

PAST PAPERS

Faculty	Department / Section / Division
Not Applicable	Learning Resource Centre

Past Papers

Faculty of Engineering and Technology
Department of Information Technology

BSc. (Hons) in Software Engineering

End Semester Examination

(Year 2 – Semester II)

Document Control & Approving Authority	Senior Director – Quality Management & Administration
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CINEC Campus
Faculty of Engineering and Technology
Department of Information Technology
BSc (Hons) in Software Engineering
IT_UGC_001/IT_IFLS_001



Year 2 Semester 2

SEMESTER END EXAMINATION

Software Project Management- SE2204

- There are EIGHT (08) questions in this paper.
- This paper contains three (03) pages.
- Excluding the Compulsory question-answer any four (04) questions.
- You may use appropriate graphs, diagrams, equation/s to prove or justify the answers.
- If you have any doubt as to the interpretation of the wording of a question, make your own decision, but clearly state it on the script.

Date: 2022.10.19

Time: 03 Hour

Question 01: (Compulsory)

(20 Marks)

1. Explain the term "Projects" (04 Marks)
2. Write FOUR) Characteristics of Projects. (08 Marks)
3. Write four (04) Skills/ Attitudes to be available in a Project Manager. (08 Marks)

Question 02

(20 Marks)

1. What is Project Planning? (04 Marks)
2. Explain WBS(Work Break Down Structure) using an Example (04 Marks)
3. What is a " Milestone" in Projects? Explain. (04 Marks)
4. Explain "Critical Path" using an Example (04 Marks)
5. What is the Duration of an Activity? (04 Marks)

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Question 03**(20 Marks)**

1. What is Quality in "Software"? Explain. (04 Marks)
2. Write the Purpose of Managing the 'Quality' in Software (04 Marks)
3. Write three (03) Stages of Quality Process. (06 Marks)
4. Explain the "Pareto Analysis" with an example (06 Marks)

Question 04**(20 Marks)**

1. What is the Purpose of having a "Team"? Explain. (06 Marks)
2. Explain the Life Cycle of Team Building. (08 Marks)
3. Write three (03) Factors identified by Belbin (06 Marks)

Question 05**(20 Marks)**

Write a paragraph mentioning the importance of having a good Human Resources Management in a Project Team. Highlight five (05) important points there.

Question 06**(20 Marks)**

1. Explain what is "Project Controlling". (04 Marks)
2. Write three (03) main factors to be controlled in a Project. (06 Marks)
3. Write five (05) advantages of having a proper control in a Project. (10 Marks)

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Question 07

(20 Marks)

1. Explain the meaning of " Risk" and state the Importance of having a proper Risk Management in a Project. (05 Marks)
2. Write five (05) points could be included in a Risk Register (05 Marks)
3. Briefly explain risk response techniques. (10 Marks)

Question 8

(20 Marks)

1. Write four (04) types of contacts that can be used in different situations. (04 Marks)
2. Write four (04) advantages of having outsourcing in terms of acquiring goods to the organization. (08 Marks)
3. Write five (05) steps of conducting a procurement. (08 Marks)

-----END OF THE QUESTION PAPER-----



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Year 2 Semester 2

SEMESTER END EXAMINATION

Advanced Database Systems – IT2210

- There are EIGHT (08) questions in this paper.
- This paper contains six (06) pages.
- Excluding the Compulsory question-answer any four (04) questions.
- You may use appropriate graphs, diagrams, equation/s to prove or justify the answers.
- If you have any doubt as to the interpretation of the wording of a question, make your own decision, but clearly state it on the script.

Date: 2022.10.17

Time: 03 Hour

Question 01: (Compulsory)

(20 Marks)

1. Which index file organization allows us to read records that would satisfy the join condition by using one block read? (01 Mark)
2. Write two (02) characteristics of index? (02 Marks)
3. Briefly the main three (03) components of the disk? (03 Marks)
4. Explain what the buffer manager must do to process a read request for a page. (03 Marks)
5. What is extendible hashing? (03 Marks)
6. Write two (02) characteristics of classification in data mining. (04 Marks)
7. Write down two (02) applications of Naïve Bayes and Decision Tree respectively. (04 Marks)

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Question 02**(20 Marks)**

1. Consider the following relations containing airline flight information:

Flights (*fno*: integer, *from*: string, *to*: string, *distance*: integer, *departs*: time, *arrives*: time, *price*: integer)

Aircraft (*aid*: integer, *aname*: string, *cruisingrange*: integer)

Certified (*eid*: integer, *aid*: integer)

Employees (*eid*: integer, *ename*: string, *salary*: integer)

Note that the *Employees* relation describe pilots and other kinds of employees as well; every pilot is certified for some aircraft (otherwise, he or she would not qualify as a pilot), and only pilots are certified to fly.

Write each of the following queries in SQL.

- Find the names of aircraft such that all pilots certified to operate them earn more than \$80,000. (03 Marks)
- For each pilot who is certified for more than three aircraft, find the *eid* and the maximum *cruisingrange* of the aircraft for which she or he is certified. (03 Marks)
- Find the name of pilots certified for some Boeing aircraft. (04 Marks)
- Write a trigger (called *tr_FlightStatus*) to monitor changes of status (delay, cancel..) in *Flights* table.

Your trigger should insert a record to *FlightsChanges* table only for each modification of status of *Flights* in order to track the changes.

FlightsChanges (*chid*, *fno*, *newStatus*, *datetime*)

Note that the *FlightsChanges* table contains flight number (*fno*), new status (*newStatus*), changed date and time (*datetime*) and change identifier (*chid*) as primary key. The identify property has been set to the attribute *chid* in order to generate numbers automatically. (10 Marks)

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Question 03**(20 Marks)**

1. Briefly explain the "*next block concept*" in terms of data storage in a disk.
(03 Marks)
2. Consider a disk with a sector size of 512 bytes, 2000 tracks per surface, 50 sectors per track, 5 single-sided platters, average seek time of 10 msec. Two sectors consider as a one disk block.

(It is not necessary to simplify the answers.)

- i. What is the capacity of a track in blocks? (02 Marks)
 - ii. What is the capacity of each surface in blocks? (02 Marks)
 - iii. What is the capacity of the disk in blocks? (02 Marks)
 - iv. If the disk platters rotate at 5400rpm (revolutions per minute), what is the *maximum* rotational delay? (02 Marks)
 - v. Assuming that one track of data can be transferred per revolution, what is the transfer rate in block per second? (02 Marks)
3. Explain the following terms:
Buffer manager, pin count, dirty bit (07 Marks)

Question 4**(20 Marks)**

1. If an index contains data records as "data entries", is it clustered or unclustered? Dense or sparse? (03 Marks)
2. Mention the basic index file organizations would you choose for a file where the most frequent operations are as follows: (03 Marks)
 - a. Search for records based on a range of field values.
 - b. Perform inserts and scans where the order of records does not matter.
 - c. Search for a record based on a particular field values.
3. Briefly explain why a relation cannot have more than 1 clustered index. (04 Marks)

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4. Briefly explain two disadvantages that exist in *static* hashing. (04 Marks)

5. Briefly explain the following terms:

- a. Clustered indexes
- b. Dense indexes

(06 Marks)

Question 05

(20 Marks)

1. Briefly explain the major steps in Query Processing

(06 Marks)

2. Consider the following schema:

Emp(eid: integer; ename:string; age:integer; pno:integer)
Proj(pno:integer; pname:string; budget:float)

Consider the following query:

```
SELECT Emp.ename
FROM Emp,Proj
WHERE Emp.pno = Proj.pno AND
      Proj.budget >1000000
```

a. Create the relational algebra expression for the query above. (04 Marks)

b. Draw the graphical representation of the relational algebra expression.

(04 Marks)

c. What indexes would you suggest to speed up the query and briefly explain the query plan you consider. (06 Marks)

Question 06

(20 Marks)

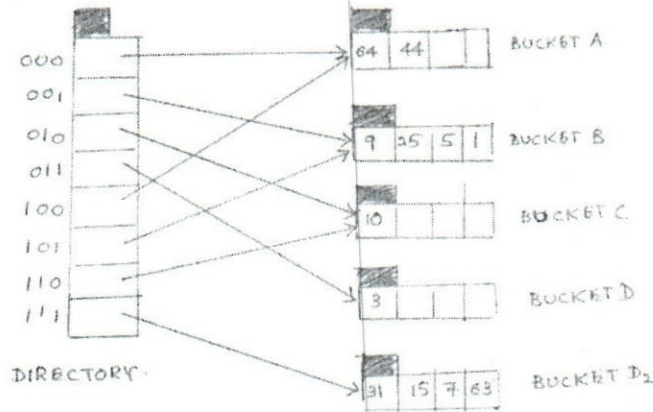
1. Why are hash files very fast equality selections but not for range selections?

(02 Marks)

2. Briefly explain two disadvantages that exist in static hashing compared to dynamic hashing. (02 Marks)

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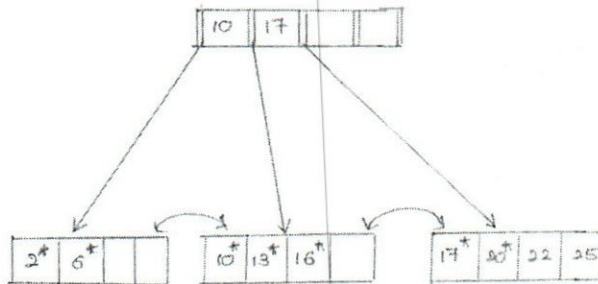
3. Consider the following extendible hashing index. The hashing function considers the last 2 digits of the binary representation.



Show the extendible hashed file after inserting 29.

(06 Marks)

4. Consider the following B+ tree of order 4.



- i. Illustrate the B+ tree after deleting 10. (03 Marks)
- ii. Illustrate the B+ tree after deleting 6 from original tree. (03 Marks)
- iii. Illustrate the B+ tree after inserting 30 into original tree. (04 Marks)

(03 Marks)

(03 Marks)

(04 Marks)

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Question 07

(20 Marks)

1. What is the Data warehouse? (03 Marks)
2. How is a data warehouse different from a database? (04 Marks)
3. What are the benefits of Data warehouse? (04 Marks)
4. What are the some of the data mining techniques? (04 Marks)
5. Describe challenges to data mining regarding data mining methodology and user interaction issues. (05 Marks)

Question 8

(20 Marks)

Briefly explain below terms.

(05* 04 Marks)

- a. Primary Index
- b. Primary Sparse Index
- c. Spanned File Organization
- d. Data Mining
- e. Buffer Manager

-----END OF THE QUESTION PAPER-----



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Year 2 Semester 2

SEMESTER END EXAMINATION

Web Architectures – IT2209

- There are EIGHT (08) questions in this paper.
- This paper contains six (06) pages.
- Excluding the Compulsory question-answer any four (04) questions.
- You may use appropriate graphs, diagrams, equation/s to prove or justify the answers.
- If you have any doubt as to the interpretation of the wording of a question, make your own decision, but clearly state it on the script.

Date: 2022.10.14

Time: 03 Hour

Question 01: (Compulsory)

(20 Marks)

- (a) (i) List two (02) services provided by the internet. (02 Marks)
(ii) Define the parts of a *URL* using an example. (02 Marks)
- (b) (i) Briefly describe the structure of a basic *HTML* web page. (02 Marks)
(ii) What is the purpose of using *Cascading Style Sheets (CSS)*? (02 Marks)
- (c) (i) Why *JavaScript* considered as a *client-side scripting language*? (02 Marks)
(ii) What is *Document Object Model (DOM)*? (02 Marks)
- (d) (i) State *JSON* Syntax rules clearly. (02 Marks)
(ii) Differentiate *HTML* and *XML*. (02 Marks)
- (e) (i) What is web hosting? (02 Marks)
(ii) Briefly describe how *Content Management Systems (CMS)* work using a suitable diagram. (02 Marks)

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Question 02
(20 Marks)

- (a) What do the following acronyms stands for? (02 Marks)
- (i) HTTP
- (iii) W3C
- (b) Briefly describe the *Client/Server structure* of the web. (04 Marks)
- (c) Differentiate *Inline elements* vs *Block elements* with some example tags. (06 Marks)
- (d) Write the *HTML* code with *CSS* properties for the following output (Table 1). (08 Marks)

Name	Telephone		Branch
Andrew	081-2345678	077-3451237	Peradeniya
			Kandy
			Gampola
Viraj	033-4567834	071-6734060	Kelaniya
			Kadawatha

Table 1

Question 03
(20 Marks)

- (a) List two (02) simple selectors use in *CSS*. (02 Marks)
- (b) Briefly describe what means by *Responsive Web Design (RWD)* (03 Marks)
- (c) State and describe the three (03) different ways of integrating *CSS* into *HTML* web page using examples. (06 Marks)

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- (d) Write CSS rules to satisfy each of the following requirements. (09 Marks)
- Add 20px of padding for left and right sides and, 10px for top and bottom sides for all the paragraph elements.
 - Change the transparency of every image into 0.5 when user moves the mouse over the image.
 - Set the background color as yellow for all h1 tags having id as id2, which is inside the div tags having class name as c2.

Question 4**(20 Marks)**

- (a) What are the advantages of placing *JavaScript* file as an external file for use in a web page? (03 Marks)
- (b) Give the outputs of the following *JavaScript* statements. (08 Marks)
- ```
var f = true;
var b = new Boolean(true);
if (f == b)
 document.write("true");
else
 document.write("false");
```
  - ```
var y;
var x = "John-" + y;
document.write(x);
```
 - ```
var str = "Helloo WORLD! HeLLoo MiLoo!";
var patt1 = /lo*/g;
var result = str.match(patt1);
document.write(result);
```
  - ```
var width = 10;
var aLine = "";
for (let lp=0; lp<width; lp++){
    aLine += "A";
    lp += 1;
}
```

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```
alert(aLine);
```

- (c) List three (03) different ways to get an element from *DOM*. (03 Marks)
- (d) Draw the *Node Relationship diagram* for the following HTML code. (06 Marks)

```

<html>
  <head>
    <title>DOM Introduction</title>
  </head>
  <body>
    <h1>IT 2209</h1>
    <p>Hello world!</p>
    <img src='it.png' alt='course logo' />
  </body>
</html>

```

Question 05
(20 Marks)

- (a) State whether the following statements are true or false. (04 Marks)
- (i) XML tags are case sensitive.
 - (ii) White space is not preserved in XML.
 - (iii) JSON is a text format for storing and transporting data.
 - (iv) In the JSON syntax, data is separated by semicolons.
- (b) Compare and Contrast *XML Document Type Definitions (DTD)* and *XML schema*. (04 Marks)
- (c) Convert following table (Table 2) into *XML* and *JSON* formats. (06 Marks)
- Employees**

Emp ID	First Name	Last Name	Hire Date	Dept. Code	Salary
34594	Heather	Banks	01/18/2019	BB001	Rs.130,000
34595	Anne	Doe	05/30/2019	BB001	Rs.180,000
34596	Tina	Young	10/14/2019	BB002	Rs.250,000

Table 2

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- (d) Briefly explain how to exchange data between a browser and a server using *JSON*. (06 Marks)

Question 06 (20 Marks)

- (a) What is a *Web Server*? (02 Marks)
- (b) Differentiate *Authentication* and *Authorization*. (06 Marks)
- (c) State and briefly describe two (02) web servers available today. (06 Marks)
- (d) Explain the step-by-step process to handle a client request from a web server. (06 Marks)

Question 07 (20 Marks)

- (a) List four (04) popular *Content Management Systems (CMS)*. (04 Marks)
- (b) What are the core functions of a *CMS*? (04 Marks)
- (c) Briefly describe the following types of *CMS* with their benefits. (06 Marks)
- (i) Document Management System (DMS)
 - (ii) Enterprise Content Management System (ECMS)
 - (iii) Web Content Management System (WCMS)
- (d) Explain the advantages and disadvantages of using *WordPress*. (06 Marks)

Question 8 (20 Marks)

- (a) What are the four (04) basic types of web hosting? (04 Marks)
- (b) Define the following *FTP* methods. (04 Marks)
- (i) Anonymous FTP
 - (ii) Password-protected FTP

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- (c) Briefly describe how *Domain Name System (DNS)* works using a suitable diagram. (06 Marks)
- (d) Explain the ways to improve a website security. (06 Marks)

-----END OF THE QUESTION PAPER-----

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Year 2 Semester 2

SEMESTER END EXAMINATION

Software Quality Assurance- SE2205

- There are EIGHT (08) questions in this paper.
- This paper contains three (03) pages.
- Excluding the Compulsory question-answer any four (04) questions.
- You may use appropriate graphs, diagrams, equation/s to prove or justify the answers.
- If you have any doubt as to the interpretation of the wording of a question, make your own decision, but clearly state it on the script.

Date: 2022.10.10

Time: 03 Hour

Question 01: (Compulsory)

(20 Marks)

- a) Briefly outline the requirement specification of an ATM. (03 Marks)
- b) Write test cases focusing on ATM transactions. (04 Marks)
- c) Explain the stages of the Defect Life Cycle. (05 Marks)
- d) Discuss four key roles that must be undertaken by staff within a software engineering project team. (08 Marks)

Question 02

(20 Marks)

- a) Explain four primary objectives when testing software. (08 Marks)
- b) Consider the following business requirement:
"A company's employees are paid bonuses if they work more than a year in the company and achieve individually agreed targets."
 - i) List out all the conditions and actions mentioned in the requirement. (04 Marks)
 - ii) Create a decision table based on the findings in (i). (04 Marks)
 - iii) Optimize the decision table obtained in (ii). (04 Marks)

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Question 03**(20 Marks)**

- a) Justify the importance of the traceability matrix. (02 Marks)
- b) Discuss the various origins of defects. (03 Marks)
- c) What are the key performance identifiers and matrices of a mobile application? (05 Marks)
- d) Explain the stages of the Defect Management process. (10 Marks)

Question 04**(20 Marks)**

- a) Explain the role of Quality Assurance in the Software Development Life Cycle. (05 Marks)
- b) Explain the difference between functional and non-functional testing and mention different types of functional and non-functional testing. (07 Marks)
- c) Identify functional and non-functional requirements for a simple online banking system and briefly explain their importance to the system. (08 Marks)

Question 05**(20 Marks)**

- a) Define what is meant by "black box" and "white box" testing. (04 Marks)
- b) Outline four factors that can influence communication within a software engineering project team. (08 Marks)
- c) Explain the importance of the practice of regression testing during software maintenance. (08 Marks)

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Question 06

(20 Marks)

- a) Name any three causes of software errors/failures/bugs. (03 Marks)
- b) State and discuss four benefits of Automation in software testing. (08 Marks)
- c) Explain the implementation of alpha and beta site testing, and discuss the advantages and disadvantages of this type of testing. (09 Marks)

Question 07

(20 Marks)

- a) Discuss the need for Software Quality Assurance using a suitable example. (03 Marks)
- b) List down the similarities and differences between system and acceptance testing. (08 Marks)
- c) Describe the costs associated with quality with an example for each cost category: *Appraisal costs, Internal failure costs, and External failure costs.* (09 Marks)

Question 8

(20 Marks)

“Verification and Validation is the process of checking that a software system meets specifications and that it fulfills its intended purpose”

- a) Define and distinguish verification and validation. (04 Marks)
- b) Describe the role of the SQA manager in ensuring Software Quality. (06 Marks)
- c) Explain in detail, the activities involved in Software Configuration Management. (10 Marks)

-----END OF THE QUESTION PAPER-----



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Year 2 Semester 2

SEMESTER END EXAMINATION

Software Testing – SE2203

- There are EIGHT (08) questions in this paper.
- This paper contains three (03) pages.
- Excluding the Compulsory question-answer any four (04) questions.
- You may use appropriate graphs, diagrams, equation/s to prove or justify the answers.
- If you have any doubt as to the interpretation of the wording of a question, make your own decision, but clearly state it on the script.

Date: 2022.10.12

Time: 03 Hour

Question 01: (Compulsory)

(20 Marks)

“Software Testing is a method to check whether the actual software product matches expected requirements and to ensure that software product is Defect free”

1. Name three (03) manual software testing types. (03 Marks)
2. Name five (05) automated software testing tools. (05 Marks)
3. Briefly explain advantages and disadvantages (if any disadvantages) of software testing. (12 Marks)

(Hint: There should be at least three advantages)

Question 02

(20 Marks)

1. Describe following testing methods.
 - a) Unit Testing (04 Marks)
 - b) Integration Testing (04 Marks)
 - c) System Testing (04 Marks)
 - d) Acceptance Testing (04 Marks)
 - e) Performance Testing (04 Marks)

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Question 03**(20 Marks)**

Draw test cases for 'login' and 'return book' functions according to the given scenario. The scenario is based on 'a library management system'. (20 Marks)

"All members should login to the system by providing email address and the password. If the email is invalid, system should display an error message as 'Invalid user'. If the password is incorrect, system displays an error message as 'wrong password'. User can tryout the email/password three (03) times. After three (03) times, system blocks that person. After providing correct email and the password, system loads the home page.

Members can search books by providing book name. If the book is not available, system displays the next available date. If the book is available, members can borrow that book. When member borrowing the book, system displays the due date.

If the members return the book after exceeding the due date, they should pay fine according to the number of delay dates. System displays the total payment on the screen. Once they done the payment, system display the message 'successfully paid' on the screen. If members return the book on time, system displays the message 'successfully returned' on the screen."

Question 4**(20 Marks)**

1. What is software verification? Briefly explain. (05 Marks)
2. What is software validation? Briefly explain. (05 Marks)
3. Briefly explain the software verification activities named 'reviews', 'walk-throughs' and 'inspection'. (10 Marks)

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Question 05

(20 Marks)

1. Explain 'Whitebox testing' and 'Blackbox testing'. (10 Marks)
2. Name five (05) non-functional testing parameters and explain them. (10 Marks)

Question 06

(20 Marks)

1. Name five (05) ISO standards. (05 Marks)
2. Briefly describe 'PDCA Model'. (05 Marks)
3. How does ISO help for the Risk Assessment? Discuss the answer. (10 Marks)

Question 07

(20 Marks)

1. What is 'Capability Maturity Model'? Explain the answer including Capability Maturity levels. (10 Marks)
2. What is 'Six Sigma' Explain the answer including Six Sigma process. (10 Marks)

Question 8

(20 Marks)

1. What is a defect? (05 Marks)
2. What are the types of defects? List them. (05 Marks)
3. What are the reasons for software faults? Briefly explain. (10 Marks)

-----END OF THE QUESTION PAPER-----



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EXAMINATION
11th AUG 2022
CINEC

Year 2 Semester II
SEMESTER MID EXAMINATION
Advanced Database Systems – IT2210

- This is a structured paper.
- There is only one question and the paper contains two (02) pages.
- Students should provide answers to all the questions.
- If you have any doubt as to the interpretation of the wording of a question, make your own decision, but clearly state it on the script.

Date: 10/08/2022

Time: 01 Hour

1. Consider the following database schema only if not exist,

```
CREATE TABLE Software_Manuals (  
item_no varchar(40) PRIMARY KEY,  
title varchar(100),  
description varchar(100),  
version varchar(30),  
manufacturer varchar(50) );
```

```
CREATE TABLE Copy_SW_Manual (  
access_no integer PRIMARY KEY,  
item_no varchar(40) REFERENCES Software_Manuals )
```

```
CREATE VIEW VW_SW_MANUAL (title, manufacturer, version, access_no)  
AS  
SELECT SM.title, SM.manufacturer, SM.version, CSM.access_no  
FROM Software_Manuals SM, Copy_SW_Manual CSM  
WHERE SM.item_no = CSM.item_no
```

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Create an INSTEAD OF trigger (called "tr_SW_VW_INSERT") on the view created above. The trigger should be fired for an INSERT statement and should do the following:

- a) If the inserted row contains an access_no that exists in the table, then update the version, title & manufacturer columns of Software_Manuals table with the inserted data
- b) Else, if the title, manufacturer and version exists in the Software_Manuals table, insert a new row to Copy_SW_Manual table with its item information referencing the existing row of the Software_Manuals table
- c) Else, insert rows to Software_Manuals and Copy_SW_Manual tables to reflect the new information.

-----END OF THE QUESTION PAPER-----



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00016



Year 2 Semester II

SEMESTER MID EXAMINATION

Software Quality Assurance – SE2205

- This is a MCQ paper. Underline answer all question and each question contains four (04) marks.
- The paper contains six (06) pages.
- If you have any doubt as to the interpretation of the wording of a question, make your own decision, but clearly state it on the script.

Date: 10/08/2022

Time: 01 Hour

1. Which is an objective for software testing?
 - a. Determine the productivity of programmers
 - b. Eliminate the need for future program maintenance
 - c. Eliminate every error prior to release
 - d. Uncover software errors
2. What is the main purpose of exit criteria in software testing?
 - a. To enhance the security of the system
 - b. To prevent the endless loops in code
 - c. To swerve as an alternative or "Plan-B"
 - d. To define when to stop testing
3. Evaluating the testability of the requirements and system is a part of which phase:
 - a. Test Analysis and Design
 - b. Test Planning and control
 - c. Test Implementation and execution
 - d. Evaluating exit criteria and reporting



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4. How much "testing is enough" should be taken into account based on:
- Level of risk including technical and business product and project risk
 - Size of Testing Team
 - Size of the Development Team
 - The number of tests conducted
5. Which test cases have the highest level of independence?
- Test cases designed by the person who writes the software
 - Test cases designed by a person from a different section
 - Test cases designed by a person from a different organization
 - Test cases designed by the user
6. Which of the following is correct?
- Impact analysis assesses the effect on the system of a defect found in regression testing
 - Impact analysis assesses the effect of a new person joining the regression test team
 - Impact analysis assesses whether or not a defect found in regression testing has been fixed correctly
 - Impact analysis assesses the effect of the change to the system to determine how much regression testing to do
7. Who would usually perform debugging activities?
- Developers
 - Analysts
 - Testers
 - Incident Managers
8. What is error guessing?
- A testing technique used to guess where a developer is likely to have made a mistake
 - A technique used for assessing defect metrics



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- d. Static testing can give measurements such as cyclomatic complexity
14. What is beta testing?
- Testing performed by potential customers at the developer's location.
 - Testing performed by potential customers at their own location.
 - Testing performed by product developers at the customer's location.
 - Testing performed by product developers at their own locations.
15. You are getting ready to test another upgrade of an ERP system. The previous upgrade was tested by your team and has been in production for several years. For this situation, which of the following is the most appropriate test effort estimation technique?
- Effort-based
 - Expert-based
 - Metric-based
 - Schedule-based
16. What is the primary purpose of a test execution tool?
- It runs automated test scripts to test the test object
 - It automatically records defects in the defect tracking system
 - It analyzes code to determine if there are any coding standard violations
 - It tracks test cases, defects, and requirements traceability
17. What type of tools are to be used for Regression Testing?
- Performance testing
 - Record/playback testing
 - A & B testing
 - None of the above
18. Which approaches can help increase the quality of software?
- Incorporating rigorous testing
 - Preventing change requests
 - Establishing defects metrics
 - Allocating schedule contingencies



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- a. I and II are True
- b. II and IV are True
- c. I and IV are True
- d. I and III are True

19. If the developers are releasing code for the testing that is not version controlled, what is the process that is missing?

- a. Configuration management
- b. Debugging
- c. Test and defect management
- d. Risk analysis

20. You are testing a machine that scores exam papers and assigns grades. Based on the score achieved the grades are as follows:

- 1 - 49 = F
- 50 - 59 = D-
- 60 - 69 = D
- 70 - 79 = C
- 80 - 89 = B
- 90 - 100 = A

If you apply equivalence partitioning, how many test cases will you need to achieve minimum test coverage?

- a. 6
- b. 8
- c. 10
- d. 12

21. Which of the following is not included in Test Plan?

- a. Features to be tested
- b. Environmental needs
- c. Suspension criteria
- d. Expected results



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22. Use cases can be used to test
- Performance testing
 - Unit testing
 - Business scenario
 - Static testing
23. The inputs for developing a test plan are taken from
- Project plan
 - Business plan
 - Support plan
 - None of the above
24. Consider the following statements about early test design:
- Early test design can prevent fault multiplication
 - Faults found during early test design are more expensive to fix
 - Early test design can find faults
 - Early test design can cause changes to the requirements
 - Early test design takes more effort
- I, III & IV are true.
 - III is true
 - III & IV are true.
 - I, III, IV & V are true
25. Data flow analysis studies:
- Possible communications bottlenecks in a program.
 - The rate of change of data values as a program executes.
 - The use of data on paths through the code.
 - The intrinsic complexity of the code.

-----END OF THE QUESTION PAPER-----