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**GASABO DISTRICT**

**DISTRICT COMPREHENSIVE ASSESSMENT, RTQF LEVEL… 2023-2024**

**SECTOR: ICT AND MULTIMEDIA**

**TRADE: SOFTWARE DEVELOPMENT**

**MODULE CODE: SWDBS401**

**MODULE NAME: BACKEND SYSTEM DESIGN**

**DATE OF EXAM:13/O3/2024**

**DURATION: 3HOURS**

**SCHOOL YEAR: 2023-2024**

**TERM: 2**

**Instructions:**

1. **Attempt all questions in section A (55 Marks)**
2. **Attempt three questions in section B (30 Marks)**
3. **Attempt one question in section C (15 Marks)**

**Section A:** **Attempt all questions/55 MARKS**

**Q1**.Difine a) Entity-Relationship diagram(ERD) **/2marks**

b) Data flow diagram(DFD) **/1marks**

**Q2**.Explain the element of Data flow Diagram(DFD) and Discuss about the rules of drowing Data flow Diagram(DFD) **/5marks**

**Q3**. a) Define system Interaction **/1marks**

b) Explain the main component of system interaction **/3marks**

**Q4**. Distinguish back-end and front-end development, and give at least 2 examples for Each. **/4marks**

**Q5**. Answer **True(T)** Or **False(F)**

I. Front-End Development Develop the Invisible structure that helps websites function properly? **/1marks**

ii. Back-End Development is included by the user interface, layout and fonts? **/1marks**

iii. Do you think System Development Life Cycle (SDLC) models is tools that you can use to better deliver your software project? **/1marks**

**Q6**. Define a) User Documentation **/1marks**

b) Normalization **/1marks**

**Q7**. Define the following term and give example for each

1. Database **/1marks**
2. Server **/1marks**
3. A system **/1marks**
4. Application Programming Interface (API) **/1marks**

**Q8**. Discuss about key component of system documentation. **/3marks**

**Q9**. Define JSON (JavaScript Object Notation) and Operating System. **/3marks**

**Q10.** Compare Hardware and Software and Give example for Each. **/2marks**

**Q11**. List and explain the types of documentation of system design. **/5marks**

**Q12.** Explain the five criteria followed in software development. **/3marks**

**Q13**. Outline the requirements needed in software project. **/4marks**

**Q14**. Define operating system and give the function of operating system. **/4marks**

**Q15.** Discuss about framework and library. **/2marks**

**Q16**. Answer **True(T)** Or **False(F)**

1. Functional Specification Document (FSD) is a comprehensive document that outlines the detailed functionalities and features of a software system? **1marks**
2. Interface Design Document, specifies how different system components or modules interact with each other? **/1marks**
3. Maintenance and Support Documentation is visual representation of how data flows through the system process, datastores, and external entities? **/1marks**

**Q17.** Choose the correct answer:

1. Process applied to ensure data integrity and reduce redundancy in database and to organize data which is un-organized. **/1marks**

I. Documentation

ii. Normalization

iii. Data Flow Diagram

**Section B:** **Attempt any** **THREE questions/30MARKS**

**Q18**. a. Discuss about the key aspects of the backend. / **5marks**

b. Give at least five advantages of back-end. **/5marks**

**Q19**.a) Define system documentation. **/5marks**

b) Differenciate System Architecture Documentationand Functional Specification Document**. /5marks**

**Q20**. Explain the phase in object-oriented software development and give one Advantage and one disadvantage of object-oriented analysis and design. **/10marks**

**Q21**. a) Explain Tools/Techiniqes/Methos used for data Collection. **/5marks**

b) Discuss about System Developing life cycles (SDLC) models. **/5marks**

**Q22**. Discuss about five criteria followed in software development. **/10marks**

**Section C: Attempt ONE question/15MARKS**

**Q23**.Using Diagram Illustrate and explain the system development life cycle(SDLC) Phases. **/15marks**

**Q24**. Out line the Implementation stage for drawing Structure system analysis and design methods(SSADM). **/15marks**

**GOOD LUCK!!!!!!!!!!!!!!!!!!!!!!!!!!!**