



## SCHEME OF STUDIES, BS (Computer Science)

### DEPARTMENT OF COMPUTER SCIENCE, UET, PESHAWAR

| 1 <sup>st</sup> Semester             |                                      |           |           |                 | 2 <sup>nd</sup> Semester             |                                       |           |           |
|--------------------------------------|--------------------------------------|-----------|-----------|-----------------|--------------------------------------|---------------------------------------|-----------|-----------|
| Course Code                          | Course Title                         | Lecture   | Lab       | Total Cr. Hours | Course Code                          | Course Title                          | Lecture   | Lab       |
| CS-101                               | Applications of ICT                  | 2         | 3         | 3               | CS-104                               | Object Oriented Programming           | 3         | 3         |
| CS-102                               | Programming Fundamentals             | 3         | 3         | 4               | CS-105                               | Digital Logic Design                  | 2         | 3         |
| CS-103                               | Discrete Structures                  | 3         | 0         | 3               | CS-106                               | Database Systems                      | 3         | 3         |
| BSI-122                              | Calculus and Analytic Geometry       | 3         | 0         | 3               | BSI-112                              | Multivariable Calculus                | 3         | 0         |
| BSI-131                              | Functional English                   | 3         | 0         | 3               | BSI-101                              | Islamic Studies                       | 2         | 0         |
| <b>For Pre-Medical Students Only</b> |                                      |           |           |                 | <b>For Pre-Medical Students Only</b> |                                       |           |           |
| BSI-110M                             | Maths-I (in place of BSI-122)        | 3         | 0         | NC              | BSI-120M                             | Maths-II (in place of BSI-112)        | 3         | 0         |
|                                      |                                      |           |           |                 | BSI-122                              | Calculus and Analytical Geometry      | 3         | 0         |
| <b>Credit Hours (Pre-Engg.)</b>      |                                      | <b>14</b> | <b>6</b>  | <b>16</b>       | <b>Credit Hours (Pre-Engg.)</b>      |                                       | <b>13</b> | <b>9</b>  |
| <b>Credit Hours (Pre-Medical)</b>    |                                      | <b>11</b> | <b>6</b>  | <b>13</b>       | <b>Credit Hours (Pre-Medical)</b>    |                                       | <b>13</b> | <b>9</b>  |
| 3 <sup>rd</sup> Semester             |                                      |           |           |                 | 4 <sup>th</sup> Semester             |                                       |           |           |
| Course Code                          | Course Title                         | Lecture   | Lab       | Total Cr. Hours | Course Code                          | Course Title                          | Lecture   | Lab       |
| CS-201                               | Computer Org. & Assembly Language    | 2         | 3         | 3               | CS-205                               | Artificial Intelligence               | 2         | 3         |
| CS-202                               | Automata Theory                      | 3         | 0         | 3               | CS-206                               | Operating Systems                     | 2         | 3         |
| CS-203                               | Data Structures                      | 3         | 3         | 4               | CS-207                               | Introduction to Data Science          | 2         | 3         |
| CS-204                               | Software Engineering                 | 3         | 0         | 3               | BSI-111                              | Linear Algebra                        | 3         | 0         |
| BSI-351                              | Statistics & Probability             | 3         | 0         | 3               | XXXX                                 | Domain Elective - I                   | 2         | 3         |
| XXXX                                 | General Education - I                | 2         | 0         | 2               | XXXX                                 | General Education - II                | 3         | 0         |
| <b>For Pre-Medical Students Only</b> |                                      |           |           |                 |                                      |                                       |           |           |
| BSI-112                              | Multivariable Calculus               | 3         | 0         | 3               |                                      |                                       |           |           |
| <b>Credit Hours (Pre-Engg.)</b>      |                                      | <b>16</b> | <b>6</b>  | <b>18</b>       | <b>Credit Hours</b>                  |                                       | <b>14</b> | <b>12</b> |
| <b>Credit Hours (Pre-Medical)</b>    |                                      | <b>19</b> | <b>6</b>  | <b>21</b>       |                                      |                                       |           |           |
| 5 <sup>th</sup> Semester             |                                      |           |           |                 | 6 <sup>th</sup> Semester             |                                       |           |           |
| Course Code                          | Course Title                         | Lecture   | Lab       | Total Cr. Hours | Course Code                          | Course Title                          | Lecture   | Lab       |
| CS-301                               | HCI & Computer Graphics              | 2         | 3         | 3               | CS-305                               | Compiler Construction                 | 3         | 0         |
| CS-302                               | Computer Networks                    | 2         | 3         | 3               | CS-306                               | Parallel & Distributed Computing      | 2         | 3         |
| CS-303                               | Analysis of Algorithms               | 3         | 0         | 3               | CS-307                               | Advance Database Management Systems   | 2         | 3         |
| CS-304                               | Information Security                 | 3         | 0         | 3               | BSI-141                              | Communication and Presentation Skills | 3         | 0         |
| XXXX                                 | Elective Supporting (Social Science) | 3         | 0         | 3               | XXXX                                 | Domain Elective 3                     | 3         | 0         |
| XXXX                                 | Domain Elective 2                    | 2         | 3         | 3               | XXXX                                 | Domain Elective 4                     | 2         | 3         |
| <b>Credit Hours</b>                  |                                      | <b>15</b> | <b>9</b>  | <b>18</b>       | <b>Credit Hours</b>                  |                                       | <b>15</b> | <b>9</b>  |
| 7 <sup>th</sup> Semester             |                                      |           |           |                 | 8 <sup>th</sup> Semester             |                                       |           |           |
| Course Code                          | Course Title                         | Lecture   | Lab       | Total Cr. Hours | Course Code                          | Course Title                          | Lecture   | Lab       |
| CS-400                               | Final Year Project - I               | 0         | 9         | 3               | CS-400                               | Final Year Project - II               | 0         | 9         |
| CS-401                               | Expository Writing                   | 3         | 0         | 3               | BSI-110                              | Ideology and Constitution of Pakistan | 2         | 0         |
| CS-402                               | Entrepreneurship                     | 2         | 0         | 2               | CS-403                               | Ethical & Legal Issues in Computing   | 2         | 0         |
| XXXX                                 | Domain Elective 5                    | 2         | 3         | 3               | XXXX                                 | Civics and Community Engagment        | 2         | 0         |
| XXXX                                 | Domain Elective 6                    | 2         | 3         | 3               | XXXX                                 | Domain Elective 7                     | 2         | 3         |
| <b>Credit Hours</b>                  |                                      | <b>9</b>  | <b>15</b> | <b>14</b>       | <b>Credit Hours</b>                  |                                       | <b>8</b>  | <b>12</b> |

**Total Cr. Hours 130**

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|----------------------|
|                      |
| <b>Total<br/>Cr.</b> |
| 4                    |
| 3                    |
| 4                    |
| 3                    |
| 2                    |
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| NC                   |
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16

16

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|                      |
| <b>Total<br/>Cr.</b> |
| 3                    |
| 3                    |
| 3                    |
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| 3                    |
| 3                    |
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18

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| <b>Total<br/>Cr.</b> |
| 3                    |
| 3                    |
| 3                    |
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| 3                    |
| 3                    |

18

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|                      |
| <b>Total<br/>Cr.</b> |
| 3                    |
| 2                    |
| 2                    |
| 2                    |
| 3                    |

12