2.5.1. QIM	**Mechanism of internal assessment is transparent and robust in terms of frequency and mode**

Assessment test question paper (CAT1, CAT2, MODEL)

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

MID TERM 2 QUESTION PAPER
2020-2021 ODD SEMESTER

SUBJECT NAME	: EMBEDDED & REAL TIME SYSTEM	SUBJECT CODE	: EC8791
BRANCH	: ECE	YEAR/SEMESTER	: IV/VII
DATE	: 30/10/21	TIME	: 10.45 - 12.15
FACULTY NAME	: G.BHAVANI	MAX MARKS	: 50

CO 1	Outline the concepts of embedded systems
CO2	Describe the architecture and programming of ARM processor
CO3	Explain the basic concepts of real time operating system design
CO4	Model real-time applications using embedded-system concepts
CO5	Understand the concepts of embedded system design and analysis
CO6	Learn the architecture and programming of ARM processor

K1- Remembering
K2- Understanding
K3- Applying
K4- Analyzing
K5- Evaluating
K6- Creating

Answer ALL questions

PART A - (5 × 2 = 10 Marks)

Q.NO	QUESTION	MARK	CO-MAPPING	BLOOM'S TAXONOMY
1	State the major function of POSIX	2	CO5	K1
2	What is meant by priority inversion?	2	CO5	K1
3	Define task and process.	2	CO5	K2
4	Define program counter.	2	CO2	K1
5	What are the instruction sets is arm processor	2	CO2	K1

PART B –(2x 13=26 marks)

6a.	Write down the instruction set used in arm processor	13	CO2	K2
	OR			
6b.	List out the features of LPC 214x family.	13	CO2	K1
7a.	Explain the following a) Multiprocessing. Multiprogramming b) Multitasking Multi threading	13	CO5	K4
	OR			
7b.	Write a short note on the power optimization stratergies for processes.	13	CO5	K2

PART C (1x14=14 marks)

8a.	Explain the architecture of ARM9 processor	14	CO2	K3
	OR			
8b.	Explain the operation of engine control unit.	14	CO5	K1

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

MID TERM I QUESTION PAPER

2020-2021 ODD SEMESTER

SUBJECT NAME	: EMBEDDED & REAL TIME SYSTEM	SUBJECT CODE	: EC8791
BRANCH	: ECE	YEAR/SEMESTER	: IV/VII
DATE	: 16/10/2020	TIME	: 3:00-4:30 PM
FACULTY NAME	: G.BHAVANI	MAX MARKS	: 50

CO 1	Outline the concepts of embedded systems
CO2	Describe the architecture and programming of ARM processor
CO3	Explain the basic concepts of real time operating system design
CO4	Model real-time applications using embedded-system concepts
CO5	Understand the concepts of embedded system design and analysis
CO6	Learn the architecture and programming of ARM processor

K1- Remembering
K2- Understanding
K3- Applying
K4- Analyzing
K5- Evaluating
K6- Creating

Answer ALL questions

PART A - (5 × 2 = 10 Marks)

Q.NO	QUESTION	MARK	CO-MAPPING	BLOOM'S TAXONOMY
1	What is the role of microprocessor in embedded computing?	2	CO1	K1
2	Design formalism for system design.	2	CO1	K1
3	Define quality assurance.	2	CO1	K2
4	Define program counter.	2	CO2	K1
5	What are the instruction sets is arm processor	2	CO2	K1

PART B –(2x 13=26 marks)

6a.	Explain in detail the design methodologies and design flow.	13	CO2	K2
	(OR)			
6b.	Explain in detail the design steps of modern train controller with suitable diagrams.	13	CO2	K1
7a.	Explain the architecture of ARMCORTEX M3/M4 processor	13	CO1	K4
	OR			
7b.	List out the features of LPC 214x family.	13	CO1	K2
	PART C (1x14=14 marks)			
8a.	Explain the design with computing the platform in embedded systems design.	14	CO2	K3
	OR			
8b.	Explain the architecture of ARM7TDMI-S processor	14	CO1	K1

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MODEL QUESTION PAPER
2020-2021 ODD SEMESTER

SUBJECT NAME	: EMBEDDED & REAL TIME SYSTEM	SUBJECT CODE	: EC8791
BRANCH	: ECE	YEAR/SEMESTER	: IV/VII
DATE	: 27/12/21	TIME	: 3.30-5.30 PM
FACULTY NAME	: G.BHAVANI	MAX MARKS	: 50

CO 1	Outline the concepts of embedded systems
CO2	Describe the architecture and programming of ARM processor
CO3	Explain the basic concepts of real time operating system design
CO4	Model real-time applications using embedded-system concepts
CO5	Understand the concepts of embedded system design and analysis
CO6	Learn the architecture and programming of ARM processor

K1- Remembering
K2- Understanding
K3- Applying
K4- Analyzing
K5- Evaluating
K6- Creating

Answer ALL questions
PART A - (10 × 2 = 20 Marks)

Q.NO	QUESTION	MARK	CO-MAPPING	BLOOM'S TAXONOMY
1	What is UML?	2	CO1	K1
2	What is a thread?	2	CO1	K1
3	What are the important embedded processor chips?	2	CO2	K2
4	What is watch dog timer?	2	CO2	K1
5	What are the function of linker?	2	CO3	K1
6	What are the component for Embedded program?	2	CO3	K2
7	What is task assignment?	2	CO4	K4
8	State Fault Tolerance Techniques	2	CO4	K1
9	List the functions of a kernel.	2	CO5	K2
10	Define earliest deadline first scheduling	2	CO6	K3

PART B –(5x 13=65 marks)

11a.	i) Explain in detail all the design flow. ii) Explain Quality Assurance techniques	13	CO1	K2
	(OR)			
11b.	i) with a simple system namely , a model train controller , how will you use the UML to model systems? ii) Discuss about formalism for system design?	13	CO1	K1
12a.	(a) Explain the architecture of ARM9 with Block Diagram	13	CO2	K4
	OR			

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12b.	Explain the following Instruction Set , Stacks and Subroutines	13	CO2	K2
13 a.	i) Explain assembly and linking with example ii) Describe the basic compilation techniques.	13	CO3	K1
	(OR)			
13b.	Explain in detail Program validation and testing.	13	CO3	K1
14a.	Explain the Structure of a Real Time System	13	CO4	K2
	(OR)			
14b.	Explain in detail Task Assignment and Scheduling	13	CO4	K1
15a.	Explain the services of operating system in handling multiprocess scheduling and communication.	13	CO5	K4
	(OR)			
15b.	Explain the distributed embedded system	13	CO6	K2
	PART C (1x15=15 marks)			
16a.	i) Explain Interprocess communication mechanisms ii) Write short on POSIX	15	CO3	K3
	OR			
16b.	(a) Explain in detail Audio player	15	CO4	K1

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