

Course Name: Ethics in Engineering Practice

Assignment - Week 5

TYPE OF QUESTION: MCQ/MSQ

Number of questions: 10

Total marks: 10 X 1 = 10

QUESTION 1:

In psychological research, a treatment is any intervention meant to change people's behaviour for the better. This intervention includes psychotherapies and medical treatments for psychological disorders but also interventions designed to improve learning, promote conservation, reduce prejudice, and so on. To determine whether a treatment works, participants are randomly assigned to either a treatment condition, in which they receive the treatment, or a -----, in which they do not receive the treatment.

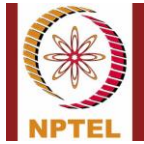
- a) Case study
- b) Acculturation
- c) Discourse Community
- d) Control condition**

Correct Answer: d

Detailed Answer: In psychological research, a treatment is any intervention meant to change people's behaviour for the better. This intervention includes psychotherapies and medical treatments for psychological disorders but also interventions designed to improve learning, promote conservation, reduce prejudice, and so on. To determine whether a treatment works, participants are randomly assigned to either a treatment condition, in which they receive the treatment, or a control condition, in which they do not receive the treatment. If participants in the treatment condition end up better off than participants in the control condition—for example, they are less depressed, learn faster, conserve more, express less prejudice—then the researcher can conclude that the treatment works.

QUESTION 2:

Identify True statements



The elements of informed consent include

- I. Informing the participant or client of the nature of the intervention or study, possible alternatives, and the potential risks and benefits of the intervention or study.
- II. This is to enable persons to voluntarily decide whether to participate as a research subject.
- III. It is just a form.
- IV. Identity of the researcher is kept confidential.

- a) Only II & IV
- b) Only I & II
- c) Only III & IV
- d) None of the above

Correct Answer: b

Detailed Answer: The elements of informed consent include informing the participant or client of the nature of the intervention or study, possible alternatives, and the potential risks and benefits of the intervention or study. There are three elements of informed consent, viz: information; comprehension and volition. Informed consent is a process, not just a form³. Information must be presented in a manner that is well understood. This is to enable persons to voluntarily decide whether to participate as a research subject. It is a fundamental mechanism to ensure respect for persons through the provision of thoughtful consent for a voluntary act. The name(s) and contact details of the researcher(s) involved in the study should be made available to allow participants to obtain more information about the study if required.

QUESTION 3:

Consider the following statements and select the correct answer from the codes given below:

Assertion (A): Engineering should be studied in conjunction with ecosystem and environmental ethics.

Reason (R): Unscrupulous engineering planning has the potential to damage the physical environment thereby hampering the life processes of many rare species of plants and animals.

Codes:

- (a) Both, A and R, are true and R is the correct explanation of A



- (b) Both, A and R, are true but R is not the correct explanation of A
(c) A is false but R is true
(d) A is true but R is false

Correct Answer : a

Detailed Answer: New applications of technology and engineering must come to terms with the social and ethical values of the society in which they are to be made. Engineering must be applied in such a way that innovations make proper contributions to the greater community at large. The development of sound engineering practices can help conserve and restore the environment through a proper balance between engineering principles and environmental considerations.

QUESTION 4:

Changing one's data merely to fit one's expectations or preferences is-----.
Changing the value of data is absolutely prohibited.

- a) Data selection
b) **Falsification**
c) Actor observer bias
d) Recklessness

Correct Answer: b

Detailed Answer: Changing one's data merely to fit one's expectations or preferences is falsification. Changing the value of data is absolutely prohibited, so no question arises of when it is justified to do it. However, excluding some data points or smoothing the curve plotted from the data may be either *justified* data selection

QUESTION 5:

Below are the responsibilities of an Author of a research article

- a) Doing personal attacks by criticizing others work is acceptable.
b) Dubious statements regarding those who qualify as co-authors or those who need acknowledgement.
c) **Providing details about resercah so that others can replicate it with valid justifications.**



d) Any financial or other sources of conflict should be kept confidential.

Correct Answer: c

Detailed Answer: See Week 5 -Responsibilities of an Author of a research article.

- 1.Refrain from plagiarizing
- 2.Use journal space wisely
- 3.Reveal any hazards in conduct of experiments, if any
- 4.Report all sources of information properly
- 5.Reveal any financial or other sources of conflict
6. Providing details about resercah so that others can replicate it with valid justifications
7. Citing previous publications properly.
8. Refraining from doing personal attacks by criticizing others work
9. Creating a clear distinction concerning those who quality as co-authors or those who just need acknowledgement

QUESTION 6:

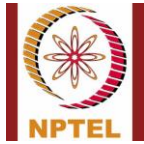
There are three key features of environmental leadership (select the inaccurate option)

- a) Expertise is useful to summarize the abilities and knowledge that are required to deal with environmental issues.
- b) Novel perspectives on environmental protection
- c) Commitment to sustainable development and awareness of complexities involved.
- d) The ability to be manipulative, and a drive to use whatever means necessary to gain power.

Correct Answer: d

Detailed Answer: Please see Environmental leadership notes.

QUESTION 7:



The Gaia hypothesis proposes that all organisms and their inorganic surroundings on earth
-----.

- a) are independent and formed a complex system to create isolated entities on earth.
- b) are closely integrated to form a single and self-regulating complex system, maintaining the conditions for life on the planet.
- c) created species redundancy, little contribution overall in the stability, comparable to the passengers in an aeroplane who play little role in its successful flight.
- d) None of the above

Correct Answer: b

Detailed Answer: James Lovelock is best known for proposing the Gaia hypothesis. The Gaia theory posits that the Earth is a self-regulating complex system involving the biosphere, the atmosphere, the hydrospheres and the pedosphere, tightly coupled as an evolving system.

QUESTION 8:

The Transcendentalist movement was created as a rebellious reaction to:

- a) Rationalist way of thinking
- b) Spiritualism
- c) Government
- d) Society

Correct Answer: a

Detailed Answer: The Transcendentalist movement was created as a rebellious reaction to: The previous age of reason and its rationalist way of thinking. The transcendentalist movement encompassed many beliefs, but these all fit into their three main values of individualism, idealism, and the divinity of nature.

QUESTION 9:



Experimentation plays an important role in all projects that are a matter of concern. Engineering projects in totality can be viewed as experiments. There are certain benefits of experimentation. (select the inaccurate option)

- a) Experiments help find out behavioral usage flaws.
- b) Coming up with the best version of the product by trying various iterations.
- c) Utilizing experiments as a means to seek feedback and further improvements.
- d) Although laboratory settings can control extraneous variables, natural environments provide certain challenges.

Correct Answer: d

Detailed Answer: Option d is not talking about benefits. Although laboratory settings can control extraneous variables, natural environments provide certain challenges. Some studies need to be completed in a natural setting to be accurate. It may not always be possible to control the extraneous variables because of the unpredictability of Mother Nature.

QUESTION 10:

The fundamental values of deep ecology (proposed by Arne Naess) are

- a) Self actualization and Biocentric uniformity
- b) Self realization and Biocentric equality
- c) Self actualization and ecofeminism
- d) None of the above

Correct Answer: b

Detailed Answer: Self realization relates to the recognition of oneself as member of greater universe, not just as single individual or a member of particular community.

Biocentric equality, follows self-realization and calls for understanding oneself as one with other creatures in the world. We cannot regard ourselves as superior and should accept that all creatures have equal rights to flourish.

*****END*****
