

Hall Ticket Number:

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Code No. : 14551 AS O

VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS), HYDERABAD

Accredited by NAAC with A++ Grade

B.E. (Mech. Engg) IV-Semester Advanced Supplementary Examinations, September-2022**Basic Electronics Engineering**

Time: 3 hours

Max. Marks: 60

Note: Answer all questions from Part-A and any FIVE from Part-B

Part-A (10 × 2 = 20 Marks)

Q. No.	Stem of the question	M	L	CO	PO
1.	Define peak inverse voltage and efficiency of a rectifier.	2	1	1	1
2.	What do you mean by biasing?	2	2	1	1
3.	Compare BJE and FET.	2	2	2	2
4.	Draw the symbol of n-channel enhancement and depletion type MOSFET.	2	2	2	2
5.	Define oscillators and classify the same.	2	1	3	1
6.	State Barkhausen's criteria for oscillators.	2	2	3	1
7.	Compare active and passive transducers.	2	2	4	2
8.	List the applications of CRO.	2	1	4	2
9.	Compare rectifier and filter circuit.	2	2	1	1
10.	Compare CE, CB and CC configuration of the transistor.	2	2	2	1
Part-B (5 × 8 = 40 Marks)					
11. a)	Illustrate the working principle of the bridge rectifier with suitable waveforms.	4	3	1	2
b)	Explain the VI characteristics of the Zener diode.	4	2	1	2
12. a)	Justify the statement, 'FET is a voltage-controlled device' with suitable diagrams and waveforms.	5	3	2	2
b)	Define current gain α , β and γ for a transistor.	3	2	2	2
13. a)	Explain the advantages of a negative feedback amplifier in detail.	4	3	3	1
b)	With the help of a suitable circuit diagram, explain the working of Colpitts oscillators.	4	2	3	1
14. a)	Draw the block diagram of a CRO and explain each block in detail.	4	2	4	2
b)	Discuss the VI characteristics of UJT.	4	3	4	1
15. a)	Discuss the working principle of a diode under forward and reverse biased condition.	4	2	1	1
b)	Illustrate how a transistor act as an amplifier.	4	3	2	1
16. a)	Compare RC and LC oscillators	4	2	3	2
b)	Explain the measurement of displacement using LVDT.	4	3	4	2
17.	Write a short note on any <i>two</i> of the following:				
a)	Crystal Oscillators	4	2	3	2
b)	MOSFET.	4	2	2	2
c)	Zener regulator.	4	2	1	2

M : Marks; L: Bloom's Taxonomy Level; CO; Course Outcome; PO: Programme Outcome

i)	Blooms Taxonomy Level - 1	7.5%
ii)	Blooms Taxonomy Level - 2	61.25%
iii)	Blooms Taxonomy Level - 3 & 4	31.25%
