

**UNIVERSITY COLLEGE TATI (UCTATI)****FINAL EXAMINATION QUESTION BOOKLET**

COURSE CODE	: MPU 3252
COURSE	: INVENTION & INNOVATION
SEMESTER/SESSION	: SHORT SEMESTER 2024/2025
DURATION	: 1.5 HOURS

Instructions:

1. This booklet contains questions. Answer **50** questions.
2. All answers should be written in **OMR sheet**. Only use **2b** pencil.
3. Write legibly and draw sketches wherever required.
4. If in doubt, raise up your hands and ask the invigilator.

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO

THIS BOOKLET CONTAINS 13 PRINTED PAGES INCLUDING COVER PAGE

INVENTION AND INNOVATION (MPU 3252)

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1. Which of the following is **NOT** a main part of technology.
 - A. Subsystem
 - B. Tradeoff
 - C. Control
 - D. Systems

 2. Requirement is one of the core concepts of technology. Describe the meaning of requirement.
 - A. Making the produces as functional as it can be
 - B. The parameters placed on the development of a product or system
 - C. Sequence of actions used to combine resources in order to produce an output
 - D. The mechanism that use information to cause systems to change

 3. Indicate which one in the following products describe about innovation.
 - A. Washing machine that do normal washing & drying
 - B. Machine-based refrigerator which help preserve food and its nutrition
 - C. A candy that is supposed to help prevent tooth decay
 - D. Electronic calculator

 4. Cars, trains, and boats share a common characteristic: a critical subsystem essential for their operation. Tires, wheels, and hulls respectively interface with their operating environment, significantly impacting overall performance. Name the subsystem.
 - A. Guidance
 - B. Suspension
 - C. Support
 - D. Structure

 5. Identify the statement in the following which is **TRUE** about invention
 - A. Invention started long time ago in human history
 - B. Old man can't make an invention
 - C. The main purpose of invention is to make money
 - D. Invention is about repeated ideas

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6. Explain the main reason why was there a need for the invention or innovation.
 - A. Invention started long time ago in human history
 - B. Old man can't make an invention
 - C. The main purpose of invention is to make money
 - D. Invention is about repeated ideas

7. Name the oldest invention in human history.
 - A. Paper
 - B. Hand-made bricks
 - C. Wheel
 - D. Sword

8. Name the inventor who invented the telephone.
 - A. Thomas Edison
 - B. James Watt
 - C. Alexander Graham Bell
 - D. Wright Brothers

9. Choose a product in the following which is **NOT** an invention.
 - A. The self-stirring mug which keeps drink frothy and nicely blended
 - B. Laser keyboard that convert any surface into a keyboard
 - C. Ipod that can store more than 10,000 songs
 - D. Microwave that is used for rapidly heating previously-cooked food

10. Define the meaning of a '**system**'.
 - A. Making the products as functional as it can be
 - B. Sequence of actions used to combine resources in order to produce an output
 - C. A group of interrelated components designed collectively to achieve a common goal
 - D. A choice of one quality of another

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11. "Making a product using a plastic which would be cheaper rather than expensive aluminum"

The above situation describes about one the core concept of technology. Justify that concept.

- A. Trade off
- B. Optimization
- C. Controls
- D. Requirements

12. Name the inventor of incandescent light bulb.

- A. Thomas Edison
- B. Alexander Graham bell
- C. Albert Einstein
- D. Marie Curie

13. Structure is one of the subsystems in transportation. Give an example for structure.

- A. Steering wheel
- B. Tires on the road
- C. Boat hull
- D. Propeller

14. State the statement which is **NOT TRUE** about a system.

- A. When a part fails, the other parts will be affected
- B. Each part is working independently
- C. An example of a system is a hospital
- D. System has minor parts called as subsystem

15. Find out the statement in the following which is **TRUE** about innovation.

- A. People who do innovation are called as inventors
- B. Innovation is about development of existing product
- C. Telegram is example of innovation
- D. Innovation is a creation that does not exist before

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16. Choose the statement which is **NOT** a purpose of inventor's notebook.
- A. To record the initial ideas about the invention
 - B. As evidence to develop a case during patent-related lawsuit
 - C. To record the experimental test, results and observations
 - D. To write someone dairy
17. Transmission, gears and jet engine are examples of subsystems in transportation. Predict the subsystem.
- A. Suspension
 - B. Guidance
 - C. Propulsion
 - D. Support
18. Give an example of support for motorcycle.
- A. Chain
 - B. Helmet
 - C. Handle bars
 - D. Frame
19. Khadijah has invented the first solar food dryer cabinet for household. Explain the next step that she must do to protect her invention.
- A. Create the inventor's notebook
 - B. File a trademark for her invention
 - C. File a copy right for the invention
 - D. File a patent for her invention
20. Francis has invented a new process for recording music. Justify the intellectual property that he will likely to apply.
- A. Copyright
 - B. Trademark
 - C. Patent
 - D. Industrial design

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21. A street vendor is selling fake "TAG" watches. Identify the area of intellectual property that the TAG company would likely to seek remedy.
- A. Patent
 - B. Industrial design
 - C. Copyright
 - D. Trademark
22. Choose the **FALSE** statement about 'entrepreneurial inventors'.
- A. The inventors have business minded
 - B. The inventors no need to think on how to market their invention
 - C. The inventors might be independently wealthy
 - D. The inventors need to handle the management of a factory
23. Haziq has designed a uniquely shaped walker for senior citizen, which can be collapsed and used as a chair; Daniel's design is in commercial production under the name of Supportive Stroller. Determine two types of intellectual property that most likely apply to Daniel's creation.
- A. Patent and copyright
 - B. Trademark and industrial design
 - C. Copyright and industrial design
 - D. Patent and trademark
24. Identify the statement that is **TRUE** about patent.
- A. The ornament or shape of functional object, such as chair
 - B. The right to prevent others from copying od modifying creation works
 - C. A monopoly to make, use or sell an invention
 - D. A mark used to distinguish the source of goods or service

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25. Hazwan has published a new article in scientific journal. Justify the intellectual property that he will likely to apply.
- A. Patent
 - B. Trademark
 - C. Copyright
 - D. Industrial design
26. Identify the statement in the following that is **TRUE** about manufacturing an invention.
- A. The manufacturing is less risky and safer
 - B. There are chances that the profit will be lower than the investment
 - C. The financial reward is guaranteed higher
 - D. The inventors can collect the royalties once the invention is marketed
27. Differentiate between licensing and assigning an invention.
- A. Licensing is selling the right of invention for period of time meanwhile an assigning is the transfer of IP permanently to the assignee
 - B. Licensing is for inventors who do not want to take business risk meanwhile assigning invention is incredibly risky
 - C. In licensing, inventors will get periodic royalty payment meanwhile in assigning invention; inventors will get annual payment
 - D. Licensing is an agreement to protect the right of invention for a period of time meanwhile assigning is an agreement in which the inventors develop the invention for a period of time
28. Select the following which is **NOT** the way to market an invention.
- A. No need to protect your intellectual property
 - B. Read and identify any patent similar to the invention
 - C. Make connection with other entrepreneurs
 - D. Buy books regarding invention that focuses on making money

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29. Marketing an invention might be hard for new inventors. Choose the initial step that is suitable to market an invention.
- A. Develop a good prototype
 - B. Contact with supplier in order to manufacture the invention
 - C. Find someone who is interested to invest for the invention
 - D. Visit intellectual property office and apply for patent
30. Identify the following which is **NOT** a definition for technology literacy.
- A. Ability to describe the impact of technology on society
 - B. Ability to make decision about technology
 - C. Possession of basic literacy skills to solve technology problem
 - D. Ability to apply knowledge and skills for the benefit for society
31. Explain the reason why the basic technology literacy is very important to know.
- A. It is necessary to describe the basic technology system to society
 - B. It is necessary to make decision about technology and its impact
 - C. It is necessary to solve the technology problem
 - D. It is necessary to apply knowledge, skills for society's benefits
32. Every new technology advance or solution has some hidden or known negative effects. Discover a term for those negative effects.
- A. Implication
 - B. Trade-off
 - C. Limitation
 - D. Constrain
33. Explain the cause of negative effects that exist from the technical evolution.
- A. Smaller knowledge base and lack of communication
 - B. People do not know on how to optimize the uses of technology
 - C. More emphasis on a development of solution and less on implications
 - D. New problems created from the solutions

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34. Select the following which is **NOT** the impact of inventions on education.
- A. Massive production of educational books
 - B. Limited number of academicians
 - C. Low price of books
 - D. Easy to access information using internet
35. Productivity has been increased since technology was evolved. Identify the following which is **NOT** the reason of abrupt rise in productivity.
- A. The invention of electricity and light bulb
 - B. The unlimited existence of social media
 - C. The invention of machines
 - D. The invention of internal combustion engine
36. Predict the statement that is **FALSE** regarding technotrash.
- A. Technotrash can easily polluted the ground and groundwater supplies
 - B. Another term of technotrash is e-waste
 - C. Technotrash are not recyclable
 - D. The amount of technotrash has increased each year
37. Inventions in communication have major impacts on society. Choose which in the following is **NOT** an invention in the communication area.
- A. Television
 - B. Telegraph
 - C. Mobile phone
 - D. Books
38. Choose the invention that does not have any impact on human society 50 years ago.
- A. Compass
 - B. Mobile phone
 - C. Antibiotics
 - D. Printing press

39. Global warming is one of the negative impacts on environment. Identify the causes of global warming.

- I. Deforestation
 - II. Water pollution
 - III. Air pollution
 - IV. Outbreak of pandemic diseases
- A. I, II
 - B. I, III
 - C. II, III
 - D. III, IV

40. State three subsystems of transportation.

- I. Suspension
 - II. Process
 - III. Control
 - IV. Propulsion
- A. I, III, IV
 - B. I, II, IV
 - C. II, III, IV
 - D. I, II, III

41. Indicate which in the following are fast innovative products.

- I. Ceiling fan
 - II. Mobile phone
 - III. Digital camera
 - IV. Washing machine
- A. I, II
 - B. I, IV
 - C. II, III
 - D. III, IV

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42. Indicate the information that should be included in the inventor's notebook

- I. Possible product name
 - II. Product's features
 - III. An illustration of the product
 - IV. Discussion record pertaining the invention
- A. I, II, III
 - B. II, III, IV
 - C. I, II, III, IV
 - D. I, III, IV

43. Choose the statements that are **TRUE** about intellectual property.

- I. Intellectual property enables the inventors to earn financial benefit from the invention
 - II. Patent only can be applied for invention method
 - III. A music composer files a trademark for his song
 - IV. Trademark is legal term for ownership over literacy and artistic works
- A. I, III
 - B. II, III
 - C. I, II
 - D. III, IV

44. Select statements that are **TRUE** about trademark.

- I. Trademark is represented graphically
 - II. Trademark is capable of distinguishing the goods and service of one person from those of others
 - III. Trademark may include shapes of goods or color combinations
 - IV. Songs can be included as trademark
- A. I, II
 - B. II, IV
 - C. I, II, IV
 - D. I, II, III

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45. Determine two ways on how inventors can get profit from their inventions.

- I. By filling a patent for the invention
 - II. By marketing the invention
 - III. By selling the right of invention
 - IV. By manufacturing the invention
- A. I, II
 - B. III, IV
 - C. I, IV
 - D. II, III

46. Choose the statement that are **TRUE** about licensing an invention.

- I. The inventor who licenses his invention receives a percentage of total sales from manufacturer
 - II. The inventor has to deal with the management of a factory
 - III. It is advisable to patent the invention before licensing
 - IV. Licensing can be risky if the invention is not selling well
- A. I, III
 - B. I, IV
 - C. II, III
 - D. III, IV

47. Discuss the steps that are necessary to license inventor's inventions.

- I. Prepare a good prototype
 - II. Find people who are interested on the invention
 - III. Must select a catchy logo for the invention and get the trademark
 - IV. Present the invention to the licensee
- A. I, II, IV
 - B. I, II, III
 - C. II, III, IV
 - D. I, III, IV

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48. Internal combustion engine was one of the greatest inventions in history. Discuss the impacts of this invention to society.

- I. Global warming
 - II. Air pollution
 - III. No impact
 - IV. Water pollution
- A. I, IV
 - B. I, III
 - C. I, II
 - D. I, II, III, IV

49. Choose the statements which are **TRUE** about the impacts of human inventions on environment.

- I. The problems that occur now are the results of technology has just created
 - II. Most of the materials are not recyclable and creates landfill
 - III. Acid rain is one of the implications of human inventions
 - IV. The damages on environment can be treated in very short time
- A. I, II
 - B. II, III
 - C. II, IV
 - D. III, IV

50. Give examples of impacts of technology on our environment.

- I. Greenhouse gases
 - II. Increase in agricultural and forested land
 - III. Increased of paved area
 - IV. Run off problems
- A. I, II, III
 - B. I, III, IV
 - C. II, III, IV
 - D. I, II, IV

-----End of questions-----

