

B.TECH/AEIE/CSE/ECE/IT/3RD SEM/HMTS 2001/2018

**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) Pollutants that persist for a long time in nature : _____
 (a) Agents (b) Non-degradable pollutants
 (c) Waste matter (d) Biodegradable pollutants.
- (ii) Carbon dioxide, methane, nitrous oxide and sulphur hexafluoride—are collectively known as _____.
 (a) ozone (b) carbon monoxide
 (c) greenhouse gases (d) photochemical smog.
- (iii) Select the right order of the steps involved in Vertical Technology transfer.
 (i) Applied Research (ii) Development
 (iii) Basic Research (iv) Production
 (a) (iii), (i), (ii), (iv) (b) (i), (iii), (iv), (ii)
 (c) (i), (iii), (ii), (iv) (d) (iii), (i), (iv), (ii)
- (iv) Combustion of coal in power plant produces mainly _____ which is a major pollutant of air.
 (a) sulphur dioxide (b) nitrogen dioxide
 (c) methane (d) chlorofluorocarbon
- (v) If series of machines take up the entire operation of a factory from the start to the finished product, it is an example of
 (a) automation (b) assembly line
 (c) tech Transfer (d) modern industry.
- (vi) The Pre-conventional level (as per theorist Kohlberg), is identified with _____, as characteristics of Moral Development in an individual.
 (a) applying moral autonomy
 (b) sacrificing own interest for others
 (c) meeting moral standards and getting approval of others
 (d) obedience and desire to avoid punishment.

- (vii) Accidents that are caused by flaws in the designs : _____
 (a) Procedural (b) Engineered
 (c) Systemic (d) Operational.
- (viii) _____ are generalized standards by which people define what is good and what is bad.
 (a) Norms (b) Values
 (c) Beliefs (d) Sanctions
- (ix) 'Limits of Growth' is a research undertaken to warn humanity of an ecological and economic catastrophe not resulting from _____.
 (a) over exploitation of natural resources (b) growing pollution
 (c) improper socialization (d) growing population.
- (x) Carol Gilligan is a name associated with _____.
 (a) socialization (b) engineering ethics
 (c) whistle blowing (d) moral development.

Group – B

2. Write a short note on any two of the following:
 (i) Mental Health
 (ii) Spiritual Values
 (iii) Mead's Theory of Self
 (iv) Freud's concept of Id, Ego and Superego.

(6 + 6) = 12

3. A MiG-21 fighter jet crashed in a village in Himachal Pradesh's Kangra district on July 18, killing an Indian Air Force pilot, officials said. The aircraft, which was on a routine sortie, crashed at 1.20 p.m., about an hour after taking off from Pathankot air base on a routine sortie, an IAF spokesperson said. Deputy Commissioner Sandeep Kumar, quoting eyewitnesses, said the pilot appeared to have ensured that no harm was caused to the civilian population by steering the aircraft away from the area.

"He steered the aircraft towards the fields before it crashed to save the civilians and lost his life in the process," he added.

Himachal Pradesh Chief Minister Jai Ram Thakur also expressed grief over the death of the pilot.

- (i) Define values. Enumerate its importance in our day to day life.
 (ii) Man develops a set of values due to his profession. Do you agree?
 (iii) Comment briefly on the nature of value conformed by the pilot in the above mentioned case.

4 + 4 + 4 = 12

Group – C

4. (i) Distinguish between duty ethics and right ethics.
 (ii) Define Ethics. State any four engineering codes of ethics that explain how violation of the same leads to man-made disasters.

(4 + 8) = 12

5. Case Study: Breach of Code of Professional Ethics.

After months of searching for a weekend job, Danté, who is Black, finally got an interview with the owner of a busy car wash and gas station. The owner seemed reluctant to hire him, but Danté managed to win him over. The owner gave him the job, saying that he would be working on a weekend shift with seven other young men, all students from the local area. The shift manager would train him on the car wash equipment.

On Danté's first day, the shift manager gave him only a few minutes of instruction on the equipment. Danté watched what the other men were doing, but when he asked questions, they were not very helpful. Though few co-workers invited him to join their little group for lunch or breaks, but others consistently cracked ethnic and racial jokes, often within hearing of the shift manager.

One day Danté overheard the manager say that Black people were responsible for increased violence in the community. This statement encouraged some co-workers, who had previously eaten lunch with Danté, to tell a couple of jokes about Black people. When they glanced at him as they told their jokes, he got up and walked away.

One busy Saturday afternoon, a whole section of the car wash equipment broke down because someone had allowed the system to become overheated. Danté had worked on that section until his break, when a co-worker took over. The system had broken down at some point after that.

The shift manager was furious and accused Danté of negligence. Danté replied that he believed the system was fine when he left for his break. Although Danté insisted that the equipment failure was not his fault, the shift manager fired him. Danté believed he was discriminated against because he is Black, while his co-workers and managers are White.

Answer the following questions:

- (i) How do you think the above case is a breach of professional code of ethics on the employer and the colleagues' part?
 (ii) List and explain the need of at least four codes of professional ethics you consider as important in any professional field.

(6 + 6) = 12**Group – D**

6. (i) What are the two types of technology transfer? Explain with the help of suitable examples.

- (ii) State our role of managing energy resources to mitigate the global energy crisis.

(6 + 6) = 12

7. Case Study: Safety and Hazard

Staffs were cleaning up after a busy Friday nights trading at a fast food outlet. The cook was walking back to the kitchen from the pot wash area over a floor that had just been wet mopped by another employee.

As he walked past the deep fat fryer, the cook suddenly slipped on the still damp floor. He instinctively reached out to try and break his fall, pulling over the electric deep fat fryer in his panic. The fryer toppled over, spilling its entire contents, 35 litres of boiling hot oil, onto the cook and the floor. As the oil came into contact with the water residue on the floor, thick black smoke was produced, which set off the smoke alarms, adding to the extremely frightening situation. Surrounded in hot oil, the cook couldn't get up from the floor. Each time he tried he slipped back. Eventually the trainee assistant manager succeeded in sliding him out of the spilt oil, burning his own hands in the process.

The cook suffered extensive burns and needed skin grafts. Another employee in the vicinity of the spilt oil also received severe burns to her right leg and ankle, again needed skin grafts. The company were prosecuted by Manchester City Council and fined £60,000 after pleading guilty to two health and safety offences and ordered to pay costs of £16,000.

The judge found that poor floor maintenance, poor cleaning, poor footwear and poor slip resistance of the floor tiles had the combined effect of increasing the likelihood of a slipping incident.

A senior scientist at the Health and Safety laboratory (HSL) who carried out a forensic examination of the kitchen floor, concluded that; 'The slip risk experienced by users of the site was unacceptably high, given that it was reasonably foreseeable that oil and water would, from time to time, contaminate the floor.'

Answer the following questions:

- (i) State the relevance of safety and hazard in the above case. Suggest general safety measures (at least four) applicable in the above situation.

- (ii) State any other instance where violation of safety rules has lead to a major accident.

(6 + 6) = 12

Group – E

8. (i) How do you think the recent Kerala flood makes ecological ethics an important area of concern?
 (ii) Discuss some of the ways in which urbanisation and waste generation are interlinked.

(6 + 6) = 12

9. The East Kolkata Wetlands are a complex of natural and human made wetlands lying east of the city of Kolkata of West Bengal in India. The wetlands cover 125 sq. kms. and include salt marshes and salt meadows as well as sewage farms and settling ponds. The wetlands are used to treat Kolkata's sewage and the nutrients contained in the waste water sustain fish farms and agriculture. The East Kolkata Wetlands host the largest sewage fed aquaculture in the world. This area is a protected site and was designated "Wetland of International importance" under the Ramsar Convention in the year 2002.

The East Kolkata Wetland Ramsar site, patch work of tree - fringed canals, vegetable plots, rice paddies and fish ponds - and the 20,000 people that work in them - daily transform 1/3 rd of the city's sewage and most of its domestic refuse into a rich harvest of fish and fresh vegetables. For example, the MudiALLY Fishermen's Co-operative Society is a collective of 300 families that lease 70 hectares into which wastewater from the city is released. Through a series of natural treatment processes - including the use of Eichhornia crassipes and other plants for absorbing oil, grease and heavy metals - the Co-operative has turned the area into a thriving fish farm and a nature park.

Recently illegal landfills are on the rise and the wetlands are being slowly assimilated in the city. This unprecedented land development and urbanization are creating concerns about the impact on the environment. This is because the wetlands serve as a natural sponge absorbing excess rainfall and doing its bit to reduce pollution.

A 7 km long fly over till Dumdum airport, with 192 pillars, has been proposed over the East Kolkata Wetlands. Government of West Bengal has already written a letter to the Center, asking for approval. Forum Against Monopolistic Aggression (FAMA) organized a workshop with the

assistance of Sabuj Manch, to build up informed public opinion and citizens' resistance against the disastrous consequences for the city, once these wetlands fall prey to the forces of urbanisation.

- (i) Why East Kolkata Wetlands needs to be protected?
 (ii) How would the construction of the proposed flyover threaten the ecological balance and change the socio-economic fibre of the local area?
 (iii) As a responsible citizen what steps would you take to tackle the problem?

(4 + 4 + 4) = 12