APJ ABDULKALAM TECHNOLOGICAL UNIVERSITY
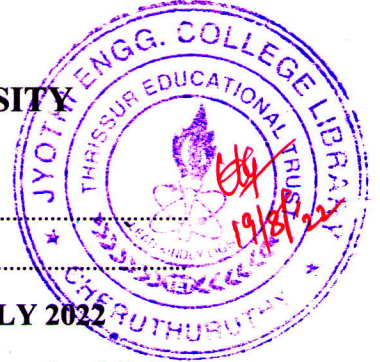## 08 PALAKKAD CLUSTER

Q.P Code: IAR0822252-I   (Pages: 2)

SECOND SEMESTER M.TECH. DEGREE EXAMINATION JULY 2022

Branch: Mechanical Engineering   **Specialization: Industrial Automation &Robotics**

08ME6352(A) DESIGN OF EMBEDDED SYSTEMS

Time: 3 Hours   Max. Marks: 60

Answer all six questions.

Modules 1 to 6: Part 'a' of each question is compulsory and answer either part 'b' or part 'c' of each question.

Q. No.	Module 1	Marks
1.a	What are the main challenges in embedded computing system design?	3
	Answer b or c	
b	Explain in detail about the embedded system design process.	6
c	Discuss on the structural and behavioural description.	6

Q. No.	Module 2	Marks
2.a	What are the different registers used in DMA controller?	3
	Answer b or c	
b	Explain about the different debugging and testing techniques in embedded system.	6
c	Which are the different input and output devices used in embedded system? Explain any three.	6

Q. No.	Module 3	Marks
3.a	Differentiate assembling and linking.	3
	Answer b or c	
b	Briefly explain about the design patterns in embedded computing.	6
c	How control and data flow graphs are made use of in program design and analysis?	6

Q. No.	Module 4	Marks
4.a	What are the different compilation techniques used in embedded system?	3

Answer b or c

b	Explain the clear box testing strategies used in embedded system.	6
c	What is the importance of the optimization of execution time?	6

Q. No.	Module 5	Marks
5.a	Explain about CRC cards.	4

Answer b or c

b	What are the different quality assurance techniques?	8
c	Explain the different system design methodologies.	8

Q. No.	Module 6	Marks
6.a	What do you mean by logic analysers?	4

Answer b or c

b	Explain about integrated development environment.	8
c	Discuss on JTAG.	8