

**BOARD OF TECHNICAL EDUCATION, GOA STATE**  
**PROGRAMME STRUCTURE- 39 ELECTRONICS AND INSTRUMENTATION ENGG.**

| Sr. No.       | E/C | SUBJ. CODE | SUBJECT NAME                   | SUBJECT HEADS |    |    | EXAMINATION SCHEME |          |        |        |       |
|---------------|-----|------------|--------------------------------|---------------|----|----|--------------------|----------|--------|--------|-------|
|               |     |            |                                | TH            | PR | TW | MAX TH             | MAX TEST | MAX PR | MAX TW | TOTAL |
| SEMESTER I    |     |            |                                |               |    |    |                    |          |        |        |       |
| 1             | C   | GN101      | COMM SKILLS                    | 0             | 1  | 1  | 0                  | 0        | 50     | 50     | 100   |
| 2             | C   | GN102      | ENGG MATHS - I                 | 1             | 0  | 0  | 75                 | 25       | 0      | 0      | 100   |
| 3             | C   | GN103      | APPLIED PHYSICS - I            | 1             | 0  | 1  | 75                 | 25       | 0      | 50     | 150   |
| 4             | C   | GN104      | APPLIED CHEMISTRY              | 1             | 0  | 1  | 75                 | 25       | 0      | 50     | 150   |
| 5             | C   | GN204      | ENGG. DRAWING                  | 0             | 1  | 1  | 0                  | 0        | 50     | 50     | 100   |
| SEMESTER II   |     |            |                                |               |    |    |                    |          |        |        |       |
| 1             | C   | GN105      | COMP. FUND. & APP.             | 0             | 1  | 1  | 0                  | 0        | 50     | 50     | 100   |
| 2             | C   | GN106      | BASIC ENGG SKILLS              | 0             | 1  | 1  | 0                  | 0        | 50     | 100    | 150   |
| 3             | C   | GN201      | ENGG MATHS - II                | 1             | 0  | 0  | 75                 | 25       | 0      | 0      | 100   |
| 4             | C   | GN202      | APPLIED PHYSICS - II           | 1             | 0  | 1  | 75                 | 25       | 0      | 50     | 150   |
| 5             | C   | GN203      | ENVIRONMENTAL STUDIES          | 1             | 0  | 0  | 75                 | 25       | 0      | 0      | 100   |
| 6             | C   | GN205      | ENGG. MATERIALS                | 1             | 0  | 0  | 75                 | 25       | 0      | 0      | 100   |
| SEMESTER III  |     |            |                                |               |    |    |                    |          |        |        |       |
| 1             | C   | CS304      | BASIC ELECTRICAL ENGG.         | 1             | 0  | 1  | 75                 | 25       | 0      | 25     | 125   |
| 2             | C   | CS306      | PROGRAMMING IN C               | 0             | 1  | 1  | 0                  | 0        | 50     | 50     | 100   |
| 3             | C   | CS308      | BASIC ELECTRONICS ENGG.        | 1             | 1  | 1  | 75                 | 25       | 50     | 25     | 175   |
| 4             | C   | CS309      | DIGITAL ELECTRONICS            | 1             | 1  | 1  | 75                 | 25       | 50     | 25     | 175   |
| 5             | C   | EN301      | ELECTRONICS MEASUREMENT        | 1             | 0  | 1  | 75                 | 25       | 0      | 25     | 125   |
| 6             | C   | EN302      | COMP. AIDED PCB DESIGN         | 0             | 0  | 1  | 0                  | 0        | 0      | 50     | 50    |
| SEMESTER IV   |     |            |                                |               |    |    |                    |          |        |        |       |
| 1             | C   | CS501      | ENTREPRENEURSHIP DEVELOPMENT   | 0             | 0  | 1  | 0                  | 0        | 0      | 50     | 50    |
| 2             | C   | EN401      | ELECTRONIC CIRCUIT             | 1             | 1  | 1  | 75                 | 25       | 50     | 25     | 175   |
| 3             | C   | EN402      | ANALOG COMMUNICATION           | 1             | 0  | 1  | 75                 | 25       | 0      | 25     | 125   |
| 4             | C   | EN403      | CIRCUITS & NETWORKS            | 1             | 0  | 1  | 75                 | 25       | 0      | 25     | 125   |
| 5             | C   | EN404      | ELECTRONIC INSTRUMENTATION     | 1             | 0  | 1  | 75                 | 25       | 0      | 25     | 125   |
| 6             | C   | EN405      | ANALOG ELECTRONICS             | 1             | 1  | 1  | 75                 | 25       | 50     | 25     | 175   |
| SEMESTER V    |     |            |                                |               |    |    |                    |          |        |        |       |
| 1             | C   | EN501      | 8051 MICROCONTROLLER           | 1             | 1  | 1  | 75                 | 25       | 25     | 25     | 150   |
| 2             | C   | EN502      | POWER ELECTRONICS              | 1             | 0  | 1  | 75                 | 25       | 0      | 25     | 125   |
| 3             | C   | EN504      | COMP. AIDED DESIGN & DRAFTING  | 0             | 1  | 1  | 0                  | 0        | 50     | 50     | 100   |
| 4             | C   | IT501      | INDUSTRIAL TRAINING            | 0             | 1  | 1  | 0                  | 0        | 30     | 70     | GRADE |
| 5             | E1  | EN511      | DIGITAL COMMUNICATION          | 1             | 0  | 1  | 75                 | 25       | 0      | 25     | 125   |
| 6             | E1  | EN512      | VHDL PROGRAMMING               | 1             | 0  | 1  | 75                 | 25       | 0      | 25     | 125   |
| 7             | E1  | EN513      | BIOMEDICAL INSTRUMENTATION     | 1             | 0  | 1  | 75                 | 25       | 0      | 25     | 125   |
| 8             | E1  | EN516      | ELEC PNEU.&HYDRAU CNTRL. CKTS  | 1             | 0  | 1  | 75                 | 25       | 0      | 25     | 125   |
| ANY ONE OF E1 |     |            |                                |               |    |    |                    |          |        |        |       |
| SEMESTER VI   |     |            |                                |               |    |    |                    |          |        |        |       |
| 1             | C   | CS602      | BUSINESS COMMUNICATION         | 0             | 1  | 1  | 0                  | 0        | 50     | 50     | 100   |
| 2             | C   | EN604      | ELECTRONIC PROJECT             | 0             | 1  | 1  | 0                  | 0        | 50     | 50     | 100   |
| 3             | C   | EN607      | INDUSTRIAL INSTRUMENTATION     | 1             | 0  | 1  | 75                 | 25       | 0      | 25     | 125   |
| 4             | C   | EN608      | COMP. CONTROL IN PROCESS PLANT | 1             | 0  | 1  | 75                 | 25       | 0      | 25     | 125   |
| 5             | E2  | EN613      | ADVANCED MICROCONTROLLERS      | 1             | 1  | 1  | 75                 | 25       | 25     | 25     | 150   |
| 6             | E2  | EN616      | INDUSTRIAL AUTOMATION          | 1             | 1  | 1  | 75                 | 25       | 25     | 25     | 150   |
| 7             | E2  | EN617      | ANALYTICAL INSTRUMENTATION     | 1             | 1  | 1  | 75                 | 25       | 25     | 25     | 150   |

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|                      |    |       |                          |   |   |   |    |    |    |    |     |
|----------------------|----|-------|--------------------------|---|---|---|----|----|----|----|-----|
| 8                    | E2 | EN618 | DATA COMMUNICATION       | 1 | 1 | 1 | 75 | 25 | 25 | 25 | 150 |
| 9                    | E2 | EN619 | BUILDING AUTOMATION      | 1 | 1 | 1 | 75 | 25 | 25 | 25 | 150 |
| 10                   | E2 | ME615 | RENEWABLE ENERGY SOURCES | 1 | 1 | 1 | 75 | 25 | 25 | 25 | 150 |
| 11                   | E2 | IE6** | INSTITUTIONAL ELECTIVE   | 1 | 1 | 1 | 75 | 25 | 25 | 25 | 150 |
| <b>ANY TWO OF E2</b> |    |       |                          |   |   |   |    |    |    |    |     |