CBCS SCHEME

USN ☐☐☐☐☐☐☐☐☐☐   **BEC401**

Fourth Semester B.E./B.Tech. Degree Supplementary Examination, June/July 2024
Electromagnetics Theory

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.

		Module – 1	M	L	C
Q.1	a.	State and explain Coulomb's law of force between two point charges in vector form.	6	L1	CO1
	b.	Given the two points C(-3, 2, 1) and D(5, 20°, -70°) find i) Spherical coordinates of c ii) The rectangular coordinates of D.	6	L2	CO1
	c.	Identical point charges of 3μc are located at the four corners of square of 5cm side. Find magnitude of force on any one charge.	8	L2	CO1
		OR			
Q.2	a.	Define electric field intensity. Derive an expression for electric field intensity due to infinite line charge.	8	L3	CO1
	b.	Define electric flux and flux density. Let a point charge Q_1 = 25nc be located at A(4, -2, 7) and charge Q_2 = 60nc be at B(-3, 4, -2). Find E at C(1, 2, 3) and find direction of $\overline{E}$.	12	L3	CO1
		Module – 2			
Q.3	a.	State and prove Gauss law.	6	L1	CO2
	b.	Evaluate both side of the divergence theorem for the defined plane with $1 \le x \le 2$, $2 \le y \le 3$ and $3 \le z \le 4$, if $D = 4xa_x + 3y^2a_y + 2z^3a_z$ C/m².	10	L3	CO2
	c.	Derive continuity of current equation.	4	L3	CO2
		OR			
Q.4	a.	Obtain the expression for the work done in moving a point charge in an electric field.	6	L1	CO2
	b.	Given that the field $D = \dfrac{5\sin\theta\cos\varphi}{r}a_\varphi$ c/m². Find: i) Volume charge density ii) The total electric flux leaving the surface of the spherical volume of radius 2m.	8	L3	CO2
	c.	Define potential difference. Derive the expression for potential field of a point charge.	6	L3	CO2

		Module – 3			
Q.5	a.	State and explain Biot Savarts law.	8	L1	CO3
	b.	From the point form of Gauss's law derive Poissons and Laplace's equation. Solve the laplaces equation for potential field in the homogeneous region between the two concentric conducting spheres with radii 'a' and 'b' such that b > a, if potential v = 0 at r = b and v = v_0 at r = a. Also find capacitance between concentric spheres.	12	L3	CO3
		OR			
Q.6	a.	Define Stoke's theorem. Use this theorem to evaluate both sides of theorem for the field H = 6xy ax -3y^2ay v/m and rectangular path around the region $2 \leq x \leq 5$, $-1 \leq y \leq 1$ and z = 0. Let the positive direction of ds be a_z.	12	L2	CO3
	b.	Define Ampere's law and derive expression for magnetic field intensity due to infinite long straight conductor using Biot-Savart law.	8	L2	CO3
		Module – 4			
Q.7	a.	Derive an expression for Lorentz force equation.	6	L3	CO4
	b.	If B = 0.05xa_y Tesla in a material for which χ_m = 2.5, find : i) u_r ii) μ iii) H iv) M v) J v0) J_b.	8	L3	CO4
	c.	Derive the expression for force between two different current elements.	6	L2	CO4
		OR			
Q.8	a.	Discuss the magnetic boundary conditions as applicable to B and H at the interface between two different magnetic materials.	10	L2	CO4
	b.	Write short notes on : i) Magnetic circuits ii) Forces on magnetic materials.	10	L2	CO4
		Module – 5			
Q.9	a.	List Maxwell's equations in free space for point form and integral form. Derive the modification of Ampere's circuit law to suit for time varying conditions.	12	L2	CO5
	b.	Let μ = 3 × 10^{-5} H/m ε = 1.2 × 10^{-10} F/m and σ = 0 every where. If H = 2cos (10^{10}t – βx)a_z A/m. Use Maxwell's equation to obtain B, D and E.	8	L3	CO5
		OR			
Q.10	a.	State and prove Poynting theorem.	10	L2	CO5
	b.	A 15GHz plane wave travelling in a medium has an amplitude E_0 = 20V/m. Find phase velocity, propagation constant and impedance. Assume ε_r = 2 and μ_r = 5.	10	L3	CO5

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Fourth Semester B.E./B.Tech. Degree Supplementary Examination, June/July 2024
Principles of Communication System

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.

		Module– 1	M	L	C
Q.1	a.	Define the autocorrelation and cross – relation functions. Infer the properties of autocorrelation function.	6	L2	CO5
	b.	Determine the characteristics function of a Gaussian random variable, with a given mean and variance.	8	L2	CO5
	c.	Define Probability. Illustrate the relationship between sample space, events and probability.	6	L2	CO5
		OR			
Q.2	a.	What is Conditional probability? Prove that P(B/A) = P(A/B).P(B)/P(A).	6	L2	CO5
	b.	Explain Central Limit theorem as applied to Gaussian random process.	6	L2	CO5
	c.	Develop a program to generate the probability density function of Gaussian distribution function.	8	L3	CO5
		Module – 2			
Q.3	a.	With relevant expression, explain the time domain and frequency domain description of AM.	7	L2	CO1
	b.	Explain how amplitude modulated wave generated using diode modulator.	8	L2	CO1
	c.	An AM transmitter has a carrier power of 30W. The percentage of modulation is 85 percent. Calculate i) the total power ii) the power in one sideband.	5	L3	CO1
		OR			
Q.4	a.	Explain the generation of DSBSC signal using lattice modulator.	8	L2	CO1
	b.	Explain the working of transmitter and receiver of Frequency Division Multiplexing (FDM).	6	L2	CO1
	c.	An audio frequency signal $10 \sin 2\pi\ 500t$ is used to amplitude modulate a carrier of $50 \sin 2\pi \times 10^5 t$. Assume $\mu = 0.2$. Calculate the followings : i) Sideband frequencies ii) Amplitude of each sideband frequencies iii) Bandwidth required iv) Total power delivered to the load of 600Ω.	6	L3	CO1
		Module – 3			
Q.5	a.	Explain with neat diagram, generation of frequency modulation with an IC VCO.	8	L2	CO2

	b.	A 93.2 MHz carrier is frequency modulated by a 5KHz sine wave. The resultant FM signal has a frequency deviation of 40 KHz. Determine the followings : i) Carrier swing of the FM signal. ii) Highest and lowest frequencies attained by the FM signal. iii) Modulation index.	6	L3	CO2
	c.	Compare amplitude modulation versus frequency modulation.	6	L2	CO2
OR
Q.6	a.	Draw the block diagram of a super heterodyne receiver and explain the function of each block.	6	L2	CO2
	b.	Explain Noise suppression effect of FM and how noise is introduced to effect on phase shift.	7	L3	CO3
	c.	Explain the demodulation process of frequency modulation using slope detector.	7	L2	CO2
Module – 4
Q.7	a.	List the advantages of digital signals over analog signals.	6	L2	CO3
	b.	State and prove the sampling theorem.	10	L2	CO3
	c.	What is aperature effect in PAM system? How it can be minimized?	4	L2	CO3
OR
Q.8	a.	Explain the each block of a PCM system with neat diagram.	10	L2	CO3
	b.	Explain the generation of PPM waves.	6	L2	CO3
	c.	For the given binary sequence 01101001, draw the following line codes waveforms : i) Unipolar NRZ ii) Polar NRZ iii) Unipolar RZ iv) Bipolar RZ.	4	L3	CO3
Module – 5
Q.9	a.	Define Signal to Noise Ratio (SNR). Explain the different types of external and internal noise.	6	L2	CO1
	b.	Define Inter Symbol Interference (ISI). Outline the baseband binary data transmission system with neat block diagram and equations.	8	L2	CO4
	c.	Develop a code to generate and plot eye diagram.	6	L3	CO4
OR
Q.10	a.	Illustrate the concept of noise in cascaded stages with a diagram. Write Friis formula and mention its terms.	6	L2	CO1
	b.	Explain the following concept briefly : i) Nyquist criterion for distortionless transmission. ii) Baseband M – array PAM transmission.	8	L2	CO4
	c.	Write a note on short noise and thermal noise.	6	L2	CO1

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Fourth Semester B.E./B.Tech. Degree Supplementary Examination, June/July 2024
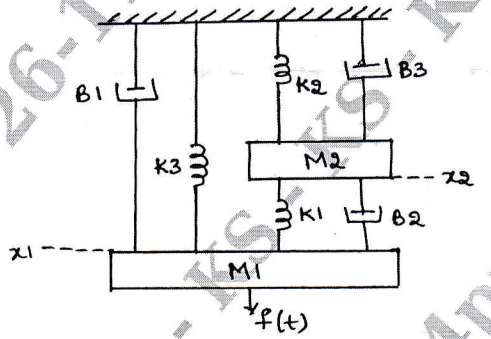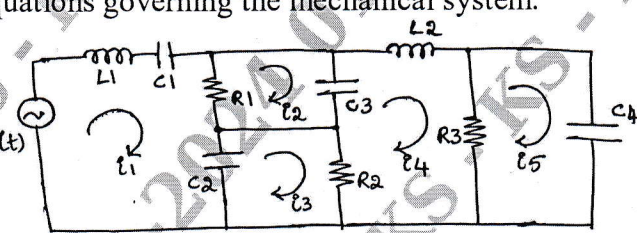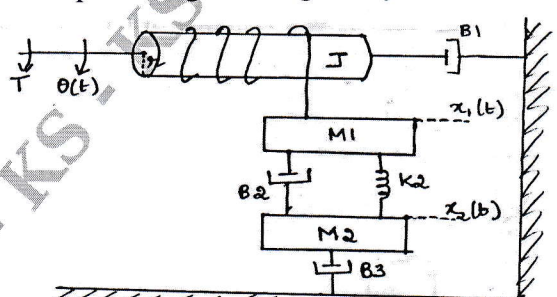## Control Systems

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.

		Module – 1	M	L	C
Q.1	a.	For the mechanical system shown in Fig.Q1(a), (i) Draw the nodal equivalent circuit (ii) Write the differential equations governing its dynamic behaviour (iii) Write the force voltage and force current analogous electrical networks along with equations. Fig.Q1(a)	10	L3	CO3
	b.	Compare open loop and closed loop control system with example.	10	L1	CO2
		OR			
Q.2	a.	The force voltage analogy of the translational mechanical system is given below Fig.Q2(a). Obtain its analogous mechanical system. Also write the differential equations governing the mechanical system. Fig.Q2(a)	10	L4	CO4
	b.	For the mechanical shown in Fig.Q2(b), i) Construct the nodal equivalent circuit and write the differential equations governing its dynamic behaviour. ii) Develop force voltage and force current analogous circuit. Also write the differential equations governing the system. Fig.Q2(b)	10	L3	CO4

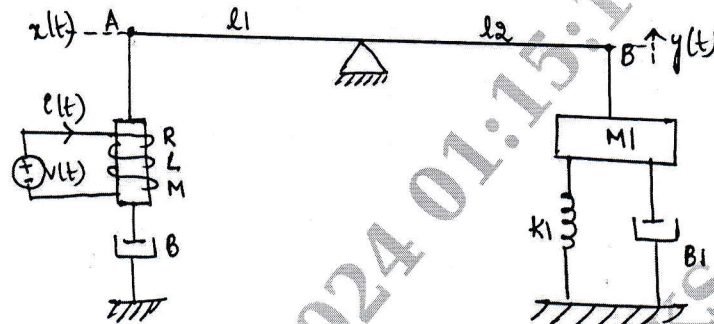|					
		Module – 2			
Q.3	a.	For the electro-mechanical system shown in Fig.Q3(a), determine the transfer function Y(s)/V(s).	10	L3	CO4

Fig.Q3(a)

	b.	Apply block diagram reduction technique to find the transfer function C(s)/R(s) for the system shown in Fig.Q3(b).	10	L3	CO4

Fig.Q3(b)

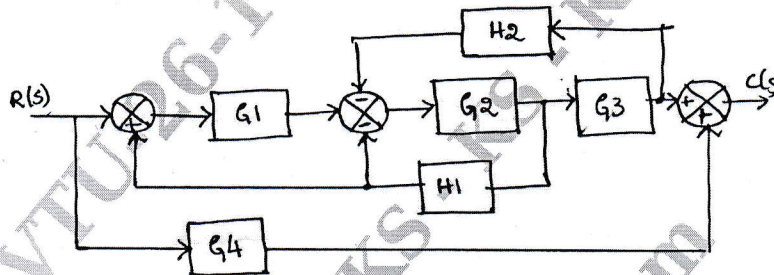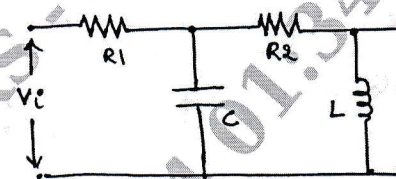|					
		OR			
Q.4	a.	Construct the signal flow graph for the electrical network shown in Fig.Q4(a) and obtain the transfer function using Mason's gain formula.	10	L3	CO4

Fig.Q4(a)

	b.	For the signal flow graph shown in Fig.Q4(b), determine the transfer function x_6 / x_1 using Mason's gain formula.	10	L3	CO4

Fig.Q4(b)

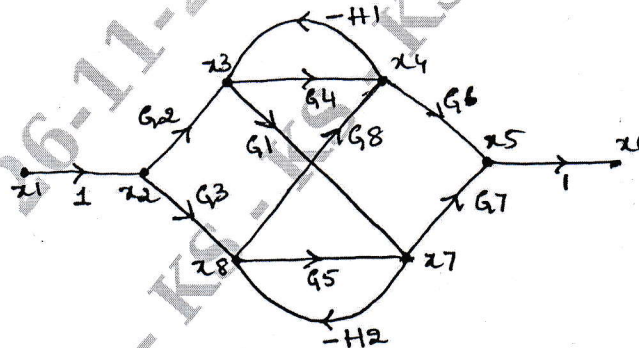|					
		Module – 3			
Q.5	a.	Derive the expression for output response for a second order under-damped system with step input. Also plot the response and comment on the stability.	10	L2	CO1

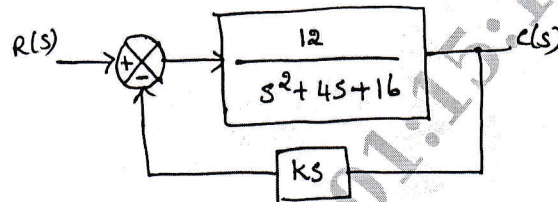|					
	b.	A feedback control system shown in Fig.Q5(b) has a damping factor of 0.8. Determine the constant K and all time domain specifications.	06	L3	CO3

Fig.Q5(b)

	c.	A control system with open loop transfer function $\dfrac{K(s+2)}{s^2+10s+20}$ produces 20% steady state error with step input. Determine the value of constant K.	04	L3	CO4

OR

Q.6	a.	Derive the expressions for peak response time t_p and peak overshoot M_p of an underdamped second order control system subjected to step input.	08	L2	CO2
	b.	The open loop transfer function of a feedback control system is $\dfrac{K}{s+1}$. Determine the error series and steady state error when inputs are (i) $r(t) = a + bt + ct^2 + de^{-t}$ (ii) $r(t) = \sin 0.1t$	08	L3	CO3
	c.	Write short notes on proportional plus derivative control (PD Control).	04	L1	CO1

Module – 4

Q.7	a.	Find the range of K for which the system with closed loop transfer function $\dfrac{K}{s(s^2+s+1)(s+2)+K}$ is stable. For what K, the system oscillates and what is the corresponding frequency of oscillation.	06	L3	CO3
	b.	Construct the root locus of a control system with characteristic equation $(s^2 + 2s + 2) + K(s + 4) = 0$. Determine the stability of closed loop system. Show that a part of the root locus is a circle of radius $\sqrt{10}$ units with centre at (-4 , 0).	14	L3	CO4

OR

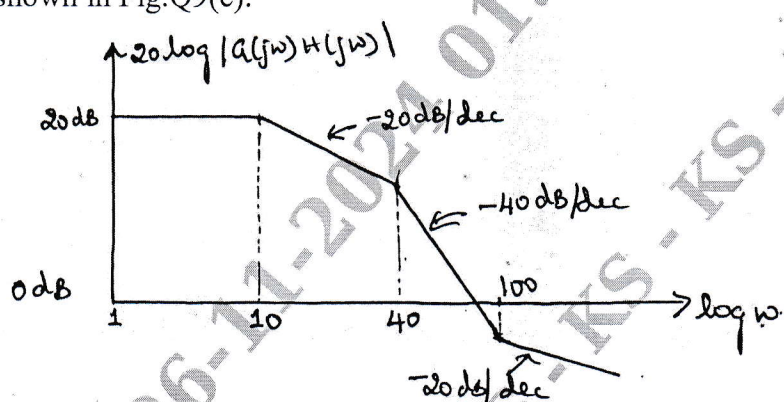|					
Q.8	a.	A unity feedback system has open loop transfer function of $\dfrac{K(s+13)}{s(s+3)(s+7)}$ (i) Determine the range of K for which the system is stable. (ii) Determine the range of K such that it has roots more negative than $s = -1$.	08	L3	CO3
	b.	Construct the root locus of a control system with open loop transfer function of $\dfrac{K}{s(s+3)(s^2+2s+2)}$. Determine the stability of closed loop system.	12	L3	CO4

Module – 5

Q.9	a.	The closed loop transfer function of a feedback control system is $\dfrac{100}{s^2+8s+100}$ Determine resonant peak and resonant frequency.	04	L3	CO4

	b.	Open loop transfer function of a unity feedback control system is $$\frac{80}{s(s+2)(s+20)}$$ Draw the Bode plot and determine the gain margin, phase margin, gain cross over frequency and phase crossover frequency.	10	L3	CO4
	c.	Determine the transfer function of a given system whose Bode Magnitude plot is shown in Fig.Q9(c). Fig.Q9(c)	06	L3	CO4
		OR			
Q.10	**a.**	Construct the Nyquist plot for a control system with open loop transfer function $\frac{K(s+1)}{s(s-1)}$. From the plot, determine the stability of closed loop system.	08	L3	CO4
	b.	The transfer function of a control system is given by $$\frac{Y(s)}{U(s)} = \frac{s^2 + 3s + 4}{s^3 + 2s^2 + 3s + 2}$$ Obtain state model using signal flow grpah.	06	L3	CO3
	c.	Obtain state model by direct decomposition method for a system with transfer function $$\frac{Y(s)}{U(s)} = \frac{5s^2 + 6s + 8}{s^3 + 3s^2 + 7s + 9}$$	06	L3	CO3

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Fourth Semester B.E./B.Tech. Degree Supplementary Examination, June/July 2024
Microcontrollers

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.

		Module – 1	M	L	C
Q.1	a.	With neat block diagram, analyze the architectural features of 8051 microcontroller.	10	L2	CO1
	b.	Illustrate the memory organization of Internal RAM of 8051.	06	L2	CO1
	c.	List out the differences between Microprocessor and Microcontroller.	04	L1	CO1
		OR			
Q.2	a.	Distinguish between RISC and CISC.	04	L1	CO1
	b.	With neat Pin configuration diagram of 8051 Microcontroller. Explain function of each Pin.	08	L2	CO1
	c.	Design a circuit to interface external memory of 4 KB RAM with 8051 Microcontroller, consider starting address of RAM is 7000H.	08	L3	CO1
		Module – 2			
Q.3	a.	Explain the various addressing modes of 8051 Microcontroller with example.	07	L2	CO2
	b.	Write an ALP (Assembly Language Program) to separate positive and negative numbers in an Array.	07	L3	CO2
	c.	Analyze the function of Rotate instructions of 8051 Microcontroller.	06	L2	CO2
		OR			
Q.4	a.	Justify whether the following instructions are valid or not. If valid brief the function with an example. i) MOV@PTR, R_0 ii) SWAP A iii) ADC A, #07H iv) MUL AB v) SUBB A, R_0	05	L2	CO2
	b.	Interpret the JUMP instructions of 8051 Microcontroller.	07	L3	CO2
	c.	Write an assembly language program to add two 16 bit numbers loaded in R_1R_0 and R_3R_2. Store the result in R_6, R_5 and R_4 from MSB to LSB.	08	L3	CO2
		Module – 3			
Q.5	a.	Explain TMOD Register with the help of neat Bit frame structure.	06	L2	CO3
	b.	Write an ALP to generate the Time delay of 10ms using Timer 0 Mode 1 operation with crystal frequency of 11.0592 MHz.	08	L3	CO3
	c.	With a diagram explain the different steps to program timer 0 in Mode 1.	06	L3	CO3
		OR			
Q.6	a.	Explain the bit pattern of SCON register in 8051 Microcontroller.	06	L2	CO3
	b.	Analyze the RS232 DB09 connector signals used for serial communication by connecting it to 8051 Microcontroller.	07	L2	CO3
	c.	Write a 'C' program for 8051 Microcontroller to transmit the message ECE using serial communication with a baud rate of 9600.	07	L3	CO3

Module – 4
Q.7	a.	Write an interrupt vector table of 8051 Microcontroller and also explain how the register IE is used for activating the interrupts.	10	L2	CO4
	b.	List the steps involved in executing an interrupt.	05	L2	CO4
	c.	Show the instructions to (i) Enable the serial interrupt, Timer0 interrupt and external hardware interrupt. (ii) Disable the timer0 interrupt. (iii) Disable all interrupts, with a single instruction.	05	L2	CO4
OR
Q.8	a.	Explain the programming of serial communication interrupt.	08	L2	CO4
	b.	Interpret how multiple interrupts can be handled in 8051 Microcontroller.	08	L2	CO4
	c.	Analyze the function of Interrupt Priority (IP) register with bit pattern diagram.	04	L2	CO4
Module – 5
Q.9	a.	With neat diagram of LCD connection to 8051 Microcontroller, write an assembly language program to interface LCD to 8051 microcontroller to display word "WORLD".	12	L3	CO5
	b.	With neat diagram, explain DAC interface with 8051 Microcontroller and also write ALP program to generate staircase waveform with 5 steps, when SW = 0 and triangular waveform when SW =1.	08	L3	CO5
OR
Q.10	a.	Draw the diagram to interface a stepper motor to 8051 MC. Also write a 'C' program to monitor the status of switch connected to Port P2.7. If SW = 0, the stepper motor should rotate clock-wise else it should rotate in anticlockwise direction.	10	L3	CO5
	b.	With neat diagram explain 8051 connection to ADC 0804 and also write 'C' program interface ADC 0804 to 8051 Microcontroller.	10	L3	CO5

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Fourth Semester B.E./B.Tech. Degree Supplementary Examination, June/July 2024
Biology for Engineers

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.

		Module – 1	M	L	C
Q.1	a.	Describe the structure of a eukaryotic cell. Compare it with prokaryotic cell, with neat sketch.	10	L2	CO1
	b.	Discuss the potential of cellulose based water filters in addressing water pollution issues. What are the advantages and limitations of it.	10	L2	CO1
		OR			
Q.2	a.	Explain the role of Polyhydroxy-Alkanoates (PHA) and Polylactic Acid (PLA) as bioplastics. Discuss their properties and environmental benefits.	10	L2	CO1
	b.	Explain the following : i) Lipids as cleaning agent ii) Role of glucose-oxidase in biosensors.	10	L2	CO1
		Module – 2			
Q.3	a.	Compare and contrast the Central Nervous System (CNS) and the Peripheral Nervous System (PNS) in terms of their structure and functions.	10	L2	CO2
	b.	Discuss the importance of carbohydrates, vitamins and hormones in Human Physiology.	10	L2	CO2
		OR			
Q.4	a.	Explain the Architecture of Rod and Cone cells with neat diagram.	10	L2	CO2
	b.	Discuss the following : i) Enzymes and their applications ii) Lipids and their Applications	10	L2	CO2
		Module – 3			
Q.5	a.	Discuss the working principle of Electroencephalography (EEG) and its applications.	10	L2	CO2
	b.	What are the causes and symptoms of Chronic Kidney Disease (CKD) and its treatment with dialysis.	10	L2	CO2
		OR			
Q.6	a.	Explain Abnormal Lung Physiology (COPD) and its treatment strategy.	10	L2	CO2
	b.	With neat sketch, explain Heart Lung machine.	10	L2	CO2
		Module – 4			
Q.7	a.	Explain the Kidney as filtration system and Lungs as a purification system.	10	L2	CO3
	b.	The process of photosynthesis has inspired development of Photovoltaic cells. Justify.	10	L2	CO3
		OR			
Q.8	a.	Discuss the development and potential of hemoglobin – based oxygen carries (HBOs) and Perfluorocarbons (PFCs) as human blood substitutes.	10	L2	CO3
	b.	Explain the terms Spandex Skin and Swimsuits. Bullet train using biological concepts.	10	L3	CO3
		Module – 5			
Q.9	a.	Describe the process and materials used in 3D printing of ears, bones and skin.	10	L2	CO4
	b.	Explain the working principles of electrical Tongue and electrical nose devices.	10	L2	CO4
		OR			
Q.10	a.	Explain the importance of Biomining and Bioimaging.	10	L2	CO4

CBCS SCHEME

BUHK408

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Question Paper Version : A

Fourth Semester B.E./B.Tech. Degree Supplementary Examination, June/July 2024
Universal Human Values

Time: 1 hr.]

[Max. Marks: 50

INSTRUCTIONS TO THE CANDIDATES

1. Answer all the **fifty** questions, each question carries one mark.

2. Use only **Black ball point pen** for writing / darkening the circles.

3. **For each question, after selecting your answer, darken the appropriate circle corresponding to the same question number on the OMR sheet.**

4. Darkening two circles for the same question makes the answer invalid.

5. **Damaging/overwriting, using whiteners** on the **OMR** sheets are strictly prohibited.

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1. Value education addresses issues related to
   a) How to do   b) What to do   c) Both a and b   d) None of these

2. The understanding of one's participation in the larger order and ensuring it in Living is called
   a) Skill Education   b) Value Education
   c) Hollistic Education   d) None of these

3. Which among the statement is not an implication of self exploration?
   a) Knowing oneself   b) Knowing Human conduct
   c) Process of self evolution   d) Not being in harmony within

4. Right understanding can be recognized with
   a) It is assuring   b) It is satisfying   c) Its Universal   d) All of these

5. Which of the following is NOT a component of fulfilling human aspirations?
   a) Right understanding
   b) Accumulating material wealth
   c) Relationship and harmony
   d) Physical facility

6. Holistic development involves the transformation from
   a) Human consciousness to Animal consciousness
   b) Ignorance to knowledge
   c) Animal consciousness to Human consciousness
   d) Materialism to Spirituality

7. The purpose of value education is to
   a) Foster universal core values
   b) Make the syllabus easy
   c) Develop values in individuals
   d) Both a and c

8. The continuity of prosperity can be ensured only if our production system is in harmony with the
   a) Individual
   b) Society
   c) World
   d) Nature

9. Self exploration uses two mechanism – Natural Acceptance and
   a) Experimental validation
   b) Reason
   c) Logical thinking
   d) Theoretical concepts

10. Right understanding + Physical facilities in Human being
    a) Mutual property
    b) Mutual happiness
    c) Mutual fulfillment
    d) Mutual benefit

11. What Quality is the significance of relationship building in value education?
    a) Relationships are a distraction and hinder individual growth
    b) Relationships are solely based on material benefits
    c) Healthy relationships promote emotional well – being and empathy
    d) None of these

12. Beside physical facilities Human beings want
    a) Name
    b) Fame
    c) Relationship
    d) None of these

13. Which of the characteristics does not relate to self?
    a) Qualitative
    b) Continuous
    c) Temporary
    d) Quantitative

14. Which of the response is common to both Self and Body?
    a) Knowing
    b) Accepting
    c) Recognizing
    d) Assuming

15. Activities like desiring, thinking, imaginary are of the
    a) I
    b) Body
    c) Self
    d) Me

16. How are the needs of the body and self distinguished?
    a) They are the same
    b) They are unrelated
    c) They must be fulfilled simultaneously
    d) They need to be fulfilled separately

17. What term is used to describe the activities of desire, thought and expectation collectively?
    a) Imagination
    b) Intuition
    c) Reality
    d) Instinct

18. What is the relationship between the Body and Self?
    a) Body dominates the self
    b) Self dominates body
    c) Body is an instrument of the self
    d) Body and self are separate entities

19. What ensures harmony between the Self and Body?
    a) Competition
    b) Self regulation and health
    c) Ignoring bodily needs
    d) Constant desire fulfillment

20. There is an exchange of _____ between self and body.
    a) Food   b) Thought   c) Air   d) Information

21. What amongst the option is not said by the consciousness?
    a) Seer   b) Doer   c) Experiencer   d) Protector

22. Sah – Astitva means
    a) Co-existence   b) Co-operation   c) Co-option   d) Corporate identity

23. Harmony in the self is achieved when imagination is aligned with
    a) Material possession   b) Natural Acceptance
    c) Social Norms   d) Random Ideas

24. Acceptance of excellence in others is called
    a) Reverence   b) Gratitude   c) Guidance   d) Glory

25. What is activity of the power "Expectation"?
    a) Imaging   b) Analysing   c) Selecting/Testing   d) Distributing

26. Living on the basis of preconditioning or sensation refers to
    a) Enslaved   b) Self organized   c) Independent   d) Svantrata

27. Which values serves as the foundational pillar of a strong relationship in the Family?
    a) Trust   b) Ambition   c) Competition   d) Material wealth

28. Which one is known as Pranic order?
    a) Material order   b) Plant/Bio order   c) Human order   d) Animal order

29. How does harmony in the family contribute to a healthy society?
    a) It promotes competition and rivalry among family members
    b) It fosters a sense of co-operation and stability in the community
    c) It isolates individuals from society
    d) It encourages a disregard for societal norms.

30. There is _____ among all 4 orders.
    a) Recyclability   b) Justice
    c) Inter connectedness   d) Conformance

31. Which one is limited in size?
    a) Space   b) Values   c) Unit   d) All of these

32. The basis for movement of all animal, birds and fishes is provided by
    a) Animal order   b) Material order   c) Plant/Bio order   d) Human order

33. The activity in Human order are?
    a) Composition / Decomposition
    b) Composition / Decomposition + Respiration
    c) (Composition / Decomposition , Respiration) in body + Selection in I
    d) (Composition / Decomposition , Respiration) in Body + (Selection, thought , desire) in I and need for realization and understanding.

34. The relationship across all 3 order are in the order of
    a) Material order, Plant / Bio order , Animal order
    b) Plant/Bio order, Animal order , Human order
    c) Animal order, Plant / Bio order , Human order
    d) Human order, Plant / Bio order, Animal order

35. Right utilization of one's professional skills towards the fulfillment comprehensive human goals and thus meaningfully participate in the larger order refers to
    a) Profession
    b) Unprofessional
    c) Unethical conduct
    d) Ethical conduct of profession

36. What is the basis of mutual fulfillment among the 4 orders of nature?
    a) Dominance and control
    b) Competition for resources
    c) Right utilization and understanding
    d) Indifference towards other orders

37. Competence in Professional ethics needs.
    a) Clarity about comprehensive Human goals
    b) Confidence in oneself as well as in the harmony, Co-existence, Self-regulation
    c) Competence of mutual fulfilling behavior
    d) All of these

38. Developing _____ in the individuals (professionals) is the only effective way to ensure professional ethics.
    a) Ethics
    b) Professional
    c) Competence
    d) Ethical competence

39. Broad holistic criteria of evaluation of technology is/are
    a) Catering to appropriate needs and lifestyles
    b) People friendly
    c) Eco friendly
    d) All of these

40. What doe profession imply in relation to the larger order?
    a) Isolation from society and nature
    b) Participation in the comprehensive Human goal
    c) Maximization of personal benefits
    d) Pursuit of economic profits.

41. What is the main emphasis of holistic development?
    a) Economic prosperity
    b) Spiritual enlightenment
    c) Scientific enlightenment
    d) Shift from inhuman to humane society

42. How can the urgency of the transformation be addressed?
    a) Ignoring the need for change
    b) Introducing punitive measures
    c) Implementing mass – scale value education
    d) Focusing solely on technological advancements.

43. What is the role of value competence in ethical professional conduct?
   a) Promoting competition
   b) Aligning actions with societal norms
   c) Guiding actions with comprehensive human goals
   d) Focusing on personal achievements.

44. The concept of :Humanistic Constitution" in professional ethic refers to
   a) A set of rigid rules and regulations for professional conduct
   b) Neglecting the well – being of individuals in the workplace
   c) Ignoring the impact of ethical decisions on society
   d) Recognizing the importance of Human values and dignity in professional settings.

45. What is the basis for ethical Human conduct?
   a) Definiteness of values and character   b) Fear of punishment
   c) Economic motives   d) Social pressure

46. What is the role of R & D in the context of holistic technologies and systems?
   a) Promote profit maximization
   b) Focus on individual success
   c) Encourage competition
   d) Develop systems aligned with right understanding.

47. What should professionals be sensitive towards in their interactions?
   a) Individual success   b) Mutual enrichment
   c) Technological advancements d) Financial gain

48. What is the main driver behind unethical practices in professions?
   a) Lack of technological advancement
   b) Neglecting comprehensive human goal
   c) Societal pressure
   d) Personal satisfaction

49. _____ is called foundation value.
   a) Respect   b) Affection   c) Love   d) Trust

50. Feeling for those who have made effort for excellence is
   a) Excellence   b) Reverence   c) Glory   d) None of these

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