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KIRIRI WOMEN'S UNIVERSITY OF SCIENCE AND TECHNOLOGY
UNIVERSITY EXAMINATION, 2024/2025 ACADEMIC YEAR
FIRST YEAR, SECOND SEMESTER EXAMINATION
FOR THE DIPLOMA IN BUSINESS & INFORMATION TECHNOLOGY
DIT 1005 SYSTEM ANALYSIS & DESIGN

Date: 8TH AUGUST 2024
Time: 2:30PM – 4:30PM

INSTRUCTIONS TO CANDIDATES

ANSWER QUESTION ONE (COMPULSORY) AND ANY OTHER TWO QUESTIONS

QUESTION ONE (30 MARKS)

Read the following excerpt carefully and answer the questions that follow

ABC Bank has a rich history dating back to its founding years. Since its inception, ABC Bank has been a cornerstone of the financial sector, playing a pivotal role in the economic landscape of its region or country. Throughout its history, ABC Bank has undergone significant growth and transformation, expanding its presence, services, and customer base. It has weathered various economic cycles, adapting to changing market dynamics and regulatory environments

ABC Bank, a leading financial institution, wants to revamp its online banking system to improve user experience, enhance security, and introduce new features. The current system lacks modern functionalities, such as mobile banking and real-time transaction updates, leading to customer dissatisfaction and security concerns. In relation to the study

a) Describe the steps involved in the implementation and deployment of the revamped online banking system at ABC Bank. **(5 Marks)**

b) Identify the key stakeholders involved in the development of the new online banking system. **(4 Marks)**

c) Describe the process of requirements gathering for the new online banking system. **(5 Marks)**

d) How does ABC Bank ensure the security of its online banking system, considering the increasing cybersecurity threats? **(6 Marks)**

e) Discuss the importance of project scheduling and resource allocation in Systems Analysis and Design projects. How does project management facilitate this process? **(4 Marks)**

f) Design a system for a company to manage customer support inquiries, assign tickets to agents, and track resolution times. **(6 Marks)**

QUESTION TWO (20 MARKS)

a) Discuss the importance of requirements gathering in the SDLC process. How can you ensure that requirements are accurately captured? **(4 Marks)**

b) Describe a situation where Agile methodologies would be more suitable than traditional waterfall approaches in system analysis and design. What benefits would Agile bring to this scenario? **(8 Marks)**

c) Explain the significance of documentation throughout the SDLC. What types of documents are typically produced during each phase? **(8 Marks)**

QUESTION THREE (20 MARKS)

a) How do you identify and prioritize user needs during the requirements analysis phase? **(4 Marks)**

b) What strategies do you employ to ensure that all perspectives are considered during requirement elicitation and analysis? **(8 Marks)**

c) Imagine a scenario where a company wants to upgrade its accounting software. What steps would you take to conduct a thorough requirements analysis for this project? (**8 Marks)**

QUESTION FOUR (20 MARKS)

a) What factors should be considered when designing a scalable system? (**4 Marks)**

b) How would you employ UML diagrams, such as class diagrams, sequence diagrams, and state diagrams, in the analysis and design phases of a software development project? Provide specific examples illustrating the use of each diagram type. (**8 Marks)**

c) Propose solutions and design strategies to address these requirements and challenges, ensuring that your system is inclusive, user-friendly, and culturally sensitive (**8 Marks)**

QUESTION FIVE (20 MARKS)

a) What strategies do you employ to ensure all systems are up-to-date with the latest security patches? (**4 Marks)**

b) What tools or methodologies do you use to monitor system health and performance (**8 Marks)**

c) Explain how ERDs are used to model the data requirements of a system during the analysis phase. Provide an example of an ERD representing the relationships between entities in a university database system. (**8 Marks)**