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UNIVERSITI TUN ABDUL RAZAK

FINAL EXAMINATION
NOVEMBER 2023

COURSE TITLE	**SOFTWARE TESTING AND MAINTENANCE**
COURSE CODE	**RCIT4743**
DATE/DAY	**20 FEBRUARY 2024 / TUESDAY**
TIME/DURATION	**09:00 AM - 11:00 AM / 02 Hour(s) 00 Minute(s)**

INSTRUCTIONS TO CANDIDATES :

1. Please read the instruction under each section carefully.
2. Candidates are reminded not to bring into examination hall/room any form of written materials or electronic gadget except for stationery that is permitted by the Invigilator.
3. Students who are caught breaching the Examination Rules and Regulation will be charged with an academic dishonesty and if found guilty of the offence, the maximum penalty is expulsion from the University.

(This Question Paper consists of **6** Printed Pages including front page)

DO NOT OPEN THE QUESTION PAPER UNTIL YOU ARE TOLD TO DO SO

This question paper consists of TWO (2) sections. Answer ALL questions in the answer booklet provided. **[50 MARKS]**

SECTION A **(20 Marks)**

There are TWENTY (20) questions on this part of the examination paper. Answer ALL questions in the answer booklet.

1. What is the primary goal of software testing?
   A. Developing software
   B. Finding bugs
   C. Writing code
   D. Debugging

2. Which testing phase is responsible for ensuring that the software works well in the production environment?
   A. Unit testing
   B. Integration testing
   C. System testing
   D. Acceptance testing

3. Which testing level verifies if different components can work together?
   A. Unit testing
   B. Integration testing
   C. System testing
   D. Regression testing

4. What is the purpose of regression testing?
   A. Finding defects
   B. Verifying if new changes break existing functionality
   C. Validating the entire system
   D. Executing test cases for the first time

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10. What is equivalence partitioning used for in testing?

    A. Identifying security vulnerabilities

    B. Generating test cases based on input conditions

    C. Testing user interface components

    D. Verifying system performance

11. What is the primary goal of software maintenance?

    A. Developing new feature

    B. Fixing bugs

    C. Enhancing performance

    D. All of the above

12. Which type of maintenance involves making changes to the software to adapt it to changes in the environment?

    A. Adaptive maintenance

    B. Corrective maintenance

    C. Perfective maintenance

    D. Preventive maintenance

13. What does "Software Evolution" refer to in the context of software maintenance?

    A. Developing new software

    B. Adapting software to changing requirements

    C. Complete re-implementation of software

    D. Fixing bugs in the software

14. What is the purpose of reverse engineering in software maintenance?

    A. Identifying defects

    B. Re-implementing the software

    C. Understanding and documenting existing code

    D. Developing new features

20. What is the primary focus of iterative enhancement in software maintenance?

    A. Correcting defects

    B. Enhancing performance

    C. Adding new features gradually

    D. Adapting to changes in the environment

SECTION B   (30 Marks)

There are TWO (2) questions in this part of the examination paper. Answer ALL questions in the answer booklet.

1. Equivalence partitioning is one of the testing techniques in the black box testing.

    a) Define the concept of equivalence partitioning in software testing.

    (3 marks)

    b) Provide ONE (1) example scenario of equivalence partitioning in software testing.

    (8 marks)

    c) Describe how the example in Q1(b) aids in designing efficient test cases.

    (4 marks)

2. Re-engineering is one of the techniques that could be applied in software maintenance.

    a) Define the concept of re-engineering in software maintenance.

    (3 marks)

    b) List down the EIGHT (8) layers of the source code re-engineering reference model.

    (8 marks)

    c) Describe TWO (2) functions that can be performed by ONE (1) of the layers mentioned in Q2(b).

    (4 marks)

*** END OF QUESTION PAPER ***