

KATHMANDU UNIVERSITY
End Semester Examination [C]
May/June, 2019

Mark Scored:

Level : B. Sc.

Year : III

Course : COMP 302

Semester : II

Exam Roll No. :

Time: 30 mins.

F. M. : 10

Registration No.:

Date 02 JUN 2019

SECTION "A"

[20 Q. × 0.5 = 10 marks]

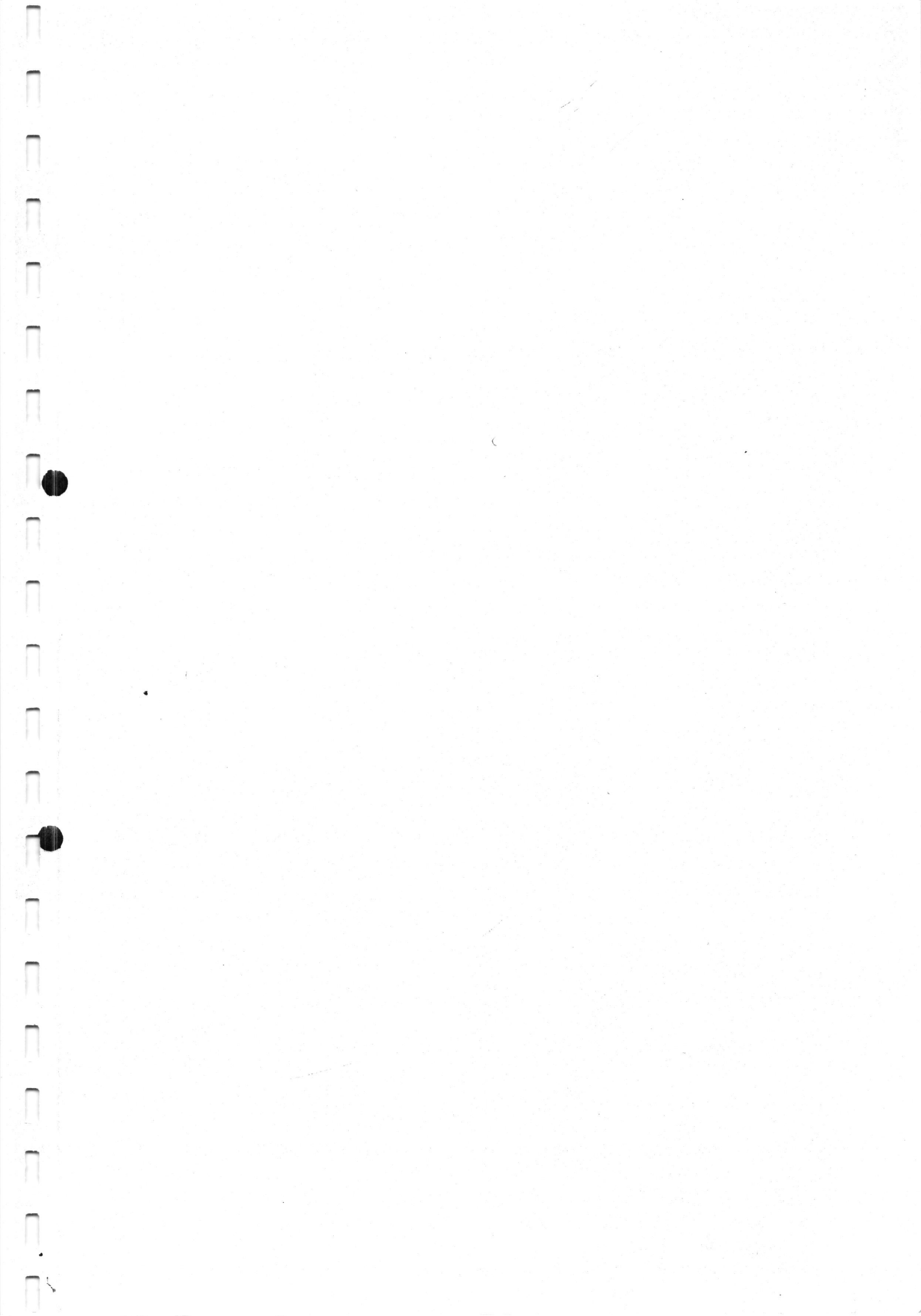
Tick (✓) the best possible answer(s).

- Which of the following are the characteristics of information?
a. Accuracy and Relevance
b. Form of information and Timeliness
c. Completeness and Purpose
 a & b a & c b & c a, b & c
- Decision support system is needed for
 Day to Day operation Long range planning
 Short range planning Meet government requirements
- A problem's _____ will answer the question, "What information will the computer need to know in order to either print or display the output times?"
 input output processing purpose
- _____ : An ongoing process that defines the mission, objectives, and strategies of an organization.
 Competitive strategy Mission statement
 Value chain analysis Corporate strategic planning
- By operational feasibility we mean
 the system can be operated nicely.
 the system is unusable by operators
 the system can be adapted by an organization without major disruptions
 the system can be implemented
- Increased volume of sales is an example of _____ benefit. Reduction of bad debts _____ is an example of
 tangible, intangible tangible, tangible
 intangible, intangible intangible, tangible
- It is necessary to prioritize information requirements of an organization at the requirement discovery phase as
 it is always good to prioritize.
 there are conflicting demands from users.
 there are constraints on budgets, available time, human resource and requirement.
 all good organization do it.

8. System prototyping helps the designer in
- communicating to the user, quickly, how the system, when developed, will look like and get a feedback
 - giving a demo of the software, to the system manager to whom he report
 - making the programmers understand how the system will function
- a b c a, b & c
9. Which type of questionnaire allows the users to exercise more freedom in their answers?
- Multiple choice questionnaire Rating questionnaire
 Free-format questionnaire Ranking questionnaire
10. Which of them is not a legal data flows in data flow diagram?
- data flow between process and data store.
 data flow between two processes.
 data flow between external entity and data store.
 data flow between external entity and process.
11. _____ : Data at rest, which may take the form of many different physical representations.
- Process Data store Source Sink
12. A Decision - Table is
- a way of representing multiple conditions
 a way of representing the information flow
 a ways to get an accurate picture of the system
 decision paths
13. _____: Modified form of the English language used to specify the logic of information system processes.
- Decision table Rules
 Structured English Action stubs
14. A student can take not more than 5 subjects in a semester. The numbers of students allowed in a subject in a semester are not more than 40. The student- subject relationship is:
- 5: 40 40: 5 N: 5 40: M
15. In an E-R diagram relationship is represented by
- circles rectangles
 diamond shaped box ellipse
16. In a sequence diagram, an asynchronous message is shown as a
- full, solid arrowhead hollow arrowhead
 transverse tick mark half arrowhead

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17. Which of the following is the most correct definition of a use case 'ACTOR' ?
- An actor represents roles humans take when interacting with the system
 - An actor represents machines and other systems interacting with the system
 - An actor represents particular humans who interact with the system
 - An actor represents anything that interacts with the system
18. Which concept of object oriented approach includes Generalization and specialization?
- Polymorphism
 - Encapsulation
 - Inheritance
 - Dynamic binding
19. When are walkthrough carried out?
- after completing physical models
 - after completing logical models
 - after completing physical & logical models
 - after completing requirement analysis
20. Which model will you prefer for system development, where the requirements keep on changing?
- Waterfall model
 - Spiral model
 - Evolutionary model
 - COTS



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Time : 2 hrs. 30 mins.

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F.M. : 40

SECTION "B"

[6Q. × 4 = 24 marks]

Attempt *ANY SIX* questions.

1. What is information system analysis and design? Describe the four essential skills needed by the system analyst to complete their jobs efficiently? [1+3]
2. Describe Operational feasibility and Technical feasibility with an example? [4]
3. An insurance company uses the following rules to determine the eligibility of a driver for insurance. The driver will be insured only if any of the following conditions is satisfied:
I. The driver's annual income is more than Rs.20000 and he is a married male.
II. The driver's annual income is more than Rs.20000 and he is a married and over 30.
III. The driver's annual income is Rs.20000 or less and the driver is a married female.
IV. The driver is a male and over 30.
V. The driver is married and is 30 or below.
In all other cases the driver is not insured. Obtain a decision table. [4]
4. What are the importance's of Class diagram in object oriented modeling? Draw a Use-Case diagram to make a purchase online. The system should include view items, make purchase, client register, Checkout. View Items use case could be used by customer as top level use case if customer only wants to find and see some products. This use case could also be used as a part of Make Purchase use case. Client Register use case allows customer to register on the web site, for example to get some coupons or be invited to private sales. Checkout is part of making purchase. [1+3]
5. Explain the various task allocated to walkthrough team members for their different roles? [4]
6. List the different phases of SDLC? Describe four different phases of SDLC? [1+3]
7. Describe how you would carry out an Interview session for collecting information during requirement gathering phase? [1+3]

SECTION "C"

[2Q. × 8 = 16 marks]

Attempt *ANY TWO* questions.

8. What are the possible consequences if you fail to identify system Requirements correctly and completely? Consider a Library management system; identify its functional and non functional requirements? Describe the guidelines which you will follow while organizing a Joint Requirement planning sessions as a facilitator? [2+3+3]

9.

- a. What is the purpose of database design? A software training program is divided into training modules, and each module is described by module name and the approximate practice time. Each module sometimes has prerequisite modules. Model this situation of training programs and modules with an E-R diagram? [1+3]
- b. Draw a Sequence diagram for showing the balance enquiry process from ATM (make necessary assumptions). [4]

10. Consider KU Fast food, a restaurant in Dhulikhel, Kavre owned by Kathmandu University. Some are convinced that its **Chatpate** is the best in Dhulikhel. The restaurant uses an information system that takes customer orders, sends the orders to the kitchen, monitors goods sold and inventory, and generates reports for management. [2+4+2]

- a. Draw a context diagram for the KU Fast food ordering System.
- b. Draw a level 0 DFD for the KU Fast food ordering System
- c. Using the level-0 diagram that you constructed in part b, select one of the level-0 processes and prepare a level-1 diagram.