

# APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY



## *Cluster No. 10 for PG Programs*

*(Engineering Colleges in Kannur, Wayand & Kasaragod Districts)*

*Curriculum, Syllabi and Course plan for M. Tech. Degree Program with  
effect from Academic Year 2015 - 2016*

## **CIVIL ENGINEERING BRANCH**

**M. Tech.**

*in*

**COMPUTER AIDED STRUCTURAL ENGINEERING**

**(No. of Credits: 66)**

**SEMESTER 1**

Examination Slot	Course Number	Name	L-T-P	Internal Marks	End Semester Examination		Total Marks	Credits
					Marks	Duration (hours)		
A	10CE6101	Advanced Numerical Methods	3-0-0	40	60	3	100	3
B	10CE6103	Theory of Elasticity	3-1-0	40	60	3	100	4
C	10CE6105	Structural Dynamics	3-0-0	40	60	3	100	3
D	10CE6107	Advanced Theory and Design of RC Structures	3-1-0	40	60	3	100	4
E	10CE61xx	Elective -I	3-0-0	40	60	3	100	3
S	10GN6001	Research Methodology	0-2-0	100			100	2
T	10CE6109	Seminar - I	0-0-2	100			100	2
U	10CE6111	Structural Engineering and Computational Lab	0-0-2	100			100	1
		<b>TOTAL</b>	<b>15-4-4</b>	<b>500</b>	<b>300</b>	<b>-</b>	<b>800</b>	<b>22</b>

**TOTAL CONTACT HOURS : 23**  
**TOTAL CREDITS : 22**

**Elective**

- 10CE6113 Advanced Concrete Technology
- 10CE6115 Forensic Engineering
- 10CE6117 Structural Optimisation

**SEMESTER 2**

Examination Slot	Course Number	Name	L-T-P	Internal Marks	End Semester Examination		Total Marks	Credits
					Marks	Duration (hours)		
A	10CE6102	Advanced Metal Structures	3-0-0	40	60	3	100	3
B	10CE6104	Finite Element Method	3-0-0	40	60	3	100	3
C	10CE6106	Analysis and Design of Earthquake Resistant Structures	3-0-0	40	60	3	100	3
D	10CE61xx	Elective -II	3-0-0	40	60	3	100	3
E	10CE61xx	Elective-III	3-0-0	40	60	3	100	3
V	10CE6108	Mini Project	0-0-4	100			100	2
U	10CE6112	Structural Engineering Design Studio Lab	0-0-2	100			100	1
		<b>TOTAL</b>	<b>15-0-6</b>	<b>400</b>	<b>300</b>	<b>-</b>	<b>700</b>	<b>18</b>

**TOTAL CONTACT HOURS : 21**  
**TOTAL CREDITS : 18**

**Elective -II**

- 10CE6114 Theory of Plates and Shells
- 10CE6116 Composite Structures
- 10CE6118 Fracture Mechanics

**Elective -III**

- 10CE6122 Advanced Prestressed Concrete Design
- 10CE6124 Analysis and Design of Substructures
- 10CE6126 High Rise Structures

**SEMESTER 3**

Examination Slot	Course Number	Name	L-T-P	Internal Marks	End Semester Examination		Total Marks	Credits
					Marks	Duration (hours)		
A	10CE71xx	Elective -IV	3-0-0	40	60	3	100	3
B	10CE71xx	Elective-V	3-0-0	40	60	3	100	3
T	10CE7101	Seminar-II	0-0-2	100			100	2
V	10CE7103	Project (Phase 1)	0-0-12	50			50	6
		<b>TOTAL</b>	<b>6-0-14</b>	<b>230</b>	<b>120</b>	<b>-</b>	<b>350</b>	<b>14</b>

**TOTAL CONTACT HOURS : 20**  
**TOTAL CREDITS : 14**

**Elective-IV**

10CE7105 Design of Bridges  
10CE7107 Structural Reliability  
10CE7109 Theory of Plasticity

**Elective-V**

10CE7111 Stability of structures  
10CE7113 Random Vibration  
10CE7115 Advanced Finite Element Analysis

**SEMESTER 4**

Examination Slot	Course Number	Name	L-T-P	Internal Marks	End Semester Examination		Total Marks	Credit
					Marks	Duration (hours)		
V	10CE7104	Project (Phase 2)	0-0-23	70	30		100	12
		<b>TOTAL</b>	<b>0-0-23</b>	<b>70</b>	<b>30</b>	<b>-</b>	<b>100</b>	<b>12</b>

TOTAL CONTACT HOURS : 23  
TOTAL CREDITS : 12

**TOTAL NUMBER OF CREDITS: 66**