



**APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY**

**Curriculum**

**for**

**B.Tech Degree**

**Semesters III to VIII**

**2016**

**Computer Science and Engineering**

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

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## BRANCH: **Computer Science & Engineering**

### SEMESTER - 3

<b>Course Code</b>	<b>Course Name</b>	<b>L-T-P</b>	<b>Credits</b>	<b>Exam Slot</b>
MA201	Linear Algebra & Complex Analysis	3-1-0	4	A
CS201	Discrete Computational Structures	3-1-0	4	B
CS203	Switching Theory and Logic Design	3-1-0	4	C
CS205	Data Structures	3-1-0	4	D
CS207	Electronics Devices & Circuits	3-0-0	3	E
HS210/ HS200	Life Skills/Business Economics	2-0-2/ 3-0-0	3	F
CS231	Data Structures Lab	0-0-3	1	S
CS233	Electronics Circuits Lab	0-0-3	1	T

**Total Credits = 24**

**Hours: 28/29**

**Cumulative Credits= 71**

### SEMESTER - 4

<b>Course Code</b>	<b>Course Name</b>	<b>L-T-P</b>	<b>Credits</b>	<b>Exam Slot</b>
MA202	Probability Distributions, Transforms and Numerical Methods	3-1-0	4	A
CS202	Computer Organization and Architecture	3-1-0	4	B
CS204	Operating Systems	3-1-0	4	C
CS206	Object Oriented Design and Programming	2-1-0	3	D
CS208	Principles of Database Design	2-1-0	3	E
HS210/ HS200	Life Skills/Business Economics	2-0-2/ 3-0-0	3	F
CS232	Free and Open Source Software Lab	0-0-3	1	S
CS234	Digital Systems Lab	0-0-3	1	T

**Total Credits = 23**

**Hours 28/27**

**Cumulative Credits= 94**

## BRANCH: **Computer Science & Engineering**

SEMESTER - 5

<b>Course Code</b>	<b>Course Name</b>	<b>L-T-P</b>	<b>Credits</b>	<b>Exam Slot</b>
CS301	Theory of Computation	3-1-0	4	A
CS303	System Software	2-1-0	3	B
CS305	Microprocessors and Microcontrollers	2-1-0	3	C
CS307	Data Communication	3-0-0	3	D
CS309	Graph Theory and Combinatorics	2-0-2	3	E
	<b>Elective 1</b>	3-0-0	3	F
CS341	Design Project	0-1-2	2	S
CS331	System Software Lab	0-0-3	1	T
CS333	Application Software Development Lab	0-0-3	1	U

**Total Credits = 23**

**Hours: 29    Cumulative Credits= 117**

- Elective 1:-**
1. CS361    Soft Computing
  2. CS363    Signals and Systems
  3. CS365    Optimization Techniques
  4. CS367    Logic for Computer Science
  5. CS369    Digital System Testing & Testable Design

## BRANCH: **Computer Science & Engineering**

SEMESTER - 6

<b>Course Code</b>	<b>Course Name</b>	<b>L-T-P</b>	<b>Credits</b>	<b>Exam Slot</b>
CS302	Design and Analysis of Algorithms	3-1-0	4	A
CS304	Compiler Design	3-0-0	3	B
CS306	Computer Networks	3-0-0	3	C
CS308	Software Engineering and Project Management	3-0-0	3	D
HS300	Principles of Management	3-0-0	3	E
	<b>Elective 2</b>	3-0-0	3	F
CS332	Microprocessor Lab	0-0-3	1	S
CS334	Network Programming Lab	0-0-3	1	T
CS352	Comprehensive Exam	0-1-1	2	U

**Total Credits = 23**

**Hours: 27**

**Cumulative Credits= 140**

### **Elective 2:-**

1. CS362 Computer Vision
2. CS364 Mobile Computing
3. CS366 Natural Language Processing
4. CS368 Web Technologies
5. CS372 High Performance Computing

## BRANCH: **Computer Science & Engineering**

SEMESTER - 7

<b>Course Code</b>	<b>Course Name</b>	<b>L-T-P</b>	<b>Credits</b>	<b>Exam Slot</b>
CS401	Computer Graphics	4-0-0	4	A
CS403	Programming Paradigms	3-0-0	3	B
CS405	Computer System Architecture	3-0-0	3	C
CS407	Distributed Computing	3-0-0	3	D
CS409	Cryptography and Network Security	3-0-0	3	E
	<b>Elective 3</b>	3-0-0	3	F
CS451	Seminar & Project Preliminary	0-1-4	2	S
CS431	Compiler Design Lab	0-0-3	1	T

**Total Credits = 22**

**Hours: 27**

**Cumulative Credits= 162**

### **Elective 3:-**

1. CS461 Computational Geometry
2. CS463 Digital Image Processing
3. CS465 Bio Informatics
4. CS467 Machine Learning
5. CS469 Computational complexity

## BRANCH: **Computer Science & Engineering**

SEMESTER - 8

<b>Course Code</b>	<b>Course Name</b>	<b>L-T-P</b>	<b>Credits</b>	<b>Exam Slot</b>
CS402	Data Mining and Ware Housing	3-0-0	3	A
CS404	Embedded Systems	3-0-0	3	B
	<b>Elective 4</b>	3-0-0	3	C
	<b>Elective 5</b> (Non Departmental)	3-0-0	3	D
CS492	Project		6	S

**Total Credits = 18**

**Hours: 30**

**Cumulative Credits= 180**

### **Elective 4:-**

1. CS462 Fuzzy Set Theory and Applications
2. CS464 Artificial Intelligence
3. CS466 Data Science
4. CS468 Cloud Computing
5. CS472 Principles of Information Security



## **ELECTIVE 5 (NON DEPARTMENTAL ELECTIVE COURSES)**

*(Note:- If a student has studied or chosen the elective course given within the brackets then the corresponding ND elective cannot be chosen)*

1. AO482 FLIGHT AGAINST GRAVITY
2. AE482 INDUSTRIAL INSTRUMENTATION
3. AE484 INSTRUMENTATION SYSTEM DESIGN
4. AU486 NOISE, VIBRATION AND HARSHNESS
5. BM482 BIOMEDICAL INSTRUMENTATION
6. BM484 MEDICAL IMAGING & IMAGE PROCESSING TECHNIQUES
7. BT461 DESIGN OF BIOLOGICAL WASTE WATER SYSTEMS
8. BT362 SUSTAINABLE ENERGY PROCESSES
9. CH482 PROCESS UTILITIES AND PIPE LINE DESIGN
10. CH484 FUEL CELL TECHNOLOGY
11. CE482 ENVIRONMENTAL IMPACT ASSESSMENT
12. CE484 APPLIED EARTH SYSTEMS
13. CE486 GEO INFORMATICS FOR INFRASTRUCTURE MANAGEMENT
14. CE488 DISASTER MANAGEMENT
15. CE494 ENVIRONMENT HEALTH AND SAFETY
16. EE482 ENERGY MANAGEMENT AND AUDITING
17. EE484 CONTROL SYSTEMS
18. EE486 SOFT COMPUTING (CS 361 SOFT COMPUTING)
19. EE488 INDUSTRIAL AUTOMATION
20. EE494 INSTRUMENTATION SYSTEMS
21. EC482 BIOMEDICAL ENGINEERING
22. FT482 FOOD PROCESS ENGINEERING
23. FT484 FOOD STORAGE ENGINEERING

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24. FT486 FOOD ADDITIVES AND FLAVOURING
25. IE482 FINANCIAL MANAGEMENT
26. IE484 INTRODUCTION TO BUSINESS ANALYTICS
27. IE486 DESIGN AND ANALYSIS OF EXPERIMENTS
28. IE488 TOTAL QUALITY MANAGEMENT
29. IC482 BIOMEDICAL SIGNAL PROCESSING
30. IT482 INFORMATION STORAGE MANAGEMENT
31. MA482 APPLIED LINEAR ALGEBRA
32. MA484 OPERATIONS RESEARCH (CS 365 OPTIMISATION TECHNIQUES)
33. MA486 ADVANCED NUMERICAL COMPUTATIONS
34. ME484 FINITE ELEMENT ANALYSIS
35. ME482 ENERGY CONSERVATION AND MANAGEMENT
36. ME471 OPTIMIZATION TECHNIQUES (CS 365 OPTIMISATION TECHNIQUES)
37. MP482 PRODUCT DEVELOPMENT AND DESIGN
38. MP469 INDUSTRIAL PSYCHOLOGY & ORGANIZATIONAL BEHAVIOUR
39. MT482 INDUSTRIAL SAFETY
40. MR482 MECHATRONICS
41. FS482 RESPONSIBLE ENGINEERING
42. SB482 DREDGERS AND HARBOUR CRAFTS
43. HS482 PROFESSIONAL ETHICS