PRN No.	Total No. of Questions: 09

QP Code:

EEEFY25524 (B) 23-24

JSPM's

Rajarshi Shahu College of Engineering, Tathawade, Pune- 411033

(An autonomous institute affiliated to SavitribaiPhule Pune University)

Examination: End Semester Examinations (ESE)

Semester: II **Academic Year: 2023-24**

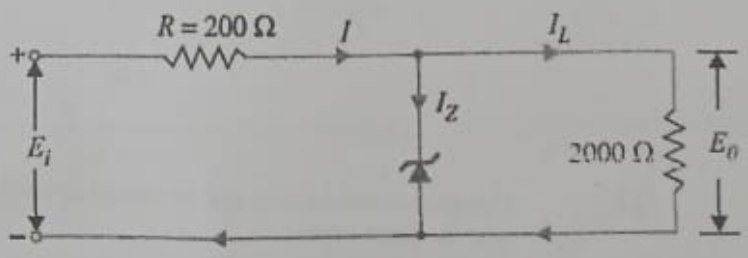
Class: F. Y. B. Tech.

Department: Engineering Sciences and Humanities

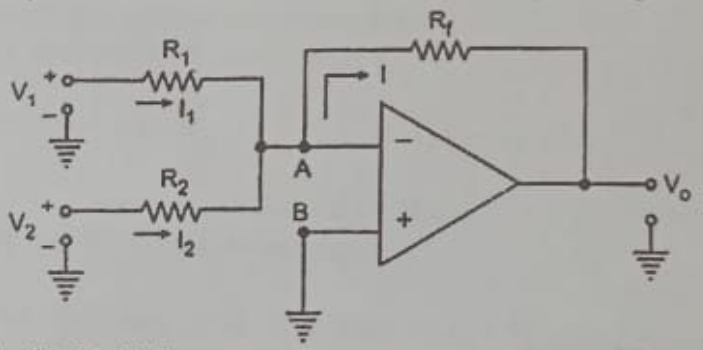
Subject Code: EC1201- Subject Name and pattern: Basic Electronics Engineering (2023)

Duration:2hrs **Max. Marks: 35 Mar**

Instructions to the Candidates
1. In Section A, Q.1, Q. 2 and Q.3 are compulsory.
2. In section B, Solve Q.4 orQ.5, Q.6or Q.7 and Q.8 or Q.9.
3. Assume suitable and necessary data wherever required.

Q. No.		Section-A	Marks	BL	CO
Q.1		**Solve any One**			
	a	Compare the performance of HWR and FWR with respect to following parameters: i)Ripple Factor ii) VLDC iii) TUF	3	BL2	CO1
	b	Find the current through the Zener diode when Ei=25V,Vz=5V 	3	BL3	CO1
Q.2		**Solve any One**			
	a	State the biasing conditions required for the three regions of operation of BJT	3	BL2	CO2

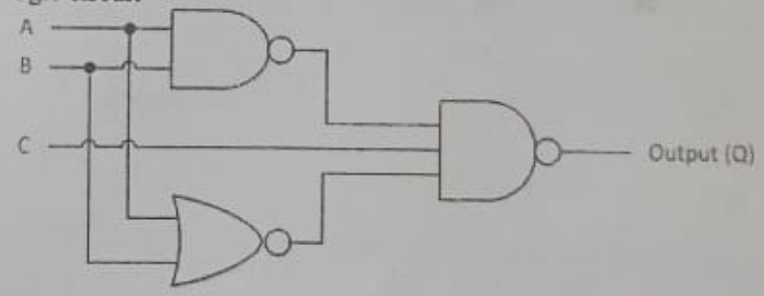
	b	Explain single stage RC coupled CE amplifier with neat circuit diagram	3	BL2	CO2
Q.3		**Solve any One**			
	a	Identify the circuit and derive an expression for Output voltage.	3	BL3	CO3



	b	In Astable Multivibrator calculate Total Time and frequency if RA=10KΩ ,RB=50KΩ and C=0.1μF.	3	BL3	CO3

Section B

Q.4	a	Identify the gates and Obtain the Boolean equation for the following logic circuit	5	BL3	CO4

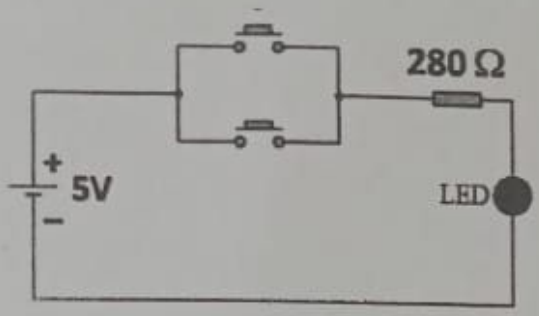


	b	What is Multiplexer ? What is relation between number of inputs and select lines? Elaborate 4:1 MUX with Truth table	4	BL2	CO4

OR

Q.5	a	Compare combinational and sequential circuit? Explain SR Flip flop with its Truth table	5	BL2	CO4

b



4 BL3 CO4

Identify the Gate and write its truth table .Which IC is used to perform the above function?

Q.6 a Define dark current? Draw and explain the characteristics of phototransistor. 5 BL2 CO5

b Which sensor is used in Security systems? Explain it with block diagram? 4 BL2 CO5

OR

Q.7 a Elaborate the construction and working of LVDT with its advantages. 5 BL2 CO5

b Which sensor is used in Agricultural field? Explain it with block diagram. 4 BL2 CO5

Q.8 a Elaborate GSM with its block diagram? 4 BL2 CO5

b Compare the performance of Amplitude and Frequency modulation.(at least 4 points) 4 BL3 CO6

OR

Q.9 a A carrier of 25V peak and frequency 10MHz is amplitude modulated by a sine wave of 5V peak and Frequency 2000Hz.Determine the modulation index. Draw frequency spectrum for AM wave. 4 BL3 CO6

b Draw the Amplitude modulation waveform for:

i) Linear modulation
ii) Over modulation
iii) Under modulation
iv) No modulation

4 BL2 CO6

**********BEST of LUCK**********