CBCS SCHEME

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

BCS401

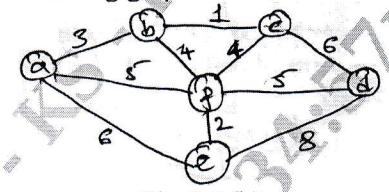
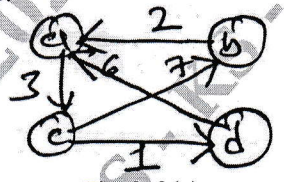
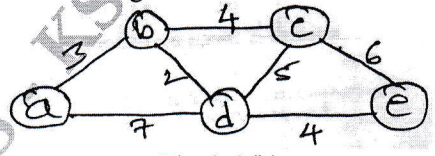
Fourth Semester B.E./B.Tech. Degree Supplementary Examination, June/July 2024

Analysis and Design of Algorithms

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.	What is Algorithm? And List the important points to be considered in designing of algorithms.	4	L1	CO1
	b.	Develop a recursive algorithm for computing factorial of a positive number. Calculate the efficiency in terms of order of growth.	6	L3	CO1
	c.	Develop a linear search algorithm and calculate the best-case, worse-case and average-case efficiency in terms of order of growth.	10	L3	CO1
		OR			
Q.2	a.	Write the block diagram of algorithm design and analysis process and define the following notations i) Big-oh(O) ii) Big-Theta (θ).	6	L1	CO1
	b.	Calculate and compare the orders of growth of the following: i) $\log_2 n$ and $\sqrt{n}$ ii) $\frac{1}{2}n(n-1)$ and n^2 iii) $n!$ and 2^n	9	L3	CO1
	c.	Make use of the definition of asymptotic notation to prove the following: if $t_1(n) \in O(g_1(n))$ and $t_2(n) \in O(g_2(n))$, then $t_1(n) + t_2(n) \in O(\max\{g_1(n), g_2(n)\})$.	5	L3	CO1
		Module – 2			
Q.3	a.	Define exhaustive search algorithm design strategy. Develop a algorithm for sorting of keys using quicksort technique and calculate the efficiency of algorithm.	10	L3	CO2
	b.	Distinguish between decrease and conquer and divide and conquer algorithm design technique. Develop the insertion sort algorithm to sort a list of integers and calculate its efficiency.	10	L3	CO2
		OR			
Q.4	a.	Define master theorem. Show how Strassen's matrix multiplication reduce the number of multiplications in multiplying n × n matrices and calculate the efficiency.	10	L3	CO2

	b.	Define topological sorting. Develop a merge sort algorithm to sort the elements.	10	L3	CO2
		Module – 3			
Q.5	a.	Define AVL tree with an example. Build 2-3 tree for the list of keys : 9, 5, 8, 3, 2, 4, 7 by indicating each step of key insertion and node splits.	10	L3	CO3
	b.	Develop a comparison counting sort algorithm and demonstrate it for the following test of keys: 62, 31, 84, 96, 19, 47.	10	L3	CO3
		OR			
Q.6	a.	What is Heap tree? Develop the bottom-up-heap construction algorithm. Construct the heap tree for the list 2, 9, 7, 6, 5, 8 and demonstrate the heap sort algorithm.	10	L3	CO3
	b.	Develop the Horspool's String Matching algorithm and demonstrate to search the pattern string: "BARBER" in the text string: "JIM_SAW_ME_IN_A_BARBER_SHOP" by using Horspool's algorithm.	10	L3	CO3
		Module – 4			
Q.7	a.	Define transitive closure of directed graph. Develop the Warshell algorithm to compute the transitive closure and demonstrate with a suitable example. Prove that the time efficiency of Warshall's algorithm is cubic.	10	L3	CO4
	b.	Define spanning tree. Apply prims algorithm and construct minimum spanning tree for the following graph:  Fig.Q.7(b)	10	L3	CO4
		OR			
Q.8	a.	Develop the Floyd's algorithm to compute all pair-shortest-paths and demonstrate it for the following graph. Show that the time efficiency of Floyd's algorithm is cubic.  Fig.Q.8(a)	10	L3	CO4
	b.	Apply Dijkstra's algorithm to compute single source shortest path for the following graph by considering 'a' as the source vertex.  Fig.Q.8(b)	10	L3	CO4

		Module – 5			
Q.9	**a.**	Explain the decision tree for the 3-element insertion sort with diagram.	**10**	**L2**	**CO5**
	b.	Explain subset-sum problem and construct the state space tree for the set S = {3, 5, 6, 7}.	**10**	**L3**	**CO5**
		OR			
Q.10	**a.**	Explain the following with an example: i) P problem ii) NP problem iii) NP complete problem iv) NH hard problem.	**10**	**L2**	**CO5**
	b.	Apply Branch and Bound algorithm to solve the below instance of knapsack problem: Item | Weight | Value 1 | 4 | 40 2 | 7 | 42 3 | 5 | 25 4 | 3 | 12	**10**	**L3**	**CO5**

* * * * *

CBCS SCHEME

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

BCS402

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.	List and explain 4 major design rules in RISC design philosophy.	10	L2	CO1
	b.	With a neat diagram explain ARM based embedded device, a microcontroller.	10	L2	CO1
		OR			
Q.2	a.	Explain in detail ARM Design Philosophy.	10	L2	CO1
	b.	Explain in detail software abstraction layers executing on hardware (embedded system software).	10	L2	CO1
		Module – 2			
Q.3	a.	Explain arithmetic and logical data processing instructions with syntax, examples and code snippet for each.	10	L3	CO2
	b.	Explain four steps of stack implementation in ARM with examples for each.	10	L2	CO2
		OR			
Q.4	a.	Write note on : i) Coprocessor Instructions ii) Software Interrupt instructions	10	L2	CO2
	b.	Develop ARM ALP to find largest number in an array of 32 bit numbers. Program should be neatly commented.	10	L3	CO2
		Module – 3			
Q.5	a.	Discuss with C function and target ARM assembly code how optimization can be done with respect to data types.	10	L2	CO3
	b.	Explain optimizations with respect to C loop structures considering fixed number of iterations, variable number of iterations and loop unrolling. Explain with examples for each.	10	L2	CO3
		OR			
Q.6	a.	Discuss and analyze optimization with respect to pointer aliasing, effects of pointer aliasing with simple C code / function.	10	L3	CO3
	b.	Analyze and explain the way structure arrangement to be done in order to access the structure members efficiently.	10	L3	CO3
		Module – 4			
Q.7	a.	Discuss the following : i) Interrupt latency ii) Types of interrupts available on ARM processor.	10	L2	CO4
	b.	Write short code snippet to enable and disable interrupts. Explain in detail.	10	L3	CO4
		OR			
Q.8	a.	What is firmware? Explain firmware execution flow and bootloader.	10	L2	CO4
	b.	Explain / Discuss Sandstone execution flow in detail.	10	L2	CO4
		Module – 5			
Q.9	a.	Discuss basic architecture of a cache memory with a neat diagram.	10	L2	CO5
	b.	Explain in detail memory hierarchy and cache memory.	10	L2	CO5
		OR			
Q.10	a.	Discuss Cache policy in detail.	10	L2	CO5
	b.	Write note on:	10	L2	CO5

CBCS SCHEME

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

BCS403

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

Database Management 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.	What is DBMS? List the characteristics of database approach. Bring out major advantages of the database approach.	8	L2	CO1
	b.	Explain data independence. Draw 3 schema architecture and discuss the mapping.	7	L2	CO1
	c.	Define following : i) Database Administrator ii) Canned transaction iii) Weak entity iv) Meta data v) Database Instance.	5	L2	CO1
		OR			
Q.2	a.	Describe components modules of DBMS and its interaction with neat diagram.	8	L2	CO1
	b.	Draw ER diagram of library database schema atleast 4 entities. Also specify primary keys, structural constraints and explain.	8	L3	CO2
	c.	Briefly discuss different types of end users of Database.	4	L2	CO2
		Module – 2			
Q.3	a.	Briefly explain different types of update operation on relation database. Show an example of violation of referential and entity integrity in each of update operation.	10	L2	CO3
	b.	Consider following schema : Suppliers (SID , SName , address) Parts (PID , PName , Colour) Catalog (Sid , PID , Price) Write relational algebra expression for following queries : i) Find the names of all red parts. ii) Find all prices for parts that were red or green. iii) Find the SID's of all suppliers who supply part that is red or green. iv) Find the SID's of all supplier who supply part that is red and green.	10	L3	CO2
		OR			
Q.4	a.	Describe the steps of ER – to – relational mapping with suitable examples and schema for each step.	10	L2	CO2
	b.	Explain with example : i) Division operation ii) Full outer join iii) Aggregate function iv) Project operation v) Cartesian product.	10	L2	CO2

		Module – 3			
Q.5	**a.**	What is the need for normalization? Explain 2nd normal form. Consider the relation EMP_PROJ = {SSn , Pnumber , Hours , Ename , Pname , Plocation}. Assume {SSn , Pnumber} as a primary key. The dependencies are SSn ; Pnumber → {Hours} SSn → {Ename} Pnumber → {Pname, Plocation} , Normalize above relation into 2NF.	**10**	**L3**	**CO4**
	b.	Illustrate the informal design guidelines for relation schemes with examples.	**10**	**L2**	**CO4**
		OR			
Q.6	**a.**	Write syntax with example in SQL for the DDL and DML SQL statements.	**10**	**L2**	**CO3**
	b.	Consider the schema for college database. Student (USN , Sname , Address , Phone , Gender) SemSec (SSID , Sem , Sec) Class (USN , SSID) Subject (Subcode , Title , Sem , Credits) IAmarks (USN , Subcode , SSID , Test1 , Test2, Test3, Final IA) Write SQL Query. i) List all the students studying in 4th sem 'C' section. ii) Compute total number of male students in each semester. iii) List Test1 marks of all students in all subjects.	**10**	**L3**	**CO3**
		Module – 4			
Q.7	**a.**	How are triggers and assertion defined in SQL? Explain with example.	**10**	**L2**	**CO4**
	b.	Write the syntax and example of view in SQL. Explain efficient view implementation.	**10**	**L2**	**CO4**
		OR			
Q.8	**a.**	List the problems that occur during concurrency control and also explain them with supporting transaction diagrams.	**10**	**L2**	**CO5**
	b.	Explain the various DBMS – Specific Buffer replacement policies.	**10**	**L2**	**CO5**
		Module – 5			
Q.9	**a.**	Demonstrate with example deadlock in transaction. Discuss deadlock prevention algorithm.	**10**	**L2**	**CO5**
	b.	What are Binary locks? Explain with Lock and unlock operations with algorithm.	**10**	**L2**	**CO5**
		OR			
Q.10	Write a short note on : i) Properties of NOSQL system ii) The CAP theorem iii) Document based NO – SQL system iv) NOSQL Graph database.		**20**	**L2**	**CO4**

* * * * *

CBCS SCHEME

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

BCS405A

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

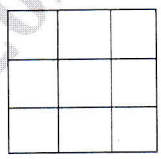
Discrete Mathematical Structures

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 Tautology. Show that $[(p \vee q) \wedge (p \rightarrow r) \wedge (q \rightarrow r)] \rightarrow r$ is a tautology by constructing the truth table.	6	L1	CO1
	b.	Prove the following using the laws of logic: $P \rightarrow (q \rightarrow r) \Leftrightarrow (p \wedge q) \rightarrow r$	7	L2	CO1
	c.	Give i) Direct proof ii) indirect proof iii) proof by contradiction for the following statement: "If n is an odd integer then n + 9 is an even integer".	7	L3	CO1
		OR			
Q.2	a.	Test whether the following arguments are valid: $p \rightarrow q$ $r \rightarrow s$ $\underline{\sim q \vee \sim s}$ $\therefore \sim(p \wedge r)$	6	L2	CO1
	b.	Write the following argument in symbolic form and then establish the validity. If a triangle has two equal sides, then it is isosceles. If a triangle is isosceles, then it has two equal angles. The triangle ABC does not have two equal angles. $\therefore$ ABC does not have two equal sides.	7	L1	CO1
	c.	For the following statements, the universe comprises all non-zero integers. Determine the truth value of each statement: i) $\exists x \exists y [xy = 1]$ ii) $\exists x \forall y [xy = 1]$ iii) $\forall x \exists y [xy = 1]$ iv) $\exists x \exists y [(2x + y = 5) \wedge (x - 3y = -8)]$ v) $\exists x \exists y [(3x - y = 7) \wedge (2x + 4y = 3)]$	7	L2	CO1
		Module – 2			
Q.3	a.	Prove that $1^2 + 3^2 + 5^2 + \ldots + (2n-1)^2 = \frac{n(2n+1)(2n-1)}{3}$ by mathematical Induction.	6	L2	CO2

	b.	Prove that every positive integer $n \geq 24$ can be written as a sum of 5's and / or 7's.	7	L3	CO2
	c.	Obtain a recursive definition for the sequence $\{a_n\}$ in each of the following cases: i) $a_n = 5n$ ii) $a_n = 3n + 7$ iii) $a_n = 2 - (-1)^n$	7	L3	CO2
		OR			
Q.4	a.	Prove that for any positive integer n, $\sum_{i=1}^{n} \frac{F_{i-1}}{2^i} = 1 - \frac{F_{n+2}}{2^n}$, F_n denote the fibonacci number.	6	L2	CO2
	b.	How many arrangement are there for all the letters in the word "SOCIOLOGICAL". In how many of these arrangements. i) A and G are adjacent ii) All vowels are adjacent.	7	L2	CO2
	c.	Determine the coefficient of $a^2b^3c^2d^5$ in the expansion of $(a + 2b - 3c + 2d + 5)^{16}$.	7	L2	CO2
		Module – 3			
Q.5	a.	Let A = {1, 2, 3, 4, 6} and R be a relation on A defined by a^Rb if and only if "a is a multiple of b". Write down the relation R, relation matrix M(R) and draw its digraph. List out its indegree and out degree.	6	L2	CO3
	b.	Let f and g be functions from R to R defined by $f(x) = ax + b$ and $g(x) = 1 - x + x^2$. If $(gof)(x) = 9x^2 - 9x + 3$ determine a and b.	7	L3	CO3
	c.	State Pigeon hole principle. Show that if n + 1 numbers are chosen from 1 to 2n then atleast one pair add to 2n + 1.	7	L2	CO3
		OR			
Q.6	a.	Let $f : R \rightarrow R$ be defined by $f(x) = \begin{cases} 3x - 5, \text{if } x > 0 \\ 1 - 3x, \text{if } x \leq 0 \end{cases}$ find f(-1), f(5/3), $f^{-1}(0)$, $f^{-1}(-3)$, $f^{-1}([-5, 5])$ and $f^{-1}([-6, 5])$.	6	L1	CO3
	b.	Let f, g, h be functions from Z to Z defined by $f(x) = x - 1$, $g(x) = 3x$, $h(x) = \begin{cases} 0, \text{if } x \text{ is even} \\ 1, \text{if } x \text{ is odd} \end{cases}$ Determine (fo(goh)) (x), ((fog)oh)(x) and verify that fo(goh) = (fog)oh.	7	L2	CO3
	c.	Draw the Hasse (POSET) diagram which represents positive divisors of 36.	7	L2	CO3
		Module – 4			
Q.7	a.	In how many ways 5 number of a's, 4 number of b's and 3 number of c's, can be arranged so that all the identical letters are not in a single block.	6	L3	CO4

	b.	Four persons P_1, P_2, P_3, P_4 who arrive late for a dinner party find that only one chair at each of five tables T_1, T_2, T_3, T_4 and T_5 is vacant. P_1 will not sit at T_1 or T_2, P_2 will not sit at T_2, P_3 will not sit at T_3 or T_4 and P_4 will not sit at T_4 or T_5. Find the number of ways they can occupy the vacant chairs.	7	L2	CO4
	c.	Solve the recurrence relation $a_n = na_{n-1}$ where $n \geq 1$ and $a_0 = 1$.	7	L2	CO4
		OR			
Q.8	a.	In how many ways can the 26 letters of the English alphabet be permuted so that none of the patterns CAR, DOG, PUN or BYTE occurs?	6	L2	CO4
	b.	Find the rook polynomial for the 3 * 3 board by using the expansion formula. 	7	L2	CO4
	c.	Solve the recurrence relation $F_{n+2} = F_{n+1} + F_n$ where $n \geq 0$ and $F_0 = 0$, $F_1 = 1$.	7	L2	CO4
		Module – 5			
Q.9	a.	Define Group. Show that fourth roots of unity is an abelian group under $\otimes$.	6	L2	CO5
	b.	Define Klein 4 group. Verify A = {1, 3, 5, 7} is a Klein 4 group under $\otimes_8$.	7	L2	CO5
	c.	State and prove Lagrange's theorem.	7	L2	CO5
		OR			
Q.10	a.	If H, K are subgroups of a group G, prove that $H \cap K$ is also a subgroup of G. Is $H \cup K$ a subgroup of G?	6	L2	CO5
	b.	Define cyclic group and show that (G, *) whose multiplication table is as given below is cyclic.	7	L2	CO5
	c.	Prove that the only left coset of a subgroup H of a group G which is also a subgroup of G is H itself.	7	L2	CO5

*	a	b	c	d	e	f
a	a	b	c	d	e	f
b	b	c	d	e	f	a
c	c	d	e	f	a	b
d	d	e	f	a	b	c
e	e	f	a	b	c	d
f	f	a	b	c	d	e

* * * * *

CBCS SCHEME

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

BBOC407

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

Biology for Engineers (CSE)

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.	Explain the structure and function of power house of cell and Endoplasmic reticulum with neat diagram.	10	L2	CO1
	b.	What are stem cells? Explain the properties classification and application of stem cells.	10	L1	CO1
		OR			
Q.2	a.	Explain the structures properties and function of nucleic acid focusing on DNA.	10	L2	CO1
	b.	Define Vitamins. Explain the properties, function, source and deficiency of vitamins.	10	L1	CO1
		Module – 2			
Q.3	a.	Illustrate the steps involved in biodiesel production. Add a note principle and limitation of biodiesel.	10	L2	CO2
	b.	Develop the protocol for PLA polymer synthesis. Add a note on engineering application of PLA.	10	L3	CO2
		OR			
Q.4	a.	Define Biosensor. Outline the principle, working and application of enzyme in glucose biosensor.	10	L2	CO2
	b.	Construct the procedure for the production of RNA vaccines against Covid-19. Add a note on how RNA vaccines different from DNA vaccines.	10	L3	CO2
		Module – 3			
Q.5	a.	Compare and contract brain as CPU system and eye as a camera.	10	L2	CO3
	b.	Explain the mechanism of filtration in Human Kidney.	10	L2	CO3
		OR			
Q.6	a.	Write in detail Heart Lung Machine.	10	L2	CO3
	b.	Explain how lung act as purification system. Add a note on principle and working of spirometry as a diagnostic tool for assessing lung function.	10	L2	CO3

Module – 4					
Q.7	**a.**	Apply the concept of bioecholocation in the field of Navigation and detection. Write the principle, working and instrumentation and application of the technique.	**10**	**L3**	**CO3**
	b.	HBOCs and PFCs act as human blood substitutes. Explain.	**10**	**L4**	**CO3**
OR					
Q.8	**a.**	Identify and explain the process, application of technique involved in conversion of light energy into electric energy.	**10**	**L3**	**CO3**
	b.	Velcro and friction less swimsuits are the nature bioinspired material. Explain the principle and engineering application of the technology.	**10**	**L4**	**CO3**
Module – 5					
Q.9	**a.**	Apply the process of biomining via microbial surface adsorption for the removal of heavy metals.	**10**	**L3**	**CO4**
	b.	Analyze the principle, working and instrumentation of e-tongue, highlighting its application in food and beverage industries.	**10**	**L4**	**CO4**
OR					
Q.10	**a.**	Develop the steps for 3D printing of skin. Highlight on materials used and application of 3D skin.	**10**	**L3**	**CO4**
	b.	Bio imaging and artificial intelligence technique plays important role in disease diagnosis. Explain the concept and add a note on its limitation.	**10**	**L4**	**CO4**

* * * * *

CBCS SCHEME

BUHK408

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

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.

---

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

* * * * *