

Reg. No.

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B.E. / B.TECH. DEGREE EXAMINATIONS, MAY 2023

Sixth Semester & Eighth Semester

OE18702 – CONSUMER ELECTRONICS**(Regulation 2018)****TIME: 3 HOURS****MAX. MARKS: 100**

COURSE OUTCOMES	STATEMENT	RBT LEVEL
CO 1	To understand the working principles of various consumer electronic devices and its fundamentals.	2
CO 2	To sketch and describe operating principles of different types of microphones, display systems	2
CO 3	To learn various technology involved in Smart home.	3
CO 4	To describe working of Washing machine, Digital Camera system, Microwave ovens and Home enablement systems with their block diagram.	3
CO 5	To acquaint with various devices related to telecommunication system	3

PART- A (10 x 2 = 20 Marks)

(Answer all Questions)

	CO	RBT LEVEL
1. State ripple factor and efficiency of an HWR.	1	1
2. Differentiate JFET and BJT.	1	4
3. Examine the characteristics of the microphone.	2	3
4. Compare and contrast DVD and Blu-ray.	2	4
5. List out the different types of wireless technologies used for smart homes.	3	1
6. Categorize the different types of water level sensors.	3	2
7. Mention the advantages of RFID.	4	2
8. Summarize the features of a microwave oven.	4	3
9. Draw the block diagram of fax machine.	5	2
10. Summarize the features of iOS 16.	5	3

PART- B (5 x 14 = 70 Marks)

	Marks	CO	RBT LEVEL
11. (a) (i) Design a 3-bit adder and subtractor using logic gates.	(7)	1	4
(ii) Design a 4:1 multiplexer using logic gates.	(7)	1	4
(OR)			
(b) Examine the different types of microprocessor and microcontrollers used in consumer electronics.	(14)	1	4

- 12. (a)** Enumerate the different types of microphone and justify the usage of microphones for different applications with its construction. **(14) 2 3**
- (OR)**
- (b)** Demonstrate the construction and working of how the LCD TV works with a neat diagram. **(14) 2 3**
- 13. (a)** Explain in detail about the working of amazon alexa as virtual assistance in smart homes. **(14) 3 2**
- (OR)**
- (b)** Discuss the different types of thermal sensors used in smart homes with examples. **(14) 3 2**
- 14. (a)** With a neat block diagram, explain how the different parts of the washing machine are interacting with each other to complete the washing and rinse cycle. **(14) 4 3**
- (OR)**
- (b)** Explain in detail about how smart alarm and smart lock is implemented in the home automation systems. **(14) 4 3**
- 15. (a) (i)** Illustrate the different blocks of the smartphone with a neat diagram. **(7) 5 3**
- (ii)** Examine the challenges in designing smartwatches. **(7) 5 3**
- (OR)**
- (b)** Examine how WIFI and LIFI can be utilized in consumer electronics applications and compare WIFI and LIFI. **(14) 5 3**

PART- C (1 x 10 = 10 Marks)

(Q.No.16 is compulsory)

- | | | Marks | CO | RBT LEVEL |
|------------|--|-------------|----------|-----------|
| 16. | Imagine a scenario, theft happened in a jewelry shop, inspect the role of the Intruder detection system to identify the thief and mention design challenges with examples. | (10) | 3 | 4 |
