# Proposed Revised M.Tech (CSE with specialisation in DA) Programme Structure May, 2017

#### FIRST SEMESTER

| SNo | Course Contact Ho |   |    |   | Iours | Credits |    |
|-----|-------------------|---|----|---|-------|---------|----|
|     | No.               | Title   | L  | T | P     | Total   | -  |
| 1.  | 17M21CS111        | Cloud based Big Data Systems-I                                    | 3  | - | -     | 03      | 3  |
| 2.  | 17M11CS112        | Machine Learning and Data Mining                                  | 3  | - | -     | 03      | 3  |
| 3.  |                   | Elective – I  | 3  | - | -     | 03      | 3  |
| 4.  |                   | Elective – II   | 3  | - | -     | 03      | 3  |
| 5.  |                   | Elective – III  | 3  | - | -     | 03      | 3  |
| 6.  | 17M27CS111        | Project Based Learning-I (Open Data Centric Services Development) |    | - | 4     | 04      | 2  |
| 7.  | 17M25CS111        | Cloud based Big Data Systems Lab-I                                | -  | - | 2     | 02      | 1  |
| 8.  | 17M15CS112        | Machine Learning and Data Mining Lab                              |    |   | 2     | 02      | 1  |
| 9.  | 17M25CS113        | Data Science Programming Lab-I                                    |    |   | 2     | 02      | 1  |
|     |                   | TOTAL   | 15 | - | 10    | 25      | 20 |

# **Elective Courses (To be updated time to time )**

| 1.  | 17M22CS111                 | Knowledge Representation and Reasoning      |
|-----|----------------------------|---|
| 2.  | 17M22CS112                 | Distributed Artificial Intelligence         |
| 3.  | 17M22CS113                 | Soft-computing and Applications             |
| 4.  | 17M22CS114                 | Information Retrieval                       |
| 5.  | 17M22CS115                 | Large Scale Graph Algorithms and Analytics  |
| 6.  | 17M22CS116                 | Information Integration and Visualization   |
| 7.  | 17M22CS117                 | Multimedia Information Systems              |
| 8.  | 17M22CS118                 | Computer Forensics                          |
| 9.  | 17M22CS119                 | Computer Vision                             |
| 10. | 15M3NCI231                 | E-Commerce and Social Web                   |
| 11. | 14M1NCI334                 | Web Algorithms                              |
| 12. | 17MINCI131 /<br>17M12CS124 | Flexible Computer Networks                  |
| 13. | 17M12CS127                 | Distributed Systems                         |
| 14. | 17M31CS111                 | Design, Innovation, and Incubation-I        |
| 15. | 17MINCI334                 | Parallel and Distributed Databases          |
| 16. | 17M11CS111                 | Data Structures and Algorithms for Big Data |
| 17. | 17M31CS111                 | Design, Innovation, and Incubation-I        |
| 18. | 17M11CS121                 | Cloud and Web Services Software Engineering |

| 19. | 17M11CS122 | Performance Evaluation of Computing Systems |
|-----|------------|---|
| 20. | 17M31CS112 | Digital Business Marketing                  |
| 21. | 17M31CS122 | Finance and Law for Digital Business        |
| 22. | 17M41CS111 | Advanced data structures and algorithms     |
| 23. | 17M41CS112 | Computer and Information Security           |
| 24. | 17M41CS121 | Cryptography and cryptanalysis              |
| 25. | 17M41CS122 | Network and mobile security                 |
|     | 15M51C111/ | Advanced Mobile Computing                   |
| 26. | 17M51CS111 |   |
| 27. | 17M51CS121 | Mobile Systems and Architecture             |
| 28. | 17M51CS122 | Heterogeneous and Mobile Databases          |

## SECOND SEMESTER

| SNo | Course     |   | Contact Hours |   |    |       | Credits |
|-----|------------|---|---------------|---|----|-------|---------|
|     | No.        | Title   | L             | T | P  | Total |         |
| 1.  | 17M21CS121 | Cloud based Big Data Systems-II   | 3             | - | -  | 03    | 3       |
| 2.  | 17M21CS122 | Empirical Research and Performance Evaluation                             | 3             | - | ı  | 03    | 3       |
| 3.  |            | Elective – IV   | 3             | - | 1  | 03    | 3       |
| 4.  |            | Elective – V  | 3             | - | -  | 03    | 3       |
| 5   |            | Elective – VI   | 3             | - | -  | 03    | 3       |
| 6.  | 17M27CS121 | Project Based Learning-II (Open Data Centric Services Development contd.) |               | - | 4  | 04    | 2       |
| 7.  | 17M25CS121 | Cloud based Big Data Systems Lab-II                                       | -             | - | 2  | 02    | 1       |
| 8.  | 17M25CS122 | Advanced Machine Learning Lab   |               |   | 2  | 02    | 1       |
| 9.  | 17M25CS123 | Data Science Programming Lab-II   |               |   | 2  | 02    | 1       |
|     |            | TOTAL   | 15            | - | 10 | 25    | 20      |

# Elective Courses ( ${\it To}$ be updated time to time )

| 1 | 17M22CS121 | Advanced Storage Systems                      |
|---|------------|---|
| 2 | 17M22CS122 | Advanced Machine Leaning                      |
| 3 | 17M22CS123 | Natural Language Processing and Understanding |
| 4 | 17M22CS124 | Machine Translation                           |
| 5 | 17M22CS125 | Interactive Data Analysis                     |
| 6 | 17M22CS126 | Web Algorithms and Analytics                  |
| 7 | 17M22CS127 | Bio-informatic Analytics                      |

#### THIRD SEMESTER

| SNo | Course      |  |   | Cont | Credits |       |    |
|-----|-------------|--|---|------|---------|-------|----|
|     | No. Title   | e  | L | T    | P       | Total |    |
| 1.  | 17M27CS212  | Seminar & Term Paper/ Supervised Study           |   |      |         |       | 4  |
|     |             | or   |   |      |         |       |    |
|     |             | credits transfer from another university through |   |      |         |       |    |
|     |             | normal course or MOOC                            |   |      |         |       |    |
| 2.  | 17M27CS211  | Project Based Learning-III                       |   |      |         |       | 4  |
|     |             | (Open Initiative Centric Systems Development)    |   |      |         |       |    |
| 3.  | 17M27CS213/ | Dissertation /Industrial Project/Entrepreneurial |   |      |         |       | 4  |
|     | 17M27CS214/ | Project  |   |      |         |       |    |
|     | 17M27CS215  | _  |   |      |         |       |    |
|     |             | TOTAL  |   |      |         |       | 12 |

## FOURTH SEMESTER

| SNo | Course      |                                   |  | ( | Contac | Credits |    |
|-----|-------------|-----------------------------------|--|---|--------|---------|----|
|     |             | No. Title                         |  | L | . Т    | P Total |    |
| 1.  | 17M27CS223/ | Dissertation /Industrial Project/ |  |   |        |         | 18 |
|     | 17M27CS224/ | Entrepreneurial Project           |  |   |        |         |    |
|     | 17M27CS225  |                                   |  |   |        |         |    |
|     |             | TOTAL                             |  |   |        |         | 18 |

**TOTAL CREDITS: 70** 

 $\hbox{$2$-3 Elective by Maths/JBS/HSS are necessary for every student}$