



# JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA

Kakinada-533003, Andhra Pradesh (India)

## Course wise Curriculum Analysis(R19)

Program Code: 1A

Program Name: B.Tech–Electronics & Communication Engineering

Year: 1

Semester: 1

| Course code | Course name                                     | Employability (Yes/No) | Entrepreneurship (Yes/No) | Skill development (Yes/No) |
|-------------|---|------------------------|---------------------------|----------------------------|
| 1101        | Mathematics-I                                   |                        |                           |                            |
| 1102        | Communication English                           | yes                    |                           |                            |
| 1103        | Applied Chemistry                               |                        |                           |                            |
| 1104        | Basic Electrical Engineering                    | yes                    |                           |                            |
| 1105        | Network Analysis                                |                        |                           |                            |
| 1106        | English Communication Lab                       |                        |                           | yes                        |
| 1107        | Applied Chemistry Lab                           |                        |                           | yes                        |
| 1108        | Electronic Workshop                             |                        |                           | yes                        |
| 1109        | Essencial of Electrical & Electronics Engg. Lab |                        |                           | yes                        |
| 1110        | Environmental Science                           |                        | yes                       |                            |
| 1111        | Physical Fitness Activities                     |                        | yes                       |                            |



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## Course wise Curriculum Analysis(R19)

Program Code: 1A

Program Name: B.Tech – Electronics & Communication Engineering

Year: 1

Semester: 2

| Course code | Course name                               | Employability (Yes/No) | Entrepreneurship (Yes/No) | Skill development (Yes/No) |
|-------------|---|------------------------|---------------------------|----------------------------|
| 1201        | Applied Physics                           |                        |                           |                            |
| 1202        | Programming & Problem solving using C     | yes                    |                           |                            |
| 1203        | Engineering Drawing                       |                        |                           |                            |
| 1204        | Mathematics -II                           |                        |                           |                            |
| 1205        | Mathematics -III                          |                        |                           |                            |
| 1206        | Constitution of India                     |                        | yes                       |                            |
| 1207        | Applied Physics Lab                       |                        |                           | yes                        |
| 1208        | Programming & Problem solving using C Lab |                        |                           | yes                        |
| 1209        | Virtual Physics Lab                       |                        |                           | yes                        |



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Year: 2

Semester: 1

| Course code. | Course name   | Employability (Yes/No) | Entrepreneurship (Yes/No) | Skill development (Yes/No) |
|--------------|---|------------------------|---------------------------|----------------------------|
| 2101         | Electronics Devices and Circuits                    |                        | yes                       |                            |
| 2102         | Switching Theory and Logic Design                   | yes                    |                           |                            |
| 2103         | Signals and Systems                                 |                        |                           |                            |
| 2104         | Object Oriented Design & Programming using Java     | Yes                    |                           |                            |
| 2105         | Random Variables and Stochastic Process             |                        |                           |                            |
| 2106         | Computer Architecture and Organization              | yes                    |                           |                            |
| 2107         | Electronics Devices and Circuits - Lab              |                        |                           | Yes                        |
| 2108         | Switching Theory and Logic Design - Lab             |                        |                           | Yes                        |
| 2109         | Object Oriented Design & Programming using Java lab |                        |                           | Yes                        |



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**Course wise Curriculum Analysis(R19)**

Program Code: 1A

Program Name: B.Tech – Electronics & Communication Engineering

Year: 2

Semester: 2

| Course code. | Course name  | Employability (Yes/No) | Entrepreneurship (Yes/No) | Skill development (Yes/No) |
|--------------|--|------------------------|---------------------------|----------------------------|
| 2201         | Mathematics -4   |                        |                           |                            |
| 2202         | Managerial Economics & Financial Analysis                          |                        | yes                       |                            |
| 2203         | Electronics Circuit Analysis                                       | yes                    |                           |                            |
| 2204         | Control Systems  | yes                    |                           |                            |
| 2205         | Electromagnetic Waves and Transmission Lines                       |                        |                           |                            |
| 2206         | Analog Communications  | yes                    |                           |                            |
| 2207         | Electronics Circuit Analysis - Lab                                 |                        |                           | yes                        |
| 2208         | Analog Communications - Lab  |                        |                           | yes                        |
| 2209         | Socially Relevant Projects   |                        |                           | yes                        |
| 2210         | Indian Traditional Knowledge/ Employability Skills - 1 and 2/PE&HV |                        | yes                       |                            |



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**Course wise Curriculum Analysis(R19)**

Program Code: 1A

Program Name: B.Tech – Electronics & Communication Engineering

Year: 3

Semester: 1

| Course code. | Course name  | Employability (Yes/No) | Entrepreneurship (Yes/No) | Skill development (Yes/No) |
|--------------|--|------------------------|---------------------------|----------------------------|
| 3101         | Integrated Circuits and applications   | yes                    |                           |                            |
| 3102         | Microprocessor and Microcontrollers  |                        | yes                       |                            |
| 3103         | Digital Communications   | yes                    |                           |                            |
| 3104         | Antennas and Wave Propagation  |                        |                           |                            |
| 3105         | Professional Elective (PE1)<br>1. Data structures and Algorithms<br>2. Electronic Measurements and Instrumentation<br>3. Tele communications and Switching Network | yes                    |                           |                            |
| 3106         | Integrated Circuits and applications - Lab   |                        |                           | yes                        |
| 3107         | Digital Communications Lab   |                        |                           | yes                        |
| 3108         | Microprocessor and Microcontrollers - Lab  |                        |                           | yes                        |
| 3109         | Socially Relevant Projects   |                        |                           | yes                        |



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Program Code: 1A

Program Name: B.Tech – Electronics & Communication Engineering

Year: 3

Semester: 2

| Course code. | Course name  | Employability (Yes/No) | Entrepreneurship (Yes/No) | Skill development (Yes/No) |
|--------------|--|------------------------|---------------------------|----------------------------|
| 3201         | Internet of Things   |                        | yes                       |                            |
| 3202         | VLSI Design  |                        | yes                       |                            |
| 3203         | Digital Signal Processing  | yes                    |                           |                            |
| 3204         | Open Elective (OE1)<br>1.Data Communications<br>2. EMI/EMC   | yes                    |                           |                            |
| 3205         | Professional Elective (PE2)<br>1. Digital IC Design<br>2. Electromagnetic Interference & Compatibility (EMI/EMC)<br>3.Soft computing techniques and Python programming | yes                    |                           |                            |
| 3206         | Professional Elective (PE3)<br>1. Analog IC Design<br>2.Simulation& Mathematical Modeling<br>3. Information Theory & Coding  |                        | yes                       |                            |
| 3207         | VLSI Lab   |                        |                           | Yes                        |
| 3208         | Digital Signal Processing Lab  |                        |                           | yes                        |
| 3209         | Mandatory Course - Indian Traditional Knowledge / Life Sciences/PE&HV  |                        | yes                       |                            |



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**Course wise Curriculum Analysis(R19)**

Program Code: 1A

Program Name: B.Tech – Electronics & Communication Engineering

Year: 4

Semester: 1

| Course code. | Course name  | Employability (Yes/No) | Entrepreneurship (Yes/No) | Skill development (Yes/No) |
|--------------|--|------------------------|---------------------------|----------------------------|
| 4101         | Optical communication  | yes                    |                           |                            |
| 4102         | Microwave engineering  |                        |                           |                            |
| 4103         | Professional Elective (PE4)<br>1. Data Communications & Computer networks<br>2. Low power VLSI Design<br>3. Digital Imaging Processing | yes                    |                           |                            |
| 4104         | Professional Elective (PE5)<br>1. DSP processors and Architectures<br>2. Radar Engineering<br>3. Embedded Systems                      | yes                    |                           |                            |
| 4105         | Open Elective(OE2)<br>1. Biomedical Instrumentation<br>2. Electronic Measurements and Instrumentation                                  | yes                    |                           |                            |
| 4106         | Microwave & optical communication lab  |                        |                           | Yes                        |
| 4107         | Internet of Things(IOT) Lab  |                        |                           | Yes                        |
| 4108         | Projet Work-Phase 1  |                        |                           | Yes                        |
| 4109         | Industrial Training / Skill Development Programmes /<br>Research Project   |                        | yes                       |                            |



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**Course wise Curriculum Analysis(R19)**

Program Code: 1A

Program Name: B.Tech – Electronics & Communication Engineering

Year: 4

Semester: 2

| Course code. | Course name   | Employability (Yes/No) | Entrepreneurship (Yes/No) | Skill development (Yes/No) |
|--------------|---|------------------------|---------------------------|----------------------------|
| 4201         | Professional Elective (PE6)<br>1. Satellite Communication<br>2. FPGA Design<br>3. Speech Processing                                 | yes                    |                           |                            |
| 4202         | Professional Elective (PE7)<br>1. Cellular & Mobile Communications<br>2. Tele Vision Engineering<br>3. Biomedical signal processing |                        | yes                       |                            |
| 4203         | Open Elective (OE3)<br>1. VLSI<br>2. Mobile Communications  |                        | yes                       |                            |
| 4204         | Project Work  |                        |                           | yes                        |

NM

Coordinator

Chairman, Board of Studies