

**KAKATIYA INSTITUTE OF TECHNOLOGY & SCIENCE:: WARANGAL - 506015**  
*(An Autonomous Institute under Kakatiya University, Warangal)*  
**SCHEME OF INSTRUCTIONS & EVALUATION**  
**I-SEMESTER OF 4-YEAR B.TECH. DEGREE PROGRAMME**  
**(COMMON TO ALL BRANCHES)**

| S.No. | Course Code | Course Name                     | Periods |     |      | Credits (C) | Evaluation Scheme |     |       |     |             |
|-------|-------------|---------------------------------|---------|-----|------|-------------|-------------------|-----|-------|-----|-------------|
|       |             |                                 | L       | T   | P    |             | CIE               |     |       | ESE | Total Marks |
|       |             |                                 |         |     |      |             | TA                | MSE | Total |     |             |
| 1     | U14MH101    | Engineering Mathematics-I       | 3       | 1   | -    | 4           | 15                | 25  | 40    | 60  | 100         |
| 2     | U14CS102    | Programming in C                | 3       | 1   | -    | 4           | 15                | 25  | 40    | 60  | 100         |
| 3     | U14PH103    | Engg. Physics /                 | 3       | 1   | -    | 4           | 15                | 25  | 40    | 60  | 100         |
|       | U14CH103    | Engg. Chemistry                 | 3       | 1   | -    | 4           | 15                | 25  | 40    | 60  | 100         |
| 4     | U14MH104    | English for Communication /     | 2       | 2   | -    | 3           | 15                | 25  | 40    | 60  | 100         |
|       | U14ME104    | Engineering Drawing             | 2       | 4   | -    | 4           | 15                | 25  | 40    | 60  | 100         |
| 5     | U14EI105    | Basic Electronics Engg. /       | 3       | -   | -    | 3           | 15                | 25  | 40    | 60  | 100         |
|       | U14EE105    | Basic Electrical Engg.          | 3       | -   | -    | 3           | 15                | 25  | 40    | 60  | 100         |
| 6     | U14ME106    | Basic Mechanical Engg.          | 3       | -   | -    | 3           | 15                | 25  | 40    | 60  | 100         |
|       | U14CE106    | Basic Engg. Mechanics           | 3       | 1   | -    | 4           | 15                | 25  | 40    | 60  | 100         |
| 7     | U14CS107    | Programming in "C" Lab          | -       | -   | 3    | 2           | 40                | -   | 40    | 60  | 100         |
| 8     | U14PH108    | Engg. Physics Lab /             | -       | -   | 3    | 2           | 40                | -   | 40    | 60  | 100         |
|       | U14CH108    | Engg. Chemistry Lab             | -       | -   | 3    | 2           | 40                | -   | 40    | 60  | 100         |
| 9     | U14ME109    | Engg. Workshop Practice /       | -       | -   | 3    | 2           | 40                | -   | 40    | 60  | 100         |
|       | U14CH109    | Environmental Studies #         | 2       | -   | -    | 2           | 15                | 25  | 40    | 60  | 100         |
| 10    | U14EA110    | EAA: Physical Education & NSS # | -       | -   | 2    | 1           | 100               | -   | 100   | -   | 100         |
|       |             | Total                           | 17/ 19  | 5/8 | 11/8 | 28/30       |                   |     |       |     | 1000        |

**Note:** L - Lectures; T- Tutorials; P - Practicals; CIE - Continuous Internal Evaluation; TA - Teachers Assessment;  
MSE - Mid Semester Examination; ESE - End Semester Examination; EAA - Extra Academic Activity;  
# indicates Mandatory Course

**Student Contact Hours / Week** : Stream - I = 33 (periods/week); Stream-II = 35 (periods/week)  
**Total Credits (C)** : Stream - I = 28 Credits; Stream-II = 30 Credits

**KAKATIYA INSTITUTE OF TECHNOLOGY & SCIENCE:: WARANGAL - 506015**

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**SCHEME OF INSTRUCTIONS & EVALUATION**

**II-SEMESTER OF 4-YEAR B.TECH. DEGREE PROGRAMME**

**COMMON FOR ALL BRANCHES**

| S. No. | Course code | Course Name                             | Periods |      |       | Credits (C) | Evaluation Scheme |     |       |     |             |
|--------|-------------|---|---------|------|-------|-------------|-------------------|-----|-------|-----|-------------|
|        |             |   | L       | T    | P     |             | CIE               |     |       | ESE | Total Marks |
|        |             |   |         |      |       |             | TA                | MSE | Total |     |             |
| 1      | U14MH201    | Engineering Mathematics-II              | 3       | 1    | -     | 4           | 15                | 25  | 40    | 60  | 100         |
| 2      | U14CS202    | Object Oriented Programming through C++ | 3       | 1    | -     | 4           | 15                | 25  | 40    | 60  | 100         |
| 3      | U14CH203    | Engg. Chemistry /                       | 3       | 1    | -     | 4           | 15                | 25  | 40    | 60  | 100         |
|        | U14PH203    | Engg. Physics                           | 3       | 1    | -     | 4           | 15                | 25  | 40    | 60  | 100         |
| 4      | U14ME204    | Engineering Drawing /                   | 2       | 4    | -     | 4           | 15                | 25  | 40    | 60  | 100         |
|        | U14MH204    | English for Communication               | 2       | 2    | -     | 3           | 15                | 25  | 40    | 60  | 100         |
| 5      | U14EE205    | Basic Electrical Engg. /                | 3       | -    | -     | 3           | 15                | 25  | 40    | 60  | 100         |
|        | U14EI205    | Basic Electronics Engg.                 | 3       | -    | -     | 3           | 15                | 25  | 40    | 60  | 100         |
| 6      | U14CE206    | Basic Engg. Mechanics                   | 3       | 1    | -     | 4           | 15                | 25  | 40    | 60  | 100         |
|        | U14ME206    | Basic Mechanical Engg.                  | 3       | -    | -     | 3           | 15                | 25  | 40    | 60  | 100         |
| 7      | U14CS207    | Object Oriented Programming (OOP) Lab   | -       | -    | 3     | 2           | 40                | -   | 40    | 60  | 100         |
| 8      | U14CH208    | Engg. Chemistry Lab /                   | -       | -    | 3     | 2           | 40                | -   | 40    | 60  | 100         |
|        | U14PH208    | Engg. Physics Lab                       | -       | -    | 3     | 2           | 40                | -   | 40    | 60  | 100         |
| 9      | U14CH209    | Environmental Studies #                 | 2       | -    | -     | 2           | 40                | -   | 40    | 60  | 100         |
|        | U14ME209    | Engg. Workshop Practice                 | -       | -    | 3     | 2           | 15                | 25  | 40    | 60  | 100         |
| 10     | U14EA210    | EAA: Physical Education & NSS #         | -       | -    | 2     | 1           | 100               | -   | 100   | -   | 100         |
|        |             | Total                                   | 19/ 17  | 8/ 5 | 8/ 11 | 30/28       |                   |     |       |     | 1000        |

**Note:** L – Lectures; T- Tutorials; P – Practicals; CIE – Continuous Internal Evaluation; TA – Teachers Assessment;

MSE – Mid Semester Examination; ESE – End Semester Examination; EAA – Extra Academic Activity;

# indicates Mandatory Course

**Student Contact Hours /Week :** Stream – I = 35 (periods/week); Stream- II = 33 (periods /week)

**Total Credits (C) :** Stream – I = 30 Credits; Stream –II = 28 Credits

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**SCHEME OF INSTRUCTION AND EVALUATION**  
**III-SEMESTER OF 4-YEAR B.TECH. DEGREE PROGRAMME**  
**ELECTRONICS & INSTRUMENTATION ENGINEERING**

| S. No. | Course Category | Course Code | Course Name                                   | Periods/ Week |          |          | Credits (C) | Evaluation Scheme |            |            |            |             |
|--------|-----------------|-------------|---|---------------|----------|----------|-------------|-------------------|------------|------------|------------|-------------|
|        |                 |             |   | L             | T        | P        |             | CIE               |            |            | ESE        | Total Marks |
|        |                 |             |   |               |          |          |             | TA                | MSE        | Total      |            |             |
| 1.     | BS              | U14MH301    | Engineering Mathematics-III                   | 3             | 1        | -        | 4           | 15                | 25         | 40         | 60         | 100         |
| 2.     | PC              | U14EI302    | Electrical and Electronic Measurements        | 3             | 1        | -        | 4           | 15                | 25         | 40         | 60         | 100         |
| 3.     | PC              | U14EI303    | Digital Circuits and Logic Design             | 3             | 1        | -        | 4           | 15                | 25         | 40         | 60         | 100         |
| 4.     | PC              | U14EI304    | Electronic Devices and Circuits               | 3             | 1        | -        | 4           | 15                | 25         | 40         | 60         | 100         |
| 7.     | ES              | U14EE310    | Network Analysis and Synthesis                | 3             | 1        | -        | 4           | 15                | 25         | 40         | 60         | 100         |
| 5.     | PC              | U14EI305    | Measurements Laboratory                       | -             | -        | 3        | 2           | 40                | -          | 40         | 60         | 100         |
| 6.     | PC              | U14EI307    | Electronic Devices and Circuits Laboratory    | -             | -        | 3        | 2           | 40                | -          | 40         | 60         | 100         |
| 8.     | ES              | U14EE311    | Electrical Technology and Networks Laboratory | -             | -        | 3        | 2           | 40                | -          | 40         | 60         | 100         |
|        |                 |             | <b>Total</b>                                  | <b>15</b>     | <b>5</b> | <b>9</b> | <b>26</b>   | <b>195</b>        | <b>125</b> | <b>320</b> | <b>480</b> | <b>800</b>  |
| 9.     | MC              | U14MH309    | Compliance with Current English               | -             | -        | 2        | 1           | 100               | -          | 100        | -          | 100         |

**Student Contact Hours/Week : 31**  
**Total Credits : 26**

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**SCHEME OF INSTRUCTION AND EVALUATION**  
**IV-SEMESTER OF 4-YEAR B.TECH. DEGREE PROGRAMME**  
**ELECTRONICS & INSTRUMENTATION ENGINEERING**

| S.No. | Course Category | Course Code | Course Name                            | Periods/Week |          |          | Credits (C) | Evaluation Scheme |            |            |            |             |
|-------|-----------------|-------------|--|--------------|----------|----------|-------------|-------------------|------------|------------|------------|-------------|
|       |                 |             |  | L            | T        | P        |             | CIE               |            |            | ESE        | Total Marks |
|       |                 |             |  |              |          |          |             | TA                | MSE        | Total      |            |             |
| 1.    | BS              | U14MH401    | Engineering Mathematics-IV             | 3            | 1        | -        | 4           | 15                | 25         | 40         | 60         | 100         |
| 2.    | PC              | U14EI402    | Sensors and Transducers                | 3            | 1        | -        | 4           | 15                | 25         | 40         | 60         | 100         |
| 3.    | PC              | U14EI403    | Signals and Systems                    | 3            | 1        | -        | 4           | 15                | 25         | 40         | 60         | 100         |
| 4.    | PC              | U14EI404    | Digital Design using VHDL              | 3            | 1        | -        | 4           | 15                | 25         | 40         | 60         | 100         |
| 5.    | PC              | U14EI405    | Linear Integrated Circuits             | 3            | 1        | -        | 4           | 15                | 25         | 40         | 60         | 100         |
| 6.    | PC              | U14EI406    | Computer Architecture and Organization | 3            | 1        | -        | 4           | 15                | 25         | 40         | 60         | 100         |
| 7.    | PC              | U14EI407    | Digital Design Laboratory              | -            | -        | 3        | 2           | 40                | -          | 40         | 60         | 100         |
| 8.    | PC              | U14EI408    | Linear Integrated Circuits Laboratory  | -            | -        | 3        | 2           | 40                | -          | 40         | 60         | 100         |
|       |                 |             | <b>Total</b>                           | <b>18</b>    | <b>6</b> | <b>6</b> | <b>28</b>   | <b>170</b>        | <b>150</b> | <b>320</b> | <b>480</b> | <b>800</b>  |
| 9     | MC              | U14MH409    | Soft and Interpersonal Skills          | -            | -        | 2        | 1           | 100               | -          | 100        | -          | 100         |
| 10    | MC#             | U14MH209    | Environmental Studies                  | 2            | -        | -        | 2           | 15                | 25         | 40         | 60         | 100         |

**Student Contact Hours/Week : 32+2#**  
**Total Credits : 28**

# For Lateral entry students only

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**SCHEME OF INSTRUCTION AND EVALUATION  
V-SEMESTER OF 4-YEAR B.TECH. DEGREE PROGRAMME  
ELECTRONICS & INSTRUMENTATION ENGINEERING**

| S.No. | Course Category | Course Code | Course Name                                | Periods/ Week |          |          | Credits (C) | Evaluation Scheme |            |            |            |             |
|-------|-----------------|-------------|--|---------------|----------|----------|-------------|-------------------|------------|------------|------------|-------------|
|       |                 |             |  | L             | T        | P        |             | CIE               |            |            | ESE        | Total Marks |
|       |                 |             |  |               |          |          |             | TA                | MSE        | Total      |            |             |
| 1.    | PC              | U14EI501    | Process Instrumentation                    | 3             | 1        | -        | 4           | 15                | 25         | 40         | 60         | 100         |
| 2.    | PC              | U14EI502    | Digital Signal Processing                  | 3             | 1        | -        | 4           | 15                | 25         | 40         | 60         | 100         |
| 3.    | PC              | U14EI503    | Microprocessors and Interfacing            | 3             | 1        | -        | 4           | 15                | 25         | 40         | 60         | 100         |
| 4.    | PC              | U14EI504    | Electro Magnetic Theory                    | 3             | 1        | -        | 4           | 15                | 25         | 40         | 60         | 100         |
| 5.    | PC              | U14EE506    | Control Systems Engineering                | 3             | 1        | -        | 4           | 15                | 25         | 40         | 60         | 100         |
| 6.    | PC              | U14EI505    | Instrumentation Laboratory                 | -             | -        | 3        | 2           | 40                | -          | 40         | 60         | 100         |
| 7.    | PC              | U14EI507    | Signal Processing Laboratory               | -             | -        | 3        | 2           | 40                | -          | 40         | 60         | 100         |
| 8.    | PC              | U14EI508    | Microprocessors and Interfacing Laboratory | -             | -        | 3        | 2           | 40                | -          | 40         | 60         | 100         |
| 9.    | PR              | U14EI509    | SEMINAR                                    | -             | -        | -        | 1           | 100               | -          | 100        | -          | 100         |
|       |                 |             | <b>Total</b>                               | <b>15</b>     | <b>5</b> | <b>9</b> | <b>27</b>   | <b>295</b>        | <b>125</b> | <b>420</b> | <b>480</b> | <b>900</b>  |

Student Contact Hours/Week : 29

Total Credits : 27

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**ELECTRONICS & INSTRUMENTATION ENGINEERING**

| S. No. | Course Category | Course Code | Course Name                                       | Periods/ week |          |          | Credits (C) | Evaluation Scheme |            |            |            |             |
|--------|-----------------|-------------|---|---------------|----------|----------|-------------|-------------------|------------|------------|------------|-------------|
|        |                 |             |   | L             | T        | P        |             | CIE               |            |            | ESE        | Total Marks |
|        |                 |             |   |               |          |          |             | TA                | MSE        | Total      |            |             |
| 1.     | OE              | U14OE601    | Open Elective-I                                   | 4             | -        | -        | 4           | 15                | 25         | 40         | 60         | 100         |
| 2.     | PC              | U14EI602    | Process Control                                   | 3             | 1        | -        | 4           | 15                | 25         | 40         | 60         | 100         |
| 3.     | PC              | U14EI604    | VLSI Design                                       | 3             | 1        | -        | 4           | 15                | 25         | 40         | 60         | 100         |
| 4.     | PC              | U14EI605    | Micro Controllers and Embedded Systems            | 3             | 1        | -        | 4           | 15                | 25         | 40         | 60         | 100         |
| 5.     | PE              | U14EI606    | Professional Elective-I                           | 4             | -        | -        | 4           | 15                | 25         | 40         | 60         | 100         |
| 6.     | ES              | U14EC610    | Analog and Digital Communications                 | 3             | 1        | -        | 4           | 15                | 25         | 40         | 60         | 100         |
| 7.     | PC              | U14EI607    | Simulation Laboratory                             | -             | -        | 3        | 2           | 40                | -          | 40         | 60         | 100         |
| 8.     | PC              | U14EI608    | Micro Controllers and Embedded Systems Laboratory | -             | -        | 3        | 2           | 40                | -          | 40         | 60         | 100         |
| 9.     | PR              | U14EI609    | MINI PROJECT                                      | -             | -        | -        | 2           | 100               | -          | 100        | -          | 100         |
|        |                 |             | <b>Total</b>                                      | <b>20</b>     | <b>4</b> | <b>6</b> | <b>30</b>   | <b>270</b>        | <b>150</b> | <b>420</b> | <b>480</b> | <b>900</b>  |

**Open Elective-I**

U14OE 601A: Disaster Management  
 U14OE 601B: Project Management  
 U14OE 601C: Professional Ethics in Engineering  
 U14OE 601D: Rural Technology and Community Development

**Professional Elective-I**

U14EI 606A: Digital Image Processing  
 U14EI 606B: DSP Processors  
 U14EI 606C: Neural Networks and Fuzzy Logic

**Student Contact Hours/Week : 30**

**Total Credits : 30**

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**SCHEME OF INSTRUCTION AND EVALUATION**  
**VII-SEMESTER OF 4-YEAR B.TECH. DEGREE PROGRAMME**  
**ELECTRONICS & INSTRUMENTATION ENGINEERING**

| S. No. | Course Category | Course Code | Course Name                           | Periods/week |          |           | Credits (C) | Evaluation Scheme |            |            |            |             |
|--------|-----------------|-------------|---------------------------------------|--------------|----------|-----------|-------------|-------------------|------------|------------|------------|-------------|
|        |                 |             |                                       | L            | T        | P         |             | CIE               |            |            | ESE        | Total Marks |
|        |                 |             |                                       |              |          |           |             | TA                | MSE        | Total      |            |             |
| 1.     | HS              | U14MH701    | Management, Economics and Accountancy | 3            | 1        | -         | 4           | 15                | 25         | 40         | 60         | 100         |
| 2.     | PC              | U14EI702    | Bio Medical Instrumentation           | 3            | 1        | -         | 4           | 15                | 25         | 40         | 60         | 100         |
| 3.     | PE              | U14EI703    | Professional Elective-II              | 3            | 1        | -         | 4           | 15                | 25         | 40         | 60         | 100         |
| 4.     | PE              | U14EI704    | Professional Elective-III             | 4            | -        | -         | 4           | 15                | 25         | 40         | 60         | 100         |
| 5.     | ES              | U14IT709    | Data Structures                       | 4            | -        | -         | 4           | 15                | 25         | 40         | 60         | 100         |
| 6.     | PC              | U14EI705    | Virtual Instrumentation Laboratory    | -            | -        | 3         | 2           | 40                | -          | 40         | 60         | 100         |
| 7.     | ES              | U14IT710    | Data Structures Laboratory            | -            | -        | 3         | 2           | 40                | -          | 40         | 60         | 100         |
| 8.     | PR              | U14EI706    | Major Project Work <i>Phase-I</i>     | -            | -        | 7         | 4           | 100               | -          | 100        | -          | 100         |
|        |                 |             | <b>Total</b>                          | <b>17</b>    | <b>3</b> | <b>13</b> | <b>28</b>   | <b>255</b>        | <b>125</b> | <b>380</b> | <b>420</b> | <b>800</b>  |

**Professional Elective-II :**

U14EI 703A: Computer Control of Processes  
U14EI 703B: Data Communication Networks  
U14EI 703C: Non Destructive Testing

**Professional Elective-III :**

U14EI 704A: Analytical Instrumentation  
U14EI 704B: Fiber Sensors and LASER Instrumentation  
U14EI 704C: Micro-Electro Mechanical .Systems

**Student Contact Hours/Week : 33**

**Total Credits : 28**

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**SCHEME OF INSTRUCTION AND EVALUATION**  
**VIII-SEMESTER OF 4-YEAR B.TECH. DEGREE PROGRAMME**  
**ELECTRONICS & INSTRUMENTATION ENGINEERING**

| S. No.       | Course Category | Course Code | Course Name                            | Periods/week |          |           | Credits (C) | Evaluation Scheme |            |            |            |             |
|--------------|-----------------|-------------|--|--------------|----------|-----------|-------------|-------------------|------------|------------|------------|-------------|
|              |                 |             |  | L            | T        | P         |             | CIE               |            |            | ESE        | Total Marks |
|              |                 |             |  |              |          |           |             | TA                | MSE        | Total      |            |             |
| 1.           | OE              | U14OE801    | Open Elective-II                       | 4            | -        | -         | 4           | 15                | 25         | 40         | 60         | 100         |
| 2.           | PC              | U14EI802    | Bio-Medical Signal Processing          | 3            | 1        | -         | 4           | 15                | 25         | 40         | 60         | 100         |
| 3.           | PE              | U14EI803    | Professional Elective-IV               | 4            | -        | -         | 4           | 15                | 25         | 40         | 60         | 100         |
| 4.           | PE              | U14EI804    | Professional Elective-V                | 4            | -        | -         | 4           | 15                | 25         | 40         | 60         | 100         |
| 5.           | PC              | U14EI805    | Process Control Laboratory             | -            | -        | 3         | 2           | 40                | -          | 40         | 60         | 100         |
| 6.           | PC              | U14EI806    | Bio Medical Instrumentation Laboratory | -            | -        | 3         | 2           | 40                | -          | 40         | 60         | 100         |
| 7.           | PR              | U14EI807    | Major Project Work <i>Phase-II</i>     | -            | -        | 13        | 7           | 40                | -          | 40         | 60         | 100         |
| <b>Total</b> |                 |             |  | <b>15</b>    | <b>1</b> | <b>19</b> | <b>27</b>   | <b>180</b>        | <b>100</b> | <b>280</b> | <b>420</b> | <b>700</b>  |

**Open Elective-II**

U14OE 801A: Operations Research  
 U14OE 801B: Management Information Systems  
 U14OE 801C: Entrepreneurship Development  
 U14OE 801D: Forex And Foreign Trade

**Professional Elective-IV**

U14EI 803A: PC Based Instrumentation  
 U14EI 803B: Advanced Digital Signal Processing  
 U14EI 803C: Internet of Things  
 U14EI 803D: CPLD and FPGA Architectures

**Professional Elective-V**

U14EI 804A: Industrial Electronics  
 U14EI 804B: Data Base Management Systems  
 U14EI 804C: Digital Control Systems  
 U14EI 804D: Automotive Instrumentation

**Student Contact Hours/Week : 35**  
**Total Credits : 27**