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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 40th 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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