

BSc Degree programme
Computer Systems and Design

Regulations & Syllabi
(under CBCS)

2018



PSG COLLEGE OF TECHNOLOGY
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Government Aided Autonomous College Affiliated to Anna University, Chennai
Accredited by NAAC with 'A' Grade
ISO 9001:2015 Certified

B Sc COMPUTER SYSTEMS AND DESIGN (2018 REGULATIONS)
(Minimum credits to be earned: 135)

| Code No. | Course | Hours / week | | | | Maximum marks | | | |
|---------------------|---|--------------|----------|-----------|-----------|---------------|------------|------------|-----|
| | | Lecture | Tutorial | Practical | Credits | CA | FE | Total | CAT |
| SEMESTER 5 | | | | | | | | | |
| 18X501 | Mobile Computing | 3 | 0 | 0 | 3 | 50 | 50 | 100 | PC |
| 18X502 | Computer Graphics and Multimedia | 3 | 0 | 0 | 3 | 50 | 50 | 100 | PC |
| 18X503 | Machine Learning | 3 | 0 | 0 | 3 | 50 | 50 | 100 | PC |
| 18XA__ | Professional Elective I | 3 | 2 | 0 | 4 | 50 | 50 | 100 | PE |
| 18XA__ | Professional Elective II | 3 | 2 | 0 | 4 | 50 | 50 | 100 | PE |
| 18X504 | Mobile Computing Laboratory | 0 | 0 | 4 | 2 | 100 | - | 100 | PC |
| 18X505 | Computer Graphics and Multimedia Laboratory | 0 | 0 | 4 | 2 | 100 | - | 100 | PC |
| 18X506 | Machine Learning Laboratory | 0 | 0 | 4 | 2 | 100 | - | 100 | PC |
| Total 31 hrs | | 15 | 4 | 12 | 23 | 550 | 250 | 800 | |
| SEMESTER 6 | | | | | | | | | |
| 18X601 | Distributed Enterprise Computing | 3 | 2 | 0 | 4 | 50 | 50 | 100 | PC |
| 18X602 | Software Testing | 3 | 2 | 0 | 4 | 50 | 50 | 100 | PC |
| 18XA__ | Professional Elective III | 3 | 2 | 0 | 4 | 50 | 50 | 100 | PE |
| 18XO__ | Open Elective | 3 | 2 | 0 | 4 | 50 | 50 | 100 | OE |
| 18X603 | Project Work | 0 | 0 | 12 | 6 | 50 | 50 | 100 | EEC |
| Total 32 hrs | | 12 | 8 | 12 | 22 | 250 | 250 | 500 | |

CA - Continuous Assessment
 FE - Final Examination

CAT-Category; BS – Basic Science; HS – Humanities & Social Sciences; ES – Engineering Sciences; PC – Professional Core; PE – Professional Elective; EEC – Employability Enhancement Course; MC – Mandatory Course

List of Professional Electives

- 18XA01 Web Services
- 18XA02 Open Source Software
- 18XA03 Service Oriented Architecture
- 18XA04 Artificial Intelligence
- 18XA05 Data Mining

- 18XA06 Natural Language Processing
- 18XA07 Semantic Web
- 18XA08 Cloud Computing
- 18XA09 Deep Learning
- 18XA10 Big Data Analytics
- 18XA11 Graph Theory
- 18XA12 Software Patterns
- 18XA13 Advanced Database Management Systems
- 18XA14 Embedded System and Design
- 18XA15 Information Search and Retrieval
- 18XA16 Virtual Reality

List of Open Electives

- 18XO01 Cryptography
- 18XO02 Numerical Analysis
- 18XO03 Cyber Security
- 18XO04 Entrepreneurship
- 18XO05 Human Machine Interface Design
- 18XO06 Internet of Things

Labeling and Grouping of Courses

| Professional Core (PC) | | | | |
|-------------------------------|--------------------|---|----------------|--------------------------|
| Sl. No. | Course Code | Course Title | L:P:T:C | Prefered Semester |
| 1. | 18X103 | C PROGRAMMING | 3:0:0:3 | I |
| 2. | 18X106 | C PROGRAMMING LABORATORY | 0:0:4:2 | I |
| 3. | 18X107 | WEB DESIGN LABORATORY | 0:0:4:2 | I |
| 4. | 18X203 | COMPUTER ARCHITECTURE | 3:0:0:3 | II |
| 5. | 18X204 | DATA STRUCTURES | 3:0:0:3 | II |
| 6. | 18X205 | OBJECT ORIENTED PROGRAMMING WITH C++ | 3:0:0:3 | II |
| 7. | 18X207 | DATA STRUCTURES LABORATORY | 0:0:4:2 | II |
| 8. | 18X208 | OBJECT ORIENTED PROGRAMMING WITH C++ LABORATORY | 0:0:4:2 | II |
| 9. | 18X302 | DATABASE MANAGEMENT SYSTEMS | 3:0:0:3 | III |
| 10. | 18X303 | MICRO PROCESSORS AND MICROCONTROLLER | 3:2:0:4 | III |
| 11. | 18X304 | OPERATING SYSTEMS | 3:0:0:3 | III |
| 12. | 18X305 | DESIGN AND ANALYSIS OF ALGORITHMS | 3:0:0:3 | III |
| 13. | 18X306 | DATABASE MANAGEMENT LABORATORY | 0:0:4:2 | III |
| 14. | 18X307 | OPERATING SYSTEMS LABORATORY (LINUX) | 0:0:4:2 | III |
| 15. | 18X308 | DESIGN AND ANALYSIS OF ALGORITHMSIN PYTHON LABORATORY | 0:0:4:2 | III |

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| 16. | 18X401 | COMPUTER NETWORKS | 3:0:0:3 | IV |
| 17. | 18X402 | JAVA PROGRAMMING | 3:0:0:3 | IV |
| 18. | 18X403 | SOFTWARE ENGINEERING | 3:0:0:3 | IV |
| 19. | 18X404 | SYSTEM SOFTWARE | 3:2:0:4 | IV |
| 20. | 18X407 | COMPUTER NETWORKS LABORATORY | 0:0:4:2 | IV |
| 21. | 18X408 | JAVA PROGRAMMING LABORATORY | 0:0:4:2 | IV |
| 22. | 18X501 | MOBILE COMPUTING | 3:0:0:3 | V |
| 23. | 18X502 | COMPUTER GRAPHICS AND MULTIMEDIA | 3:0:0:3 | V |
| 24. | 18X503 | MACHINE LEARNING | 3:0:0:3 | V |
| 25. | 18X504 | MOBILE COMPUTING LABORATORY | 0:0:4:2 | V |
| 26. | 18X505 | COMPUTER GRAPHICS AND MULTIMEDIA LABORATORY | 0:0:4:2 | V |
| 27. | 18X506 | MACHINE LEARNING LABORATORY | 0:0:4:2 | V |
| Sl. No. | Course Code | Course Title | L:P:T:C | Preferred Semester |
| 28. | 18X601 | DISTRIBUTED ENTERPRISE COMPUTING | 3:2:0:4 | VI |
| 29. | 18X602 | SOFTWARE TESTING | 3:2:0:4 | VI |

| Professional Electives (PE) | | | | |
|------------------------------------|--------------------|--------------------------------------|----------------|---------------------------|
| Sl. No. | Course Code | Course Title | L:P:T:C | Preferred Semester |
| 1. | 18XA01 | WEB SERVICES | 3:2:0:4 | V |
| 2. | 18XA02 | OPEN SOURCE SOFTWARE | 3:2:0:4 | V |
| 3. | 18XA03 | SERVICE ORIENTED ARCHITECTURE | 3:2:0:4 | V |
| 4. | 18XA04 | ARTIFICIAL INTELLIGENCE | 3:2:0:4 | VI |
| 5. | 18XA05 | DATA MINING | 3:2:0:4 | V |
| 6. | 18XA06 | NATURAL LANGUAGE PROCESSING | 3:2:0:4 | VI |
| 7. | 18XA07 | SEMANTIC WEB | 3:2:0:4 | VI |
| 8. | 18XA08 | CLOUD COMPUTING | 3:2:0:4 | VI |
| 9. | 18XA09 | DEEP LEARNING | 3:2:0:4 | V |
| 10. | 18XA10 | BIG DATA ANALYTICS | 3:2:0:4 | VI |
| 11. | 18XA11 | GRAPH THEORY | 3:2:0:4 | VI |
| 12. | 18XA12 | SOFTWARE PATTERNS | 3:2:0:4 | VI |
| 13. | 18XA13 | ADVANCED DATABASE MANAGEMENT SYSTEMS | 3:2:0:4 | V |
| 14. | 18XA14 | EMBEDDED SYSTEM AND DESIGN | 3:2:0:4 | VI |
| 15. | 18XA15 | INFORMATION SEARCH AND RETRIEVAL | 3:2:0:4 | V |
| 16. | 18XA16 | VIRTUAL REALITY | 3:2:0:4 | V |

| Basic Sciences (BS) | | | | |
|----------------------------|--------------------|---|----------------|---------------------------|
| Sl. No. | Course Code | Course Title | L:P:T:C | Preferred Semester |
| 1. | 18X101 | CALCULUS AND ITS APPLICATIONS | 3:2:0:4 | I |
| 2. | 18X103 | ENVIRONMENTAL SCIENCE AND GREEN COMPUTING | 3:0:0:3 | I |
| 3. | 18X105 | ANALOG AND DIGITAL ELECTRONICS | 3:0:0:3 | I |
| 4. | 18X108 | ANALOG AND DIGITAL ELECTRONICS LABORATORY | 0:0:2:1 | I |
| 5. | 18X201 | LINEAR ALGEBRA | 3:2:0:4 | II |
| 6. | 18X202 | DISCRETE MATHEMATICS | 3:2:0:4 | II |
| Sl. No. | Course Code | Course Title | L:P:T:C | Preferred Semester |
| 7. | 18X206 | MATHEMATICAL COMPUTING LABORATORY | 0:0:4:2 | II |
| 8. | 18X301 | PROBABILITY AND STATISTICS | 3:2:0:4 | III |
| 9. | 18X405 | OPTIMIZATION TECHNIQUES | 3:2:0:4 | IV |

| Humanities and Social Sciences(HS) | | | | |
|---|--------------------|----------------------|----------------|---------------------------|
| Sl. No. | Course Code | Course Title | L:P:T:C | Preferred Semester |
| 1. | 18X105 | ENGLISH | 3:0:0:3 | I |
| 2. | 18X406 | COMMUNICATION SKILLS | 0:0:4:2 | IV |

| Open Electives (OE) | | | | |
|----------------------------|--------------------|--------------------------------|----------------|---------------------------|
| Sl. No. | Course Code | Course Title | L:P:T:C | Preferred Semester |
| 1. | 18XO01 | CRYPTOGRAPHY | 3:2:0:4 | VI |
| 2. | 18XO02 | NUMERICAL ANALYSIS | 3:2:0:4 | VI |
| 3. | 18XO03 | CYBER SECURITY | 3:2:0:4 | VI |
| 4. | 18XO04 | ENTERPRENEURSHIP | 3:2:0:4 | VI |
| 5. | 18XO05 | HUMAN MACHINE INTERFACE DESIGN | 3:2:0:4 | VI |
| 6. | 18XO06 | INTERNET OF THINGS | 3:2:0:4 | VI |

| Employment Enhancement Courses (EEC) | | | | |
|---|--|--|--|--|
|---|--|--|--|--|

| Sl. No. | Course Code | Course Title | L:P:T:C | Preferred Semester |
|----------------|--------------------|---------------------|----------------|---------------------------|
| 1. | 18X603 | PROJECT WORK | 0:0:12:6 | VI |