2. Al 110.

[72]

SARDER PATEL UNIVERSITY. V.V. NAGER.

S.YB.Sc. Sem-III ELECTRONICS EXAMINATION,(NC)

Q-1 Choose correct answer [10] Choose correct answer [10] Reactance of inductor is given by X₁ =	SUB.	CODE:-US03CELE01	Electronics Devices		
Q-1 Choose correct answer [10] 1 Reactance of inductor is given by X ₁ =	DATI	:-4/01/2021	TIME:-2;00PM to 4;00PM	MARKS-70	
(A) 2πftc (B) 1/2πft (D) None of these. Reactance of capacitor is given by X _c =					[10]
(B) 1/2πf. (D) None of these. 2. Reactance of capacitor is given by X _C =	1	Reactance of inductor is			
2. Reactance of capacitor is given by X _C =		(A)) 2πfLc	(C) 2fL		
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(B)1/2rifC (D) None of these 3. The output of a voltage multiplier isvolt. (A)DC (B)ac (D) None of these 4. Pure semiconductor material is referred as material. (A) intrinsic. (B) doped. (D) None of these 5. Donar doped semiconductor material is referred as material. (A) intrinsic (C) extrinsic (B) un-doped (D) None of these 6. Acceptor doped material is known as semiconductor. (A) N-TYPE (B) ZERO-TYPE (D) None of these 7. Tunnel diode is also known as diode. (A) Esaki (C) Cut-off (B) BLANKING (D) None of these 8. Thermistor resistance is changing due to change in (A) temperature. (C) wind (B) AIR (D) None of these 9. In amplitude modulation, the frequency of carrier is as per modulating signal. (A) decreases (B) increases (D) None of these 10. Square-law diode modulator uses portion of the characteristic. (A) linear (B) non- linear (C) linear- non- linear (B) non- linear (D) None of these 10. Fill in the Blanks & True or False [a] Fill in the Blanks (D4) In mica capacitor is dielectric. (C) When PN-junction diode is reversed biased depletion region is in voltage doubler no of diodes are used. (D) Rectifier converts ac voltage to DC voltage. (D) In step response of RL-circuit DC voltage. (D) In step response of RL-circuit DC voltage. (D) In step response of RL-circuit DC voltage. (D) In application of voltage variable capacitor, VVC diode is reverse biased.	2.	Reactance of capacitor i	s given by $X_C = \underline{\hspace{1cm}}$.		
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 In step response of RL-circuit DC voltage is used. In application of voltage variable capacitor, VVC diode is reverse biased. 			oltage to DC voltage.		
3) In application of voltage variable capacitor, VVC diode is reverse biased.					
	-	In application of voltage	ge variable capacitor,VVC diode is reverse bi	ased.	
		The value of resistance	e is not changing in fixed resistors		

Q-3	Short answer type question. (any ten)	[20]
1.	Write a note on cermet resistor.	
2.	Write a note on surface mount resistor.	
3.	List different types of fixed inductors.	
4.	Write a note on N-type semiconductor	
5.	Define modulation index.	
6.	Write a note on P-type semiconductor.	
7.	Draw the basic circuit of linear diode detector.	
8.	Draw the diagram of principle of voltage variable capacitor diode.	
9.	Draw the diagram of hyper-abrupt junction VVC.	
10.	Draw the output arrangement of CCD.	
11.	Define amplitude modulation drawing waveform.	
12.	Explain temperature effects on reverse bias PN junction diode.	
Q.4	Answer any four out of eight question	32
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Q.(a)	List different types of fixed resistor and explain any two in detail.	[8]
Q.(b)	List different types of fixed capacitor and explain any one in detail, what is trimmer capacitor	[8]
0()		
Q.(c)	Give an account of step voltage response of RL circuit.	[8]
Q.(d)	Give an account of forward bias PN junction diode ,what is temperature effect in	[8]
α,(α)	reverse biased PN junction diode.	[O]
	reverse stated in viganetion diode.	
Q.(e)	Give an account of amplitude modulation and derive necessary derivations.	[8]
	,	
Q.(f)	Explain working of voltage multiplier&peak rectifier.	[8]
Q.(g)	Write a note on voltage variable capacitor diode.	[8]
0 4 1		
Q.(h)	Give input and output arrangement of CCD	[8]