



**UNIVERSITI KUALA LUMPUR
Malaysia France Institute**

**FINAL EXAMINATION
JANUARY 2014 SESSION**

SUBJECT CODE	:	NCB 10202
SUBJECT TITLE	:	ENGINEERING PRACTICE AND PROFESSIONALISM
LEVEL	:	BACHELOR
TIME / DURATION	:	9:00am – 11:00am (2 HOURS)
DATE	:	28 MAY 2014

INSTRUCTIONS TO CANDIDATES

1. Please read the instructions given in the question paper **CAREFULLY**.
 2. This question paper is printed on both sides of the paper.
 3. Please write your answers on the answer booklet provided.
 4. Answer should be written in blue or black ink except for sketching, graphic and illustrations.
 5. This question paper consists of **FIVE (5) questions**. Answer **FOUR (4) questions ONLY**.
 6. Answer all questions in English.
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THERE ARE 5 PAGES OF QUESTIONS, EXCLUDING THIS PAGE.

INSTRUCTION: Answer FOUR (4) questions only.

Please use the answer booklet provided.

Question 1

Engineers tend to practice their profession as member of teams, led and managed by senior engineers who are also an employees in the organization.

(a) Discuss how teamwork can be useful in solving engineering problems.

(5 marks)

(b) Discuss how the mentoring practice in engineering can support new/junior engineers.

(10 marks)

(c) Discuss the importance of Mentoring (mentor- mantee and Student Advisor) Program in higher education institution like UniKL.

(10 marks)

Question 2

Critical thinking involves in ones ability to engage in reflective and independent thinking. Someone with critical thinking skills is able to understand the logical connections between ideas.

(a) Explain how by thinking “out-of-the-box” can lead to an innovative ideas.

(8 marks)

(b) Communicating and presenting innovative ideas to others requires skills and practice. Suggest some useful methods to be considered in explaining the new ideas to others.

(7 marks)

(c) Students are required to undertake the Engineering Final Year Project before graduating, and the project will normally consists of all the elements of knowledge and understanding of the whole of educational program throughout their study. Suggest on how student could innovatively plan for his/ her project success.

(10 marks)

Question 3

Students are required to develop the ability to apply problem-solving skills when faced with issues or problems that are new to them. Firstly, student needs to evaluate and understands the problem.

(d) Discuss the process involves in evaluating the problem.

(8 marks)

(e) Explain the concept of the Cause and Effect Diagrams (Ishikawa/ Fishbone) as one of the problem-solving method.

(7 marks)

(f) The final stage of problem-solving is examining the results. Discuss how students review the problem and the problem-solving process in terms of completing group assignment in laboratory report submission.

(10 marks)

Question 4

Experimental work is an important part of an engineering students's education. It is no surprise that ethical issues often arise in the course of laboratory work. Most ethical issues in experimentation relate to honesty in reporting results. In some cases, results been changed or "altered" to suits the desired results. Sometimes, it seems easier to "dry run" an experiment by recording measurement and results in lab book even though the experiment has not been conducted, can be possible with a great help from senior's previous results.

Reaching to the end of academic semester, students are pressured to assignment submission datelines and preparing for their examinations. Cheating is an issue that is likely to have arisen in educational setting even before students began their quest in engineering.

(a) Discuss how student can plan for a successful laboratory assignment submission.

(7 marks)

(b) How can students highlight honesty in preparing and submitting the laboratory report/ assignment.

(8 marks)

(c) Students can be divided into small groups to undertake class assignments or projects. Discuss how the team can delegate task to plan for the success for the group.

(10 marks)

Question 5

Lifelong learning is an ongoing, voluntary, and self-motivated pursuit or search of knowledge for either personal or professional reasons.

- (a) Explain how lifelong learning can supports personal development, competitiveness and emplyability of an employee.

(7 marks)

- (b) Discuss how the students can plan for their lifelong learning after graduation.

(8 marks)

- (c) Understanding the profesionalism that invoved in engineering profession, discuss the importance of achieving Professional Engineer (P.E.) status.

(10 marks)

END OF QUESTION