



UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER II
SESSION 2012/2013**

COURSE NAME : **ENGINEER AND SOCIETY**

COURSE CODE : **BFC32202**

PROGRAMME : **2 BFF / 3 BFF**

EXAMINATION DATE : **JUN 2013**

DURATION : **2 HOURS**

INSTRUCTION : **SECTION A: ANSWER ALL THE
QUESTIONS (50 MARKS)
SECTION B: ANSWER TWO (2)
QUESTIONS (50 MARKS)**

THIS QUESTION PAPER CONSIST OF EIGHT (8) PAGES

SECTION A

1. The word engineer comes from the Latin word "Ingenium" which means...
 - A. Innate quality particularly of mental and physical power
 - B. Innate quality particularly of mental power
 - C. Innate quality particularly of physical power
 - D. Innate quality particularly of human life

2. An Egyptian who becomes the earliest recorder Civil Engineer in the world that build The Great Pyramid of Djoser name:
 - A. Hammurabi
 - B. John Smeaton
 - C. Imhotep
 - D. Agrippa

3. The Accreditation Board for Engineering and Technology (ABET) defines engineering as:-
 - A. The profession in which knowledge of the mathematical and natural art gained by study and practice is applied with judgment to develop ways to utilize, economically, the materials and forces of nature for the benefit of mankind.
 - B. The profession in which knowledge of the civilization and natural sciences gained by study, experience, and practice is applied with judgment to develop ways to utilize, economically, the materials and forces of nature for the benefit of mankind.
 - C. The profession in which knowledge of the mathematical and natural sciences gained by study, experience, and practice is applied without judgment to develop ways to utilize, economically, the materials and forces of nature for the benefit of mankind.
 - D. The profession in which a knowledge of the mathematical and natural sciences gained by study, experience, and practice is applied with judgment to develop ways to utilize, economically, the materials and forces of nature for the benefit of mankind.

4. Below items lists the inventions during the Mesopotamians era except for:
 - A. The first wheel cart
 - B. The Ziggurat
 - C. Astrolabe
 - D. Pharos

5. The Greeks are well known for their contribution in:-
- A. The famous Comprehensive Code of Law
 - B. The canal construction that comprises the first engineering works (temples and city wall)
 - C. The construction of the tallest, broadest and most durable structure in the world-The Pyramids
 - D. The great harbor builder.
6. Interaction rules for engineer consist of etiquette, law, morals and ethics. Define the meaning of etiquette.
- A. Rules of acceptable personal behavior and courtesy when interacting with others in a social setting.
 - B. A system rules and punishments clearly defined and established by a society to maintain a safe and orderly social environment.
 - C. Personal rules of right and wrong behavior derived from a person's upbringing, religious beliefs and societal influences.
 - D. A code or system of rules defining moral behavior for a particular society.
7. Ethics can be divided into two main areas namely the personal ethics and professional ethics. Define the meaning of "professional ethics".
- A. An individual morality usually implies a set of internally held values
 - B. Personal rules of right and wrong behavior derived from a person's upbringing, religious beliefs and societal influences.
 - C. A shared understanding of proper conduct guidelines among a group of people
 - D. Rules of acceptable personal behavior and courtesy when interacting with others in a social setting.
8. Which of the following is incorrect for the Registered Engineer as be defined by the Board of Engineer (BEM):
- A. Graduate engineer registered under subsection 10 (1)
 - B. A professional engineer registered under subsection 10 (2)
 - C. Foreign Engineer registered under section 10 (1)
 - D. Accredited checker registered under section 10B
9. Engineering field is wide and had many branches. Which below are the engineering branches?
- A. Chemical
 - B. Civil
 - C. Mechatronics
 - D. Physics

10. Which department below is not involved with engineering work?
- A. Department of Public Work
 - B. Department of Agriculture
 - C. Malaysian Highway Authority
 - D. Department of Drainage and Irrigation
11. Which below was **not** the career for an engineer?
- A. Operational
 - B. R&D
 - C. Entrepreneur
 - D. Farmer
12. The statement below was the engineering role in staffing
- i. Recruitment, selection, placement, training and development for team members.
 - ii. Prepare the job scope for each staff.
 - iii. Be a manager to all staff.
 - iv. Explain to team members the expectations and how their works can fit into the project
- A. i, and iii
 - B. ii and iii
 - C. ii, iii and iv
 - D. i, ii, iii and iv
13. The duties of Resident Engineer's are :
- A. To supervise the Works and check that they are executed to correct line and level and that the materials and workmanship comply with the Specification.
 - B. To be a site supervisor on behalf of the contractor.
 - C. To act as an S.O and verify the changes of drawings.
 - D. To be a project manager on site.
14. What is Client role in the construction project?
- A. As an Architect for the project.
 - B. As the funder for the project.
 - C. As an S.O for the project
 - D. As a manager for the project.

15. What is the role of engineer for future development of Malaysia?
- A. As an agent of development and nation builders.
 - B. Be a good citizen to ensure the stability of the nation
 - C. Being in good manner to harmonize the nation.
 - D. Being an ordinary person and move as it flows.
16. The statement bellows is an environment issue in the civil engineering world **except**:
- A. Environmental Performance Index (EPI) ranks countries on performance indicator tracked across policy categories that cover both environmental public health and ecosystem vitality.
 - B. These indicators provide a gauge at a national government scale of how close countries are to established environmental policy goals.
 - C. Based (EPI) 2012, Malaysia is ranked the 25th position.
 - D. Acid rain affects vegetation and also destroys limestone structures, which includes many old buildings.
17. Which of the following the excess chemical affects to the environment.
- A. Smoke, smog, and from vehicles and factories.
 - B. Loss of the ozone layer due to chlorine radicals from CFC compounds and other man-made compounds, causing arising incidence of skin carcinoma.
 - C. Overuse of pesticides can not only produce immunized pests but also destroy the very predators of pests.
 - D. Hazardous chemicals released into the air, includes benzene and nitric compounds.
18. Which of the followings can be causing affects to the environments by climate change?
- A. Acidified precipitation due to factory pollutants.
 - B. Urban crawl and mega-projects all create a microclimate disruption that can affect vegetation and wildlife.
 - C. Low quality air in enclosed areas such as buildings due to bad design.
 - D. In most developing nations, there are no facilities for proper hazardous waste disposal.
19. The statement bellows which is **wrong** regarding the habitats and land.
- A. Traditional slash-and-burn agriculture destroys small tracts of forests
 - B. Loss of soil leads to erosion and loss of the land's ability to support life.
 - C. Bigger culprits would be corporations, which opt for burning vegetation as the method for land clearing.
 - D. Large-scale human development has disrupted the natural cycle of water.

20. Environmental damage occurs by the human activities. Which of the following is true related to the people problem?
- i. Changes in lifestyle and leisure activities are causing an increase in the incidence of hearing loss, especially among youth.
 - ii. A high growth rate puts stress on infrastructure and society, more so if living conditions are barely adequate.
 - iii. Humans have also unwittingly produced pesticide-resistant pests and antibiotic-resistant bacteria.
 - iv. Nations still do not have the political and social will to change for the better.
- A. i, ii and iii
B. ii, iii and iv
C. i, ii and iv
D. All of above
21. The international conventions on the environment such as United Nations Environment Program (UNEP) and which of the followings is truly related to the UNEP'S activities?
- i. Environmental impact assessment (EIA).
 - ii. Environmental and Natural Resource Accounting.
 - iii. Environmental Assessment and Information Networks.
 - iv. Environmental Education and Awareness.
- A. i, ii and iii
B. ii, iii and iv
C. i, ii and iv
D. All of above
22. The objectives the Malaysian Super Corridors (MSC) environment guidelines are:
- i. Maintain a top quality of life and provide a world-class working atmosphere.
 - ii. Emphasize pollution-prevention strategies rather than curative measures.
 - iii. Minimize the impact of industry and enterprises within the MSC.
 - iv. Maintain the earthworks and cutting must be minimal as development should follow the contours of the land.
- A. i, ii and iii
B. ii, iii and iv
C. i, ii and iv
D. All of above

23. The expected benefits from an EMS include:
- i. Improved overall environmental performance
 - ii. Identification of pollution prevention opportunities
 - iii. Enhanced operational control and efficiency
 - iv. Improved external relations and public image
- A. i, ii and iii
 - B. ii, iii and iv
 - C. i, ii and iv
 - D. All of above
24. Researchers using their expertise in finding new materials or better way of doing things in terms of _____ or _____
- i. Cost effectiveness
 - ii. Time-saving
 - iii. Pattern
 - iv. Markets
- A. i and ii
 - B. i and iii
 - C. ii and iv
 - D. iii and iv
25. Which of the following is correct?
- i. Fundamental Research is the basic in research
 - ii. Fundamental Research is the basis for many commercial products
 - iii. Applied Research is the practical application of science
 - iv. Applied Research is the basis for many commercial products
- A. i and iii
 - B. i and iv
 - C. ii and iii
 - D. ii and iv

SECTION B

- Q1** (a) The members of the Institution of Engineer Malaysia is committed to IEM Codes of Ethics. State **three (3)** codes of ethics for engineers. (6 marks)
- (b) Over the year, development of mega construction projects makes Malaysia well known in the world. Every professional play their respective role in their specific areas to ensure the success of planned development project.
- i. Name **five (5)** mega construction projects in Malaysia in between the year 1985-2000. (5 marks)
- ii. As an engineer, explain how you should play your role in management function to ensure the success of planned development project. (14 marks)
- Q2** (a) Construction site is a place that the Civil Engineers work. It involves several parties. Explain **five (5)** parties involve in construction project. (5 marks)
- (b) An engineer is a professional practitioner of engineering, concerned with applying scientific knowledge, mathematics, and ingenuity to develop solutions for technical problems. Describe **six (6)** career fields for engineers. (12 mark)
- (c) In managing the project, pre-contract and post contract phase are the crucial time to involve. Differentiate Pre-Contract and Post-Contract duties for engineers. (8Marks)
- Q3.** (a) Discuss the key elements of an engineer's responsibility in future development. (5 marks)
- (b) In your opinion, how engineer can improve the quality of sustainability in developing terrace houses in Malaysia. (8 marks)
- (c) Intellectual Property (IP) refers to creations of the mind: inventions, literary and artistic works, and symbols, names, images, and designs used in commerce. Discuss the implications of Intellectual Property in developing or creating a new product or solution for the benefit of mankind. (12 marks)

-END OF QUESTION-