

CBCS SCHEME

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BME401

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

Applied Thermodynamics

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.	Derive an expression for the thermal efficiency of an air standard diesel cycle with assumptions made.	10	L3	CO1
	b.	In CI engine working on dual combustion cycle, the pressure and temperature at the start of compression 1 bar and 27°C respectively at the end of compression the pressure reaches a value of 30 bar. 500 kJ of heat supplied per kg of air during constant volume heating and pressure become 2.8 bar at the end of adiabatic expansion. Find the ideal thermal efficiency. Take $C_p = 1.003 \text{ kJ/kg-}^\circ\text{K}$ and $C_v = 0.713 \text{ kJ/kg-}^\circ\text{K}$.	10	L3	CO1
OR					
Q.2	a.	Explain the phenomenon of combustion in SI engines.	05	L2	CO1
	b.	What are the factors affecting detonation?	05	L2	CO1
	c.	The following data were recorded in a test one hour duration on single cylinder oil engine working on 4 stroke cycle bore = 300 mm, stroke = 450 mm, fuel used = 8.8 kg, CV = 41800 kJ/kg, average speed = 200 rpm, m.e.p. = 5.8 bar, brake friction load = 1860 N, quantity of cooling water = 650 kg, temperature rise = 22°C. Diameter of the brake wheel = 1.22 m. Calculate: (i) Mechanical efficiency (ii) Brake thermal efficiency (iii) Draw heat balance sheet on hour basis	10	L3	CO1
Module – 2					
Q.3	a.	With a neat P-V and T-S diagram, derive an expression for the efficiency of a Brayton cycle.	07	L3	CO2
	b.	With neat sketch, explain inter cooling in gas turbine.	06	L2	CO2
	c.	In a gas turbine plant working on Brayton cycle the air enters to the compressor at 0.1 MPa and 30°C. The pressure ratio is 6 and maximum cycle temperature is 900°C. If the turbine and compressor efficiency of 80% each, find the cycle efficiency. Assume $C_p = 1.005 \text{ kJ/kg-}^\circ\text{K}$, $\gamma = 1.4$.	07	L3	CO2
OR					
Q.4	a.	With a neat sketch, explain the working of Ramjet and Turbopropeller engines.	10	L2	CO2
	b.	In an open gas turbine plant, air enters the compressor at 1 bar and 27°C. The pressure after compression is 4 bar. The isentropic efficiencies of the turbine and compressor are 85% and 80% respectively. Air fuel ratio is 80:1. The calorific value of the fuel used is 42000 kJ/kg. Mass flow rate of air is 2.5 kg/sec. Determine the power output from the plant and the cycle efficiency. Assume the value of $C_p = 1.005 \text{ kJ/kg-K}$ and $\gamma = 1.14$.	10	L3	CO2

Module – 3

Q.5	a.	Draw the comparisons between Carnot and Rankine vapour power cycles.	06	L2	CO3
	b.	With a sketch explain effect of boiler pressure and condenser pressure on the Rankine cycle performance.	06	L2	CO3
	c.	A steam power plant operating on Rankine cycle, receives steam at 3.5 MPa and 350°C. It is exhausted at condenser at 0.1 bar. Calculate: (i) Heat supplied per kg of steam generated in boiler. (ii) Quality of steam entering the condenser (iii) Rankine cycle efficiency (iv) Specific steam consumption	08	L3	CO3

OR

Q.6	a.	Sketch the flow diagram and corresponding T-S diagram of a reheat vapour power cycle and derive expression for reheat cycle efficiency.	08	L2	CO3
	b.	In a single feed water heater, regenerative cycle, the steam enters the turbine at a pressure of 30 bar and 400°C. The exhaust pressure of the steam is 0.1 bar. The feed water heater is open type which operates at a pressure of 5 bar, find the thermal efficiency of the cycle and specific steam consumption. Show the flow diagram; the regenerative cycle on h-s and T-S diagram.	12	L3	CO3

Module – 4

Q.7	a.	Define refrigerant. What are the desirable properties of good refrigerant?	06	L2	CO4															
	b.	Explain the effect of superheating and sub-cooling with aid of T-S diagram and p-h diagrams.	06	L3	CO4															
	c.	A 5 ton R-12 refrigeration plant has saturated suction temperature of -5°C . The condensation take place of 32°C . Assuming isentropic compression, find: (i) COP of the plant (ii) Mass flow rate of refrigerant (iii) Power required to run compressor in kW Take following properties of R-12.	08	L3	CO1															
		<table border="1"> <thead> <tr> <th>Pressure</th> <th>Temperature</th> <th>h_f kJ/kg</th> <th>h_g kJ/kg</th> <th>S_g kJ/kg</th> </tr> </thead> <tbody> <tr> <td>7.85</td> <td>32°C</td> <td>130.5</td> <td>264.5</td> <td>1.542</td> </tr> <tr> <td>2.61</td> <td>-5°C</td> <td>-</td> <td>249.3</td> <td>1.557</td> </tr> </tbody> </table>	Pressure	Temperature	h_f kJ/kg	h_g kJ/kg	S_g kJ/kg	7.85	32°C	130.5	264.5	1.542	2.61	-5°C	-	249.3	1.557			
Pressure	Temperature	h_f kJ/kg	h_g kJ/kg	S_g kJ/kg																
7.85	32°C	130.5	264.5	1.542																
2.61	-5°C	-	249.3	1.557																
		Take C_p super heated vapour = 0.615 kJ/kg-K																		

OR

Q.8	a.	Explain the following processes by showing them as the psychrometric chart: (i) Sensible cooling (ii) Humidification (iii) Cooling and dehumidification (iv) Heating and humidifying (v) Adiabatic mixing of two streams of air	10	L3	CO4
	b.	For a hall to be air conditional, outdoor conditions = 40°C DBT, 20°C WBT, required conditions = 20°C DBT and 60% RH. Seating capacity of the hall = 1500, amount of outdoor air supplied = $0.3 \text{ m}^3/\text{min}/\text{person}$. If required conditions are achieved first by adiabatic humidification and then by cooling. Estimate: (i) Capacity of cooling coil in TR (ii) Capacity of humidifier in kg/hr.	10	L3	CO4

Module – 5

Q.9	a.	Derive an expression for minimum work input by two stage compressor with intercooling between the two stages.	10	L2	CO5
	b.	A single stage, double acting air compressor, required to deliver 14 m^3 of air per minute measured at 1.013 bar and 15°C . The delivery pressure is 7 bar and speed is 300 rpm. Take the clearance volume as 5% of swept volume with compression and expansion index $n = 1.3$. Calculate: (i) The swept volume of the cylinder (ii) Delivery temperature (iii) Indicated power	10	L3	CO5
OR					
Q.10	a.	Explain with neat sketch convergent nozzle and convergent-divergent nozzle.	06	L2	CO5
	b.	Derive an expression for condition of maximum discharge through a nozzle.	06	L3	CO5
	c.	Dry saturated steam enters a steam nozzle at a pressure of 15 bar and is discharged at a pressure of 2 bar. If dryness fraction of steam is 0.96 dry, what will be final velocity of steam? Neglect initial velocity of steam. If 15% of heat drop is lost in friction, find the percentage reduction in final velocity.	08	L3	CO5

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BME402

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

Machining Science and Metrology

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 meant by tool signature? Explain each term of a tool designated as 10-9-6-5-8-7-2.	06	L2	CO1
	b.	Derive an expression for shear angle in terms of chip thickness ratio and back rake angle.	07	L3	CO1
	c.	Explain the mechanism and types of chip formed during metal cutting.	07	L2	CO1
OR					
Q.2	a.	Draw a neat sketch of Lathe and name the parts.	07	L2	CO2
	b.	Explain the following lathe operations: (i) Facing (ii) Knurling (iii) Turning	06	L2	CO1
	c.	Differentiate between Capstain Lathe and Turret lathe.	07	L2	CO1
Module – 2					
Q.3	a.	With a neat sketch, explain column and knee type milling machine.	07	L2	CO2
	b.	Differentiate between Up milling and Down milling.	07	L2	CO1
	c.	With neat sketches, explain : (i) Form milling (ii) Gang milling (iii) Face milling	06	L2	CO2
OR					
Q.4	a.	Explain Crank and Slotted Link Quick Return Mechanism of Shaper.	07	L2	CO2
	b.	Explain the following drilling operations: (i) Reaming (ii) Boring (iii) Tapping	06	L3	CO2
	c.	With a neat sketch, explain centerless grinding process.	07	L2	CO2
Module – 3					
Q.5	a.	With the aid of neat sketch, explain tool-work thermocouple technique to measure tool tip temperature.	06	L2	CO3
	b.	With a neat sketch, explain various heat generation zones during metal cutting along with temperature distribution curve.	07	L2	CO3
	c.	Explain the different forms of tool wear with neat sketches.	07	L2	CO3

OR

Q.6	a.	Explain the desirable properties of cutting tool materials.	07	L2	CO3
	b.	Explain the salient features of cutting tool materials listed below: (i) CBN (ii) HSS (iii) Diamond	06	L2	CO3
	c.	What are the properties of a good cutting fluid? Explain.	07	L2	CO3

Module – 4

Q.7	a.	Define metrology. What are the objectives of metrology?	06	L2	CO4
	b.	With a neat sketch, explain the imperial standard yard.	07	L2	CO4
	c.	A calibrated metre end bar has an actual length of 1000.0003 mm. It is to be used in the calibration of two bars A and B, each having basic length of 500 mm. When compared with the metre bar $L_A + L_B$ was found to be shorter by 0.0002 mm. On comparing A with B it was found that A was 0.0004 mm longer than B. Find the actual length of A and B.	07	L3	CO4

OR

Q.8	a.	What is Line and End standard? Explain the wringing phenomena of slip gauges.	07	L2	CO4
	b.	Build the dimension 35.4875 mm using M112 set of gauges. Use two protector slips of 2.5 mm each.	06	L3	CO4
	c.	Differentiate between interchangeability and selective assembly.	07	L2	CO4

Module – 5

Q.9	a.	State and explain Taylor's principle of gauge design.	06	L2	CO5
	b.	With a neat sketch, explain a snap gauge.	06	L2	CO5
	c.	Calculate the dimensions of plug and ring gauges to control the production of 50 mm shaft and hole pair of H ₇ d ₈ as per IS specification. The following assumptions may be made: 50 mm lies in diameter step of 30 and 50 mm and the upper deviation for "d" shaft is given by $-16D^{0.44}$ and lower deviation for hole H is zero. Tolerance unit $i(\text{microns}) = 0.45\sqrt[3]{D} + 0.001D$ and IT ₆ = 10i and above. IT ₆ grade the tolerance magnitude is multiplied by 10 at each fifth step.	08	L3	CO5

OR

Q.10	a.	Sketch and explain the working of Sigma Comparator.	07	L2	CO5
	b.	Select the sizes of angle gauges required to build: (i) 37°9'18" (ii) 33°16'42"	06	L3	CO5
	c.	With a neat sketch, explain sine bar. List the limitations of sine bar.	07	L2	CO5

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BME403

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

Fluid Mechanics

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. Draw the sketches wherever necessary.*

Module – 1			M	L	C
Q.1	a.	Define the following fluid properties: i) Mass Density ii) Specific Gravity iii) Surface tension.	6	L2	CO1
	b.	State and prove the Pascal's law for the intensity of pressure in a static fluid.	6	L2	CO1
	c.	Calculate the dynamic viscosity of an oil, which is used for lubrication between a square plate of size 0.8m × 0.8m and an inclined plane with angle of inclination 30°. The weight of the square plate is 300 N and it slides down the inclined plane with a uniform velocity of 0.3 m/s. The thickness of oil film is 1.5 mm. Also, determine the kinematic viscosity of oil if the specific gravity of oil is 0.85.	8	L3	CO1
OR					
Q.2	a.	Derive an expression for "Total Pressure" and "Center of Pressure" acting on vertical plane surface submerged in a static liquid.	10	L2	CO1
	b.	A differential manometer using mercury as manometric fluid is connected to two pipes A and B. Water flows through pipe A and a liquid of specific gravity 0.9 flows through pipe B. Pipe B is 1.5 m above the level of pipe A. Meniscus of mercury in the left limb connected to A is 3m below the center of pipe A and Meniscus on the right limb connected to pipe B is 10 cm above that in the left limb. If the pressure in pipe A is 10 bar, determine the pressure in pipe B. Sketch the manometer arrangement.	10	L3	CO1
Module – 2					
Q.3	a.	Write a note on the following types of fluid flow: i) Steady and unsteady flow ii) Uniform and Non uniform flow iii) Laminar and turbulent flow.	6	L2	CO2
	b.	Obtain an expression for continuity equation in Cartesian coordinate system for a 3-dimensional fluid flow.	8	L2	CO2
	c.	A fluid flow field is given by $V = x^2yi + y^2zj - (2xyz + yz^2)k$. Prove that it is a case of possible steady incompressible fluid flow. Calculate the velocity of the fluid at the point (2, 1, 3).	6	L3	CO2
1 of 3					

OR

Q.4	a.	Derive an expression for the velocity distribution and shear stress distribution for the viscous flow through a circular pipe. Show the velocity and shear-stress distribution across the circular pipe.	10	L2	CO2
	b.	Calculate : i) Pressure gradient along flow ii) The average velocity iii) The discharge for an oil of. Viscosity 0.02 Ns/m^2 flowing between two stationary parallel plates 1 m wide maintained 10 mm apart. The velocity midway between the plates is 2m/s.	10	L3	CO2

Module – 3

Q.5	a.	Derive the Euler's equation of motion for the fluid flowing along a stream line. Obtain Bernoulli's equation of motion and mention the assumptions made.	10	L2	CO3
	b.	A $30 \text{ cm} \times 15 \text{ cm}$ venturimeter is provided in a vertical pipe line carrying oil of specific gravity 0.9, the flow being upwards. The difference in elevation of the throat section and entrance section of the venturimeter is 30 cm. The differential U-tube mercury manometer shows a deflection of 25 cm. Determine: i) The discharge of oil ii) The pressure difference between the entrance section and the throat section. Take C_d of venturimeter as 0.98 and specific gravity of mercury as 13.6.	10	L3	CO3

OR

Q.6	a.	Derive the Darcy-Weisbach equation for the loss of head due to friction in a pipe.	10	L2	CO3
	b.	The rate of flow of water through a horizontal pipe is $0.25 \text{ m}^3/\text{s}$. The diameter of the pipe which is 200 mm is suddenly enlarged to 400 mm. The pressure intensity in the smaller pipe is 11.772 N/cm^2 . Determine: i) Loss of head due to sudden enlargement. ii) Pressure intensity in the large pipe. iii) Power lost due to enlargement.	10	L3	CO3

Module – 4

Q.7	a.	Explain the following terms: i) Drag ii) Lift iii) Friction drag iv) Pressure drag.	8	L2	CO4
	b.	What do you mean by boundary layer? Explain the following with a boundary layer diagram. i) Boundary layer thickness ii) Displacement thickness.	6	L2	CO4
	c.	A man weighing 90 kgf descends to the ground from an aeroplane with the help of a parachute against the resistance of air. The velocity with which the parachute which is hemispherical in shape, come down is 20 m/s. Find the diameter of the parachute. Assume $C_b = 0.5$ and density of air = 1.25 kg/m^3 .	6	L3	CO4

OR

Q.8	a.	Write the dimensions of the following quantities: i) Kinematic viscosity ii) Dynamic viscosity iii) Discharge/Rate of flow iv) Specific weight.	4	L2	CO4
	b.	Explain the following dimensionless numbers: i) Reynold's number ii) Mach number iii) Weber number.	6	L2	CO4
	c.	Using Buckingham's π -theorem, prove that the frictional torque T of a disc of diameter D rotating at a speed N in a fluid of viscosity μ and density ρ in a turbulent flow is given by. $T = D^5 N^2 \rho \phi \left[\frac{\mu}{D^2 N \rho} \right]$	10	L3	CO4

Module – 5

Q.9	a.	Derive an expression for the velocity of sound wave in terms of change of pressure and change of density.	8	L2	CO5
	b.	Define Mach number. Explain its significance in compressible fluid flow.	6	L2	CO5
	c.	Calculate the speed of the aeroplane flying at an height of 15 km where the temperature is -50°C . The speed of the plane is corresponding to mach number equal to 2. Assume $K = 1.4$ and $R = 287 \text{ J/kg K}$.	6	L3	CO5

OR

Q.10	a.	Derive an expression for velocity of sound in compressible fluid medium undergoing. i) An isothermal processes ii) An adiabatic process.	8	L2	CO5
	b.	Mention the advantages and disadvantages of CFD.	6	L2	CO5
	c.	Discuss the applications of CFD in various domain of industry and academia.	6	L2	CO5

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BBOK407

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

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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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