UTHM
Universiti Tun Hussein Onn Malaysia

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

FINAL EXAMINATION
SEMESTER II
SESSION 2015/2016

COURSE NAME	:	SOFTWARE ENGINEERING
COURSE CODE	:	BIT 10103
PROGRAMME CODE	:	BIT
EXAMINATION DATE	:	JUNE / JULY 2016
DURATION	:	3 HOURS
INSTRUCTIONS	:	A) ANSWERS ALL QUESTIONS
		B) WRITE YOUR ANSWER FOR SECTION A IN OMR FORM AND SECTION B IN ANSWER SCRIPT

THIS QUESTION PAPER CONSISTS OF **ELEVEN(11)** PAGES

SECTION A

Instruction: Choose the BEST answer for each of the following questions.

Q1 The following are good attributes for a software **EXCEPT** _____.
A. a software with only functionality criteria
B. a software with a minimum performance functionality criteria
C. a software which can be maintainable and usable
D. a software which can be dependable

(2 marks)

Q2 Fundamental activities in software engineering consist of _____.
A. Communication, Planning, Modeling, Construction and Deployment
B. Inception, Elaboration, Construction and Transition
C. Specification, Development, Validation and Evolution
D. People, Product, Process and Project

(2 marks)

Q3 The first step to accomplish the objectives of software engineering is to _____.
A. list of the milestones to indicate progress
B. list the task to be accomplished
C. list the quality assurance filters to be applied
D. list the work products to be produced

(2 marks)

Q4 A consistent method for describing problem solutions within the context of the software process is called _____.
A. Risk Management
B. Design Pattern
C. Software Process Model
D. Software Quality Assurance

(2 marks)

Q5 SPICE (ISO/IEC15504) and ISO 9001:2000 are software standard for _____.
A. Design Pattern Best Practice
B. Management Organization Best Practice
C. Quality Assurance Software Development
D. Process Assessment and Improvement

(2 marks)

Q6   The following are software process models that adapt changes during software development **EXCEPT** _____.
A. Agile
B. Incremental
C. Evolutionary
D. Unified Process

(2 marks)

Q7   What is the **MOST** important aspect in managing a project?
A. Stakeholders of a project must cooperate in certain processes to have a success product delivered.
B. Practitioners who deliver the technical skills that are necessary to engineer a product or application.
C. Electronic communication used by stakeholder in an organization.
D. Software project must be unambiguous and understandable at the management and technical levels.

(2 marks)

Q8   A project management confront trouble if these situations occur **EXCEPT** _____.
A. Business needs change
B. Deadlines are realistic
C. Users are resistant
D. Sponsorship is was never properly obtained

(2 marks)

Q9   Choose the BEST combination of principles to schedule project activities.
i) Compartmentalization
ii) Interdependency
iii) Time allocation
iv) Defined milestones
A. i and ii
B. i, ii and iii
C. iii, and iv
D. i, ii, iii and iv

(2 marks)

Q10   Sequence interdependencies of individual task and subtask must be scheduled using
_____.

A. Gantt Chart
B. Timeline Chart
C. Task Network
D. Software Process Model

(2 marks)

Q11   Earned Value Analysis (EVA) is a qualitative analysis to measure _____.

A. Task
B. Progress
C. Milestone
D. Process

(2 marks)

Q12   Items required in generating Gantt and Timeline chart include _____.

i) task effort
ii) end date task
iii) start date task
iv) task complexity

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

(2 marks)

Q13   Risk management need to be identified, _____.

A. before problem occur
B. after problem solve
C. when problem occur
D. no risk occur

(2 marks)

Q14 _____ threatens the quality and timeliness of the software product.

    A. Project Risk
    B. Technical Risk
    C. Business Risk
    D. Known Risk

            (2 marks)

Q15 Which sequence of Risk Management Paradigm is **CORRECT**?

    A. Identify, Analyze, Plan, Track, Control.
    B. Analyze, Identify, Plan, Track, Control.
    C. Plan, Identify, Track, Control, Analyze.
    D. Track, Identify, Analyze, Plan, Track.

            (2 marks)

Q16 The following are components in risk management **EXCEPT** _____.

    A. Performance
    B. Cost
    C. Process
    D. Schedule

            (2 marks)

Q17 Project Manager that reacts during risks occurrence is adapting _____.

    A. Proactive Risk Management
    B. Deactivate Risk Management
    C. Reactive Risk Management
    D. Inactive Risk Management

            (2 marks)

Q18 Arrange the following steps of risk projection in correct order.

    i)   establish a scale that reflects the perceived likelihood of a risk
    ii) delineate the consequences of the risk
    iii) note the overall accuracy of the risk projection so that there will be no misunderstanding
    iv) estimate the impact of the risk on the project and the product

    A. i, ii, iii, iv
    B. ii, iii, i, iv
    C. iv, i, ii, iii
    D. i, ii, iv, iii

(2 marks)

Q19 _____ is **NOT** a process in project quality management.

    A. Quality Planning
    B. Quality Process
    C. Quality Control
    D. Quality Assurance

(2 marks)

Q20 Which of the following steps is the correct order in Project Quality Management?

    A. Planning, Executing, Control and Monitoring
    B. Control, Monitoring, Planning and Executing.
    C. Monitor, Control, Planning and Executing.
    D. Executing, Monitor, Planning and Executing

(2 marks)

Q21 Quality plan consist of desired information on _____.

    A. product risk and how these are assessed
    B. product qualities and how these are assessed
    C. process risk and how these are assessed
    D. process qualities and how these are assessed

(2 marks)

Q22 _____ is a document that list all software functional and non-functional requirements.

    A. Software Design and Architecture document
    B. Software Requirement Specification document
    C. Software Quality Assurance document
    D. Software Project Management document

<div align="right">(2 marks)</div>

Q23 Which of the following is a good statement of a requirement?

    A. A need to have a user friendly interface.
    B. All interface must appear on the screen quickly
    C. If any emergency case occur, the backup battery must remain 20 minutes long.
    D. The replacement control system shall be installed without disruption to production

<div align="right">(2 marks)</div>

Q24 "After 3 attempt to log in, user must be locked out of the system."

    This statement is _____.

    A. User requirement
    B. System requirement
    C. Domain requirement
    D. Process requirement

<div align="right">(2 marks)</div>

Q25 Which of these statements is a non-functional requirement?

    A. The administrator must secured using 2 level identification.
    B. The registration must completed automatically.
    C. The system must show the debt remainder amount.
    D. User need to respond to system using check box interface.

<div align="right">(2 marks)</div>

Q26 Which of these is NOT a non-functional requirement of a product?

    A. Performance.
    B. Legislative.
    C. Reliability.
    D. Process Standard.

(2 marks)

Q27 Problems of a requirement do not occur when _____.
    A. stakeholders express requirements in their own terms
    B. different stakeholders may have conflicting
    C. political factors may not influence the system requirements
    D. the requirements change during the analysis process

(2 marks)

Q28 In specifying requirements in Requirement Specification document, _____ perspective is used to see the implication of scenario.

    A. scenario-based
    B. class-based
    C. flow-based
    D. behavioral-based

(2 marks)

Q29 Design development must obey the following principles **EXCEPT** _____.

    A. its process should not suffer from 'tunnel vision'
    B. it should be traceable to the analysis model
    C. it should be both complete and consistent
    D. it should not reinvent the wheel

(2 marks)

Q30 **Figure Q34** shows elements in a/an _____ process.

┌─────────────────────────────────┐
│ 1.Data model   │
│ 2.Architectural elements   │
│ 3.Application domain   │
│ 4.Interface elements   │
│ 5.Component elements   │
└─────────────────────────────────┘
Figure Q34

  A. requirement
  B. analysis
  C. design
  D. construction

(2 marks)

Q31 _____ is a process of finding fault in an implementation.

  A. Software analysis
  B. Software design
  C. Software testing
  D. Software deployment

(2 marks)

Q32 Testing a product from beginning of the project occurs in _____development model.

  A. Spiral
  B. Waterfall
  C. Verification and Validation
  D. Incremental

(2 marks)

Q33 Following statements describe good testing practice **EXCEPT** _____.

  A. it has a high probability of finding an error
  B. it should not redundant
  C. it should be neither too simple nor too complex
  D. it should test until no bugs found

(2 marks)

Q34 What are the aspects considered in implementing Black Box testing?

    A. All conditions or paths need to be tested at least once.
    B. Logic of the system functions.
    C. Validity of system functionality.
    D. Specific looping of system operating.

          (2 marks)

Q35 The following are principles in software measurement **EXCEPT** _____.

    A. The objectives of measurement should be established before data collection begins
    B. Each technical metric should be defined in an unambiguous manner
    C. Metrics should be derived based on a quality application
    D. Metrics should be tailored to best accommodate specific products and processes

          (2 marks)

SECTION B

Q36   (a) Use a diagram to describe the waterfall model of software development.

(5 marks)

(b) Discuss **ONE (1)** strength of the waterfall model.

(2 marks)

(b) Determine which software process model suitable of the following projects.

(i)   an incremental compiler for Java

(2 marks)

(ii) a clinical-record-keeping system for dentists

(2 marks)

(iii) a word-processing package

(2 marks)

(iv) a guidance system for a safe landed airplane

(2 marks)

Q37   (a) Use a diagram to describe the spiral model of software development.

(7 marks)

(b) Give **TWO (2)** examples of software engineering tasks that can benefit from using Spiral Model.

(4 marks)

(c) Determine which software development model that suitable in developing security-critical system.

(2 marks)

(d) Give an example of integration between security requirements engineering and assurance processes to the answer in **Q37(c)**.

(2 marks)

-END OF QUESTION -