



**UNIVERSITY COLLEGE TATI (UCTATI)**

**FINAL EXAMINATION QUESTION BOOKLET**

COURSE CODE	: MPU 3252
COURSE	: INVENTION AND INNOVATION
SEMESTER/SESSION	: SEM 2; 2024/2025
DURATION	: 1 HOUR AND 30 MINUTES

**Instructions:**

1. This booklet contains **50** questions. Answer **ALL**.
2. All answers should be written in OMR form.
3. If in doubt, raise 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)

1. Among the following outline which one is **NOT** a core concept of technology
  - A) Subsystem
  - B) Trade off
  - C) Controls
  - 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. Car- tires on the road  
Train- wheels on the track  
Boat- Hull on the water

The above examples are about one of subsystems in the transportation. Name the subsystem

  - A) Guidance
  - B) Suspension
  - C) Support
  - D) Structure
5. State three subsystems of transportation
  - i. Suspension
  - ii. Process
  - iii. control
  - iv. propulsion

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- A) i, iii, and iv
- B) i, ii, and iv
- C) ii, iii, and iv
- D) i, ii and iii

6. Indicate which in the following are fast innovative products

- i. Ceiling fan
  - ii. Mobile phone
  - iii. Digital camera
  - iv. Washing machine
- A) i and ii
  - B) i and iv
  - C) ii and iii
  - D) iii and iv

7. Explain the main reason why was there a need for the invention or innovation

- A) To gain popularity
- B) To solve people's problems
- C) To make money
- D) To try new experience

8. Identify the statement in the following which is **TRUE** about invention

- A) Invention started long time ago in human history
- B) Old man can not make an invention
- C) The main purpose of invention is to make money
- D) Invention is about repeated ideas

9. Name the oldest invention in human history

- A) Paper
- B) Hand-made bricks
- C) Wheel
- D) Sword

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10. Name the inventor who invented the telephone

- A) Thomas Edison
- B) James Watt
- C) Alexandar Graham Bell
- D) Wright Brothers

11. Choose a product in the following which is 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

12. Define 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

13. 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

14. "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

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15. Name the inventor of incandescent light bulb

- A) Thomas Edison
- B) Alexander Graham Bell
- C) Albert Einstein
- D) Marie Curie

16. 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

17. 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

18. Transmission

Gears

Jet engine

The above examples are about one of subsystems in transportation. Predict the subsystem

- A) suspension
- B) guidance
- C) propulsion
- D) support

19. Give an example of support for motorcycle

- A) Chain
- B) helmet
- C) handle bars
- D) Frame

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20. 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
21. 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 and iii
  - B) ii, iii and iv
  - C) All above
  - D) i, iii, and iv
22. Khdijah 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
23. 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, and iii
  - B) ii and iii
  - C) i. and ii
  - D) iii and iv

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24. 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, and ii
  - B) ii and iv
  - C) i, ii and iv
  - D) i, ii and iii
25. 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
26. 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
27. 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

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28. 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 or 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

29. 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 and ii
  - B) iii and iv
  - C) i and iv
  - D) ii and iii

30. 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 and iii
  - B) i and iv
  - C) ii and iii
  - D) iii and iv

31. 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 and iv
  - B) i, ii and iii
  - C) ii, iii and iv
  - D) i, iii and iv

## INVENTION AND INNOVATION (MPU 3252)

32. 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 are independently wealthy
- D) The inventors need to handle the management of a factory

33. 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

34. 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

35. 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

36. 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

37. 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

38. 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

39. 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

40. 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) Constraint

41. 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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42. 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 and iv
  - B) i and iii
  - C) i and ii
  - D) All above
43. 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
44. 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
45. 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 and ii
  - B) ii and iii
  - C) ii and iv
  - D) iii and iv

46. Predict the statement that is **FALSE** regarding technottrash

- A) Technottrash can easily pollute the ground and groundwater supplies
- B) Another term of technottrash is e-waste
- C) Technottrash are not recyclable
- D) The amount of technottrash has increased each year

47. 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, and iii
  - B) i, iii, and iv
  - C) ii, iii and iv
  - D) i, ii, and iv

48. 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

49. 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

50. 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, and iii
  - B) i, and ii
  - C) ii and iii
  - D) iii and iv

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

