Indian Statistical Institute
Semester Examination (2024-25)
B. Stat. II Year

Psychology

Date: 28.04.2025 **Full Marks: 80** **Duration – 3 hours**

You may attempt all questions. Each question carries 10 marks. The maximum you can score, however, is 80.

1. Write in detail how you will design an experiment to explore the issues in any one of the projects given below, choosing a project **other than the one you are doing yourself** as part of this coursework practical.

   1. Changing trends of research topics in Psychology and Neuroscience.
   2. Skin color based differences in Indian language films with reference to the main characters.
   3. Gender sensitivity of films - comparing assessments of International jury, National jury and Mass Audience.
   4. Violence portrayal in films across time in Indian language films. [10]

2. In 1859 Charles Darwin said "In the distant future I see open field for far more important researches. Psychology will be based on a new foundation ... Light will be thrown on the origin of man and his history."

   a) How is this comment from the father of evolutionary biology related to Human psychology?

   b) What do you mean by perception? While the phenomenon/process of "perception" is deeply connected to neural activities, would you agree that even the bacteria, devoid of any neuron, may still possesses the ability of "perception" as per your definition?

   c) A cephalopod like the Octopus, on the other hand, has well-developed nervous system, though differently distributed than vertebrates like us, and seem to feel through touch and perform grasping. Do you think it has a mind too? Justify your answer. [3+4+3=10]

3. There is a concept called subliminal referring to sensory threshold.

   a) Explain this concept.

   b) How do you think that it is related to our attention process?

   d) State and explain the Weber-Fechner law. Can this law be summarized as a functional relation between the body and the mind? [3+3+4=10]

4. "Illusions are discrepancies from truth....illusions are an embarrassment for those who would like to hold that knowledge is based securely on perception."

   a) Do you agree with the above statement? Justify your answer.

   b) How do you think Descartes (1596-1650), who was a strong advocate of mind-body dualism, would have reacted to this statement, and why?

   c) How would the Gestalt school of psychology explain perceptual organization?

   [4+3+3=10]

5. a) Can there be anything called "honest lying"? Justify.

   b) In the light of the above, let us assume that there is a case where Short Term Memory still exists when there is a clear lack of Long Term Memory. How can this manifest and when is it possible?

   c) What role, if any, has memory to play in the information processing model of the brain? [4+4+2=10]

6. a) Is there a Language Spot in all brains? Do you agree that language best defines us as human beings? Justify your answers.

   b) How do our auditory percepts like loudness, pitch, and timbre related to the physical attributes of sound? What are these corresponding attributes? [(2+3)+(2+3)=10]

7. a) Try to explain in your own words the perception of color and brightness through our sensory system.

   b) How can brightness perception be mathematically connected to the actual luminance? Who first suggested this law? Which visual illusion is directly connected to this law? [(3+2)+(3+1+1)=10]

8. a) What is the main approach of Jean Piaget, the Swiss psychologist, towards understanding the theory of cognitive development?

   b) To what extent do you think that Saymour Papert, despite not being a trained psychologist, carried forward the works of Piaget?

   c) Explain in your own words that how reinforcement may play a role in learning?

   [4+4+2=10]

9. At the end of a one-semester Psychology course, how would you deal with the question of identity/distinction of brain and mind? Answer in your own words and with reference to, as much as possible, the relevant theories in psychology and philosophy. [10]