

**HUMAN VALUES AND PROFESSIONAL ETHICS  
(HMTS 2001)**

**Time Allotted : 3 hrs**

**Full Marks : 70**

*Figures out of the right margin indicate full marks.*

*Candidates are required to answer Group A and  
any 5 (five) from Group B to E, taking at least one from each group.*

*Candidates are required to give answer in their own words as far as practicable.*

**Group – A  
(Multiple Choice Type Questions)**

1. Choose the correct alternative for the following: **10 × 1 = 10**
- (i) Tom wears fashionable and extravagant clothes to college thinking it would gain him access to an elite friend's circle. Which theory from the following relates closest to Tom's perception?  
(a) Concept of 'self' (b) Looking-Glass Self Image  
(c) Imitation (d) Concept of Superego
- (ii) \_\_\_\_\_ coined the term *Automation* as he visited the automobile plant of \_\_\_\_\_ in 1951.  
(a) John Diebold, Henry Ford (b) Daniel Bell, George Ritzer  
(c) Schumacher, Aurelio Peccei (d) Daniel Bell, Henry Ford
- (iii) When you are recognized & appreciated for your work, which need of Maslow's Need-Priority Theory is furnished?  
(a) Physiological needs (b) Ego & Esteem Needs  
(c) Cognitive Needs (d) Self-Actualization
- (iv) Organizational Values are best realized when they are extended towards \_\_\_\_\_.  
(a) Only profit (b) Only quality products  
(c) Employees and society (d) Only environmental causes
- (v) A state marked by obedience and avoidance of punishment in moral development relates to \_\_\_\_\_.  
(a) Post-Conventional (b) Pre-Conventional  
(c) Conventional (d) Pro-Conventional
- (vi) 'Self' is a product of social interaction and constitutes self-image and self-awareness. This concept was designed by \_\_\_\_\_.  
(a) Cooley (b) Schumacher  
(c) Freud (d) Mead

- (vii) You wish to pursue higher studies, meanwhile also received offer letter from your dream company asking you to sign a bond for six years. Accepting this much needed job means giving up on studies. You have accepted the job and given priority to \_\_\_\_\_ need over \_\_\_\_\_ need.
- (a) Safety & Security, Cognitive (b) Social, Physiological  
(c) Ego & Esteem, Social (d) Aesthetic, Self-
- (viii) Transforming the technology from one phase of its life cycle to another is known as \_\_\_\_\_.
- (a) Horizontal Technology transfer (b) Vertical Technology transfer  
(c) Diagonal Technology transfer (d) Lateral Technology transfer
- (ix) An engineer designed a new roadway project which requires some farmers to give up on their agricultural land for the road construction. Which following theory can justify the construction at the cost of losing farmers' land?
- (a) Kantian Theory (b) Categorical Imperative  
(c) Non-consequentialism (d) Consequentialism
- (x) The different Stages of Industrialization had remarkable inventions highlighted in the epoch. Select the right order according to the Stages these inventions ruled.
- (a) Electricity, computers, steam, 3D printers.  
(b) Steam, electricity, computers, 3D printers.  
(c) Steam, computers, electricity, 3D printers.  
(d) Electricity, computers, 3D printers, steam.

### **Group – B**

2. Write short notes on any two of the following:
- (i) Value Spectrum  
(ii) Aesthetic Values  
(iii) Cultural level value crisis  
(iv) Interdependence between Socialization and Values

**(6 + 6) = 12**

3. Case Study: Questioning Tik-Tok Application for Users

The Chinese made Tik-Tok App has 300+ million users worldwide. Allowing an individual to create, record, edit, share and comment on 15-second videos to become famous is an instant hit among children, youths and even elderly population.

However, an easy access to different forms of entertainment can have dreadful effects. Videos ranging from funny comments, actions, and stunts to explicitly sharing experience and views are subject to multiple interpretations. Shaming, racist jokes, bullying, stereotype to gender bias and adult content---- all influences our thought and action.

On the basis of the above case study answer the following:

- (i) Explain how technology and human values are connected from the above perspective?

- (ii) Discuss the merits and demerits of the above mobile application in shaping individual personality. Use examples as required.

**(6 + 6) = 12**

**Group – C**

4. (a) Corruption is all pervading. As a professional engineer explain, how your Ethics of Responsibility would help you face the challenges of workplace corruption. Use suitable examples.
- (b) Engineer is a social experimenter. Substantiate with examples.

**6 + 6 = 12**

5. Case Study: Challenging Professional Responsibility versus Loyalty

You are a structural engineer (representing Project Dept. Of Sun Contractors), hired by MN Housing Ltd. to evaluate the tender for the design of their upcoming residential complex.

However, the engineering design, architecture and construction work was conducted by Design Dept. of your employer's firm, and you discovered the existing flaws in the design that can be disastrous for future residential complex dwellers. The Design Dept. has already managed certification from Safety Board and concerned authorities to make MN Housing Ltd. go with the huge investment.

On the basis of your reading, answer the following questions:

- (i) Explain, which all professional code of conduct according to you should be exhibited by a professional with reference to the above situation, and why?
- (ii) State which, out of the two steps shall you take and why?
- Inform MN Housing Ltd. regarding the flaw and stick to professional responsibility.
  - Compromise with professional responsibility and show loyalty for employer Sun Contractors.

**(6 + 6) = 12**

**Group – D**

6. State contributions of Science, Engineering and Technology in the major growing stages of Industrialization from 19<sup>th</sup> century to the present.

**12**

7. Case Study: Technology Transfer

Country X is a first world nation with healthy economy, per-capita income and sturdy technological R&D segment. However, to sustain in international market it depends on many developing and other developed nations through strategic trade policies. India is planning to buy Hi-Tech defence weapons from Country X by striking a deal without becoming a pawn to its strategic manoeuvre.

Answer the following:

- (i) As a junior engineer you are aware of major barriers in the above trade dealing. Suggest and justify at least four contract agreements that India should have with Country X in this deal.
- (ii) Explain the basic concept of Technology Transfer and its major types with examples

**(8 + 4) = 12**

### **Group – E**

8. Design a Sustainable model to be implemented in Kolkata, West Bengal. The time frame is two years within which your suggestive steps should alleviate three specific problems (depleting ground water levels, pollution, hygiene etc), through sustainable methodologies.

**12**

9. Case Study: What's killing our lakes and rivers?

Dr. T.V. Ramachandra, Coordinator of Energy & Wetlands Research Group at Centre for Ecological Sciences, IISc Bangalore findings: sewage that flows into water bodies has dissolved organic compounds both natural and synthetic, such as soaps and detergents.

Frothing of rivers, lakes (Bellandur lake, Yamuna river), are caused by surface-active agents or surfactants that reduce surface tension of water, allowing air bubbles to persist at the water's surface. These detergents essentially consist of phosphates, and a portion of which is up-taken by aquatic plants while the balance gets trapped in the sediments.

The synthetic surfactants are widely used in household cleaning products such as detergents, soaps, cosmetics, and personal care products such as shampoo. A majority of brands add Phosphate (P) to detergents and soaps to reduce water hardness which increases the effectiveness of the cleaners. These cleaners drain out of our homes into lakes & negatively affect aquatic biodiversity.

On the basis of the above case study answer the following:

- (i) Suggest and explain feasibility of implementing at least four solutions to solve the above problem in Indian context.
- (ii) Write a brief note on Water Pollution and its detrimental effects on human life in the contemporary times. Use examples as required.

**(8 + 4) = 12**

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