APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

Curriculum

for

B.Tech Degree

Semesters III to VIII

2016

Applied Electronics and Instrumentation Engineering

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

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BRANCH: *Applied Electronics and Instrumentation/ Electronics and Instrumentation Engineering*

SEMESTER - 3

Course Code	Course Name	L-T-P	Credits	Exam Slot
MA201	Linear Algebra & Complex Analysis	3-1-0	4	A
EC201	Network Theory	3-1-0	4	B
EC203	Solid State Devices	3-1-0	4	C
EC205	Electronic Circuits	3-1-0	4	D
EC207	Logic Circuit Design	3-0-0	3	E
HS200/ HS210	Business Economics/Life Skills	3-0-0/ 2-0-2	3	F
EC231	Electronic Devices & Circuits Lab	0-0-3	1	S
EC230	Logic Circuit Design Lab	0-0-3	1	T

Total Credits = 24 Hours: 28/29   Cumulative Credits= 71

SEMESTER - 4

Course Code	Course Name	L-T-P	Credits	Exam Slot
MA204	Probability distributions, Random Processes and Numerical Methods	3-1-0	4	A
AE202	Computer Programming	2-2-0	4	B
EC204	Analog Integrated Circuits	4-0-0	4	C
AE204	Sensors and Transducers	3-0-0	3	D
EE216	Electrical Engineering	3-0-0	3	E
HS210/ HS200	Life Skills/Business Economics	2-0-2/ 3-0-0	3	F
EC232	Analog Integrated Circuits Lab	0-0-3	1	S
AE232	Transducers and Instrumentation Lab	0-0-3	1	T

Total Credits = 23   Hours 28/27 Cumulative Credits= 94

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SEMESTER - 5

Course Code	Course Name	L-T-P	Credits	Exam Slot
AE301	Control System	3-1-0	4	A
AE303	Electrical Measurements & Measuring Instruments	3-0-0	3	B
AE305	Microprocessors &Microcontrollers	3-0-0	3	C
AE307	Signals and Systems	3-0-0	3	D
HS300	Principles of Management	3-0-0	3	E
	Elective 1	3-0-0	3	F
AE341	Design Project	0-1-2	2	S
AE331	Microprocessors &Microcontrollers Lab	0-0-3	1	T
EE337	Electrical Engineering Lab	0-0-3	1	U

Total Credits = 23   Hours: 28   Cumulative Credits= 117

Elective 1:-   1. AE361   Virtual Instrument Design

2. EC361   Digital System Design

3. AE363   VLSI Circuit Design

4. AE365   Instrumentation for Agriculture

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SEMESTER - 6

Course Code	Course Name	L-T-P	Credits	Exam Slot
AE302	Process Control	4-0-0	4	A
AE304	Industrial Instrumentation	3-0-0	3	B
AE306	Digital Signal Processing	3-0-0	3	C
AE312	Power Electronics	3-0-0	3	D
AE308	Advanced Microprocessors	3-0-0	3	E
	Elective 2	3-0-0	3	F
AE332	Process Control Lab	0-0-3	1	S
AE334	Power Electronics Lab	0-0-3	1	T
AE352	Comprehensive Exam	0-1-1	2	U

Total Credits = 23   Hours: 27   Cumulative Credits= 140

Elective 2:-

1. EC360   Soft Computing

2. AE362   Industrial Psychology

3. AE364   MEMS/NEMS

4. AE366   Embedded System Design

5. AE368   Plastic Engineering

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SEMESTER - 7

Course Code	Course Name	L-T-P	Credits	Exam Slot
AE401	Logic and Distributed Control System	4-0-0	4	A
AE403	Biomedical Instrumentation	3-0-0	3	B
AE405	Advanced Control Theory	3-0-0	3	C
AE407	Digital Control System	3-0-0	3	D
AE409	Optical Instrumentation	3-0-0	3	E
	Elective 3	3-0-0	3	F
AE451	Seminar & Project Preliminary	0-1-4	2	S
AE431	Control System and Signal Processing Lab	0-0-3	1	T

Total Credits = 22   Hours: 27   Cumulative Credits= 162

Elective 3:-

  1. AE461 ARM System Architecture

  2. AE463 Aerospace & Navigation Instruments

  3. AE465 Information Security

  4. AE467 CMOS Circuit Design

  5. EC370 Digital Image Processing

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SEMESTER - 8

Course Code	Course Name	L-T-P	Credits	Exam Slot
AE402	Analytical Instrumentation	3-0-0	3	A
AE410	Power Plant Instrumentation	3-0-0	3	B
	Elective4	3-0-0	3	C
	Elective 5 (Non Departmental)	3-0-0	3	D
AE492	Project		6	S

Total Credits = 18   Hours: 30   Cumulative Credits= 180

Elective 4:-

1. AE462   Optimal Control System

2. AE464   Non-Linear Control System

3. AE466   Industrial Robotics

4. AE468   Nano Electronics

5. AE472   Petroleum Engineering

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 AGAIST GRAVITY

2. AU486   NOISE, VIBRATION AND HARSHNESS

3. BM484   MEDICAL IMAGING & IMAGE PROCESSING TECHNIQUES

4. BT461   DESIGN OF BIOLOGICAL WASTEWATER SYSTEMS

5. BT362   SUSTAINABLE ENERGY PROCESSES

6. CH482   PROCESS UTILITIES AND PIPE LINE DESIGN

7. CH484   FUEL CELL TECHNOLOGY

8. CE482   ENVIRONMENTAL IMPACT ASSESSMENT

9. CE484   APPLIED EARTH SYSTEMS

10. CE486   GEO INFORMATICS FOR INFRASTRUCTURE MANAGEMENT

11. CE488   DISASTER MANAGEMENT

12. CE494   ENVIRONMENT HEALTH AND SAFETY

13. CS482   DATA STRUCTURES

14. CS484   COMPUTER GRAPHICS

15. CS486   OBJECT ORIENTED PROGRAMMING

16. CS488   C # AND .NET PROGRAMMING

17. EE482   ENERGY MANAGEMENT AND AUDITING

18. EE486   SOFT COMPUTING(EC 360 SOFT COMPUTING)

19. EE488   INDUSTRIAL AUTOMATION

20. EC482   BIOMEDICAL ENGINEERING

21. FT482   FOOD PROCESS ENGINEERING

22. FT484   FOOD STORAGE ENGINEERING

23. FT486   FOOD ADDITIVES AND FLAVOURING

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24. IE482   FINANCIAL MANAGEMENT

25. IE484   INTRODUCTION TO BUSINESS ANALYTICS

26. IE486   DESIGN AND ANALYSIS OF EXPERIMENTS

27. IE488   TOTAL QUALITY MANAGEMENT

28. IC482   BIOMEDICAL SIGNAL PROCESSING

29. IT482   INFORMATION STORAGE MANAGEMENT

30. MA482   APPLIED LINEAR ALGEBRA

31. MA484   OPERATIONS RESEARCH

32. MA486   ADVANCED NUMERICAL COMPUTATIONS

33. MA488   CRYPTOGRAPHY

34. ME484   FINITE ELEMENT ANALYSIS

35. ME482   ENERGY CONSERVATION AND MANAGEMENT

36. ME471   OPTIMIZATION TECHNIQUES

37. MP482   PRODUCT DEVELOPMENT AND DESIGN

38. MP469   INDUSTRIAL PSYCHOLOGY & ORGANIZATIONAL BEHAVIOUR(AE 362 INDUSTRIAL PSYCHOLOGY)

39. MP484   PROJECT MANAGEMENT

40. MT482   INDUSTRIAL SAFETY

41. MR482   MECHATRONICS

42. FS482   RESPONSIBLE ENGINEERING

43. SB482   DREDGERS AND HARBOUR CRAFTS

44. HS482   PROFESSIONAL ETHICS