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## B.Tech/ M.Tech (Integrated) DEGREE EXAMINATION, DECEMBER 2023

First to Third Semester

### 21GNH101J – PHILOSOPHY OF ENGINEERING

(For the candidates admitted from the academic year 2022-2023 onwards)

**Note:**

- (i) **Part - A** should be answered in OMR sheet within first 40 minutes and OMR sheet should be handed over to hall invigilator at the end of 40<sup>th</sup> minute.
- (ii) **Part - B** and **Part - C** should be answered in answer booklet.

Time: 3 Hours

Max. Marks: 75

#### PART – A (20 × 1 = 20Marks)

Marks    BL    CO    PO

Answer ALL Questions

- |  |   |   |   |   |
|--|---|---|---|---|
| 1. _____ is the discipline and profession of applying technical and scientific knowledge and utilizing natural laws and physical resources in order to design and implement materials. | 1 | 1 | 1 | 1 |
| (A) Arts   |   |   |   |   |
| (B) Mathematics  |   |   |   |   |
| (C) Engineering  |   |   |   |   |
| (D) Science  |   |   |   |   |
| 2. Engineers apply the sciences of physics and mathematics to find suitable solutions to problems using _____.   | 1 | 1 | 1 | 1 |
| (A) Philosophy   |   |   |   |   |
| (B) Methodology  |   |   |   |   |
| (C) Marketability  |   |   |   |   |
| (D) Flexibility  |   |   |   |   |
| 3. _____ the science of structure, order and relation that has evolved from elemental practices of counting, measuring and describing the shapes of objects.                           | 1 | 1 | 1 | 1 |
| (A) Science and technology   |   |   |   |   |
| (B) Arts   |   |   |   |   |
| (C) Arts and science   |   |   |   |   |
| (D) Mathematics  |   |   |   |   |
| 4. _____ refers to the elements of art that are independent of its interpretation or significance.   | 1 | 1 | 1 | 1 |
| (A) Art form   |   |   |   |   |
| (B) Arts and science   |   |   |   |   |
| (C) Engineering  |   |   |   |   |
| (D) Philosophy   |   |   |   |   |
| 5. _____ has at its basis the development of the internet and the computer.  | 1 | 1 | 2 | 1 |
| (A) Cyber security   |   |   |   |   |
| (B) Cyber chain  |   |   |   |   |
| (C) Cyber culture  |   |   |   |   |
| (D) Networking   |   |   |   |   |
| 6. Ontology is sometimes referred as _____.  | 1 | 1 | 2 | 1 |
| (A) Reference  |   |   |   |   |
| (B) Science of being   |   |   |   |   |
| (C) Philosophy   |   |   |   |   |
| (D) Metaphysics  |   |   |   |   |
| 7. Researchers assert that the introduction stage where design takes place determines between _____ and _____ percent of the life cycle costs.   | 1 | 1 | 2 | 1 |
| (A) 40, 60   |   |   |   |   |
| (B) 50, 50   |   |   |   |   |
| (C) 70, 60   |   |   |   |   |
| (D) 70, 90   |   |   |   |   |

8. \_\_\_\_\_ contains all the definitions that are needed to model the knowledge required for a particular application. 1 1 2 1  
 (A) Reference ontology (B) Application ontology  
 (C) Ontology (D) Steam
9. \_\_\_\_\_ theorized that personality and work environment are measurable and that the two should be matched in order to find a satisfying career. 1 1 3 7  
 (A) Holland (B) Harvard  
 (C) Archimedes (D) Gregory
10. Design \_\_\_\_\_ is distinct from analytic methodologies, which is crucial to develop scientific initiatives. 1 1 3 3  
 (A) Epistemology (B) Thinkers  
 (C) Testers (D) Developers
11. The sum of all the tools, devices and processes available are said to \_\_\_\_\_. 1 1 3 5  
 (A) Engineering (B) Science  
 (C) Scientific knowledge (D) Technology
12. How the students should be motivated to get success in life? 1 1 3 1  
 (A) Intensive study (B) Learning by recitation  
 (C) Incidental study (D) Selected study
13. \_\_\_\_\_ follow the creativity-based engineering design process. 1 1 4 4  
 (A) Scientists (B) Engineers  
 (C) Team leader (D) Project manager
14. Hypothesis testing \_\_\_\_\_ method. 1 1 4 3  
 (A) Engineering (B) Scientific  
 (C) Addie (D) CDIO
15. The \_\_\_\_\_ of the data the system operates on is of the highest consideration when designing a reliable and fault tolerant architecture 1 1 4 4  
 (A) Security (B) Integrity  
 (C) Consistency (D) Reliability
16. \_\_\_\_\_ model is the generic process traditionally used by instructional designers and training developers. 1 1 4 3  
 (A) Scientific (B) Addie  
 (C) Riasec (D) CDIO
17. Engineering has helped society in health, technology, communication, development and \_\_\_\_\_. 1 1 5 6  
 (A) Space (B) Science  
 (C) Mathematics (D) Architecture
18. \_\_\_\_\_ leaders possess higher cultural intelligence 1 1 5 6  
 (A) Exclusive (B) Ethical  
 (C) Inclusive (D) Diverse

- |   |   |   |   |   |
|---|---|---|---|---|
| 19. How many principles guide an engineer to achieve sustainable development? | 1 | 1 | 5 | 7 |
| (A) 7   |   |   |   |   |
| (B) 8   |   |   |   |   |
| (C) 6   |   |   |   |   |
| (D) 5   |   |   |   |   |
- 
- |  |   |   |   |   |
|--|---|---|---|---|
| 20. When was the international engineering consortium established? | 1 | 1 | 5 | 1 |
| (A) 1945   |   |   |   |   |
| (B) 1937   |   |   |   |   |
| (C) 1942   |   |   |   |   |
| (D) 1944   |   |   |   |   |

**PART – B (4 × 10 = 40 Marks)**

Marks BL CO PO

Answer **ANY FOUR** Questions

- |   |    |   |   |   |
|---|----|---|---|---|
| 21. Discuss about the motivated functions which refer to intentional, conscious actions on the part of the artist or creator. | 10 | 2 | 1 | 1 |
| 22. Explain in detail on the desired attributes of an engineer.   | 10 | 2 | 1 | 1 |
| 23. Illustrate and explain about PLC in detail.   | 10 | 3 | 2 | 2 |
| 24. Describe in detail on John Holland's theory.  | 10 | 2 | 3 | 2 |
| 25. Explain in detail on how Addie model is useful for building training support tools.                                       | 10 | 2 | 4 | 2 |
| 26. Discuss in detail on engineers code of ethics.  | 10 | 2 | 5 | 8 |

**PART – C (1 × 15 = 15 Marks)**

Marks BL CO PO

Answer **ANY ONE** Question

- |   |    |   |   |   |
|---|----|---|---|---|
| 27. A diverse, equitable and inclusive workplace improves the environmental impact of a company. Discuss in detail on the ways to achieve the above mentioned environment.                              | 15 | 3 | 5 | 7 |
| 28. Discuss the strategic methods used by management and marketing professionals to help determine advertising schedules, price points, expansion to new product markets, packaging redesigns and more. | 15 | 3 | 2 | 3 |

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