

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -3 EXAMINATION- 2024

B.Tech-6 Semester (CSE/IT/ECE/CE)

COURSE CODE(CREDITS): 23B1WHS632

MAX. MARKS: 35

COURSE NAME: History and Philosophy of Science and Technology

COURSE INSTRUCTORS: Dr. Ranjith Kallyani

MAX. TIME: 2 Hours

Note: (a) Attempt all five clusters.

(b) Answer only one question from each cluster. Mention the respective question identifier ('a' or 'b' or 'c') with question number. (Eg. 2.b)

(c) Marks are indicated against each question in square brackets.

Essay question: (15 marks. Attempt **only one** from the three questions.)

1. (a) Describe the four laws of scientific change. Consider the four laws as axioms, and explain theory rejection (hint: 1st and 0th law) and contextual appraisal (hint: 1st and 2nd law).

Or

- (b) Explain Aristotelian natural philosophy, humoral physiology and astrology. How are they related to each other? Compare them with the ancient and mediaeval Indian worldviews.

Or

- (c) Explain Cartesian physiology, physics, and cosmology. How is Cartesian physics different from Aristotelian, Newtonian and contemporary (general relativity) world views?

[15 marks] CO3

Short Answer Questions (5 marks each. Attempt **one** from each cluster)

2. (a) Explain *scientific realism* and *instrumentalism*.

Or

- (b) What is *demarcation problem*? Why is that significant in our everyday lives?

Or

- (c) "All non-sciences are not pseudo-sciences". Explain.

[5 marks] CO4

3. (a) What is *falsification*? Why is it considered as the contemporary demarcation criteria?

Or

- (b) Explain *entity realism* and *structural realism*

Or

- (c) Explain Hypothetic Deductive (HD) Method.

[5 marks] CO5

4. (a) What does "I think therefore I am" imply?

Or

- (b) How does Descartes support the existence of God and the material world around?

Or

- (c) Explain *matter* and *mind*. What are their indispensable properties? [5 marks] CO4

5. (a) What is *involuntariness argument*?

Or

- (b) Explain the differences between *hylomorphism* and *mechanicism*?

Or

- (c) What is *dualism*? How is it different from *pluralism*?

[5 marks] CO1