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APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

B.Tech Degree S1,S2 (S,FE) Examination May 2021 (2015 Scheme)

Course Code: EC100

Course Name: BASICS OF ELECTRONICS ENGINEERING

Max. Marks: 100

Duration: 3 Hours

1	PART A Answer all questions, each carries 5 marks What are the specifications of a resistor?	Marks (5)
2	Compare avalanche break down and zener break down.	(5)
3	What is peak inverse voltage (PIV)? Explain the operation of a half wave rectifier.	(5)
4	Explain the operation of an inverting amplifier.	(5)
5	Why geostationary satellites are called so? What are their advantages?	(5)
6	Define frequency modulation. What are the merits of FM?	(5)
7	What are the advantages of optical communication?	(5)
8	Describe the working of a cellular communication system with relevant	(5)
	sketches	

PART B

Answer six questions, one full question from each module and carries 10 marks.

MODULE I

- 9 a) Which are the different types of capacitors? Mention any two applications of a (5) capacitor.
 b) Explain the construction of a wire wound resistor. (5) OR
- 10 a)Explain the working of an electromechanical relay.(5)
 - b) What are the impacts of electronics in medical field? (5)

MODULE II

11 Explain how a PN junction is formed? Draw and explain the VI characteristics (10) of a PN junction diode.

OR

12 What is base width modulation? Explain the input and output characteristics of (10) a transistor in CE configuration.

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MODULE III

(b) Explain the working of an RC phase shift oscillator. (7) 0R (4) (4) (4) (5) With a circuit diagram explain the working of a Zener voltage regulator. (6) (7) (7) (7) (7) (7) (7) (7) (7) (7) (7) (7) (7) (7) (7) (7) (7) (7) (7) (7) (7) (7) (7) (7) (7) (7) (7) (7) (7) (7) (7) (7) (7) (7) (7) (7) (7) (8) (7) (9) (7) (9) (7) (10) (10) (11) (10) (12) (10) (13) (10) (14) (10) (15) (10) (17) (10) (17) (1
14 a) Describe the working of a capacitor filter. (4) b) With a circuit diagram explain the working of a Zener voltage regulator. (6) MODULE IV 15 a) What are the characteristics of an ideal op-amp? (5) b) Explain the functional block diagram of an op-amp. (5) b) Explain the block diagram of a digital storage oscilloscope and explain its working. (7) 16 (a) Draw the block diagram of a digital storage oscilloscope and explain its working. (7) 16 (a) Draw the block diagram of a digital storage oscilloscope and explain its working. (7) 17 a) Explain the principle and working of a superheterodyne receiver. (5) b) Compare the performance of an AM and FM communication systems. (5) b) Describe satellite communication system. (5) mAM signal? (5) b) Describe satellite communication system. (5) MODULE VI (5) 19 a) Using a block diagram, explain the working of an optical fibre communication system. (6) b) Explain the concept of frequency reuse in cellular communication. (4)
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b) Explain the operation of cable TV (5)
