>Soft Core (Any One)</b>   |            |            |            |   |   |   |           |
|        | SCP 3.1  | Practical SCP 3.1  | 40         | 10         | 50         | 0 | 0 | 2 | 2         |
|        | SCP 3.2  | Practical SCP 3.2  | 40         | 10         | 50         | 0 | 0 | 2 | 2         |
|        |          | <b>Open Elective (Any One)</b>                                     |            |            |            |   |   |   |           |
|        | OEP 3.1  | Practical OEP 3.1  | 40         | 10         | 50         | 0 | 0 | 2 | 2         |
|        | OEP 3.2  | Practical OEP 3.2  | 40         | 10         | 50         | 0 | 0 | 2 | 2         |
|        |          | <b>Total for Third Semester</b>                                    | <b>480</b> | <b>120</b> | <b>600</b> |   |   |   | <b>24</b> |
| Fourth |          | <b>Hard Core</b>   |            |            |            |   |   |   |           |
|        | HCT 4.1  | Microcontrollers and Interfacing                                   | 80         | 20         | 100        | 4 | 0 | 0 | 4         |
|        | HCT 4.2  | Microwave Electronics and Applications                             | 80         | 20         | 100        | 4 | 0 | 0 | 4         |
|        |          | <b>Soft Core (Any One)</b>   |            |            |            |   |   |   |           |
|        | SCT 4.1  | Digital Signal Processing  | 80         | 20         | 100        | 4 | 0 | 0 | 4         |
|        | SCT 4.2  | Data Structures using C  | 80         | 20         | 100        | 4 | 0 | 0 | 4         |
|        |          | <b>Practical</b>   |            |            |            |   |   |   |           |
|        | HCP 4.1  | Practical HCP 4.1  | 40         | 10         | 50         | 0 | 0 | 2 | 2         |
|        | HCP 4.2  | Practical HCP 4.2  | 40         | 10         | 50         | 0 | 0 | 2 | 2         |
|        |          | <b>Soft Core (Any One)</b>   |            |            |            |   |   |   |           |
|        | SCP 4.1  | Practical SCP 4.1  | 40         | 10         | 50         | 0 | 0 | 2 | 2         |
|        | SCP 4.2  | Practical SCP 4.2  | 40         | 10         | 50         | 0 | 0 | 2 | 2         |
|        | HCMP 4.3 | Major Project (72 Project Evaluation + 48 Viva-voce + 30 IA = 150) | 120        | 30         | 150        | 0 | 0 | 6 | 6         |
|        |          | <b>Total for Fourth Semester</b>                                   | <b>480</b> | <b>120</b> | <b>600</b> |   |   |   | <b>24</b> |

L = Lecture T = Tutorials P = Practical  
4 Credits of Theory = 4 Hours of teaching per week  
2 Credit of Practical = 4 hours per week