MAKE-UP EXAM

USN | | | | | | | | | | |

BESCK204C/BESCKC204

Second Semester B.E./B.Tech. Degree Examination, Nov./Dec.2023
Introduction to Electronics and Communication

Time: 3 hrs. Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. M : Marks , L: Bloom's level , C: Course outcomes.
3. Assume missing data.

		Module – 1	M	L	C
Q.1	a.	With a neat block diagram explain DC power supply.	8	L2	CO1
	b.	With appropriate circuit diagram explain the working of Half-wave rectifier.	8	L2	CO1
	c.	A mains transformer having a turns ratio of 44:1 is connected to 220V r.m.s. main supply. If the secondary output is applied to half wave rectifier, determine the peak voltage that will appear across the load.	4	L3	CO1
		OR			
Q.2	a.	With appropriate circuit diagram, explain the working of Full-wave rectifier. Draw the input and output waveforms.	12	L2	CO1
	b.	With neat block diagram of an amplifier showing the input and output current and voltages provide the formula for voltage gain, current and power gain.	4	L2	CO1
	c.	An amplifier provides an output voltage of 5V for a input of 100mV. If the input and output currents are 4mA and 200mA, find voltage, current and power gain.	4	L3	CO1
		Module – 2			
Q.3	a.	With a neat diagram, explain Wein bridge oscillator.	8	L2	CO2
	b.	What are multivibrators? Mention the different types of it.	8	L2	CO2
	c.	Write a note on crystal controlled oscillators.	4	L2	CO2
		OR			
Q.4	a.	Explain the following operational amplifier parameters: i) Open loop voltage gain ii) Closed loop voltage gain iii) Input offset voltage iv) Sleeve rate.	16	L2	CO2
	b.	Write a note on voltage follower using operational amplifier.	4	L2	CO2

		Module – 3			
Q.5	**a.**	Convert the following binary numbers to decimal i) 101110 ii) 1110101.11 iii) 110110100	**12**	**L3**	**CO3**
	b.	Write a note on Gray code and ASCII code.	**8**	**L2**	**CO3**
		OR			
Q.6		What are logic gates? Write the graphic symbol, algebraic function and truth table of all 8 logic gates.	**20**	**L2**	**CO3**
		Module – 4			
Q.7	**a.**	Differentiate between a general purpose computing system and embedded system.	**12**	**L2**	**CO4**
	b.	Differentiate between a microcontroller and microprocessor.	**8**	**L2**	**CO4**
		OR			
Q.8	**a.**	Write a note on 7-segment display. Write the two configurations in 7-segment display.	**8**	**L2**	**CO4**
	b.	What is a stepper motor? Mention its classification based on coil winding arrangements and explain in detail.	**12**	**L2**	**CO4**
		Module – 5			
Q.9	**a.**	With a neat block diagram of a basic communication system explain modern communication system scheme.	**12**	**L2**	**CO5**
	b.	Explain Amplitude Modulation with Relevant waveforms.	**8**	**L2**	**CO5**
		OR			
Q.10	**a.**	With a neat diagram indicating the 3 different mode of propagation of the waves (Radio waves).	**12**	**L2**	**CO5**
	b.	Write a note on multiple access techniques.	**8**	**L2**	**CO5**

* * * * *