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FACULTY OF SCIENCE
DEPARTMENT OF MATHEMATICAL SCIENCES

NAME OF EXAM: RAIN SEMESTER, 2017/2018 SESSION
COURSE/CODE: SYSTEM ANALYSIS AND DESIGN/CMP306
COURSE UNIT: 3
INSTRUCTION(s): ANSWER ANY FOUR QUESTIONS,
CALCULATOR IS NOT ALLOWED
TIME ALLOWED: 2HOURS

1 When invoicing customers, the invoice clerk has to work out the discounts allowable on each other. Any order over ₦2000 attracts a "bulk" discount of $10\frac{1}{2}\%$. A customer within the trade is allowed 17%. There is also a special 8% allowed for any customer who has been ordering regularly for over 2 years.

a. Construct a decision table to illustrate the management's policy.
b. How would an analysis determine the user's needs for a system?
c. Distinguish between implementation and changeover. Describe the various methods of changeover

2a. Distinguish between a couple and cohesion.
bi. Design a structured chart using the following information

Calling Module: RECORD STUDENT GRADES
Called Module: GET ACADEMIC RECORD
GET VALID GRADES
ADD NEW GRADES
REPORT ERRORS
CHECK FOR PROBATION
CHECK FOR DEAN'S LIST

Include the required input and output couples, showing direction and meaning
ii. In the same chart, show CHECK FOR PROBATION as a Calling Module and factor a called module called CALCULATE GPA. Show input and output couples.
c. What activities make up system design? How does system design simplify implementation?

3. Explain the importance of the following system concepts for system analysis
i. Feedback
ii. Interdependence
iii. Open and Closed System
iv. Organizational Chart
v. System and sub-system interface.
b. List the steps involve in System and Analysis Design.
c. Write specific features of each step listed. **Hint: Not more than a line.**

4a. What cost elements are considered in cost/benefit analysis? Define and explain the procedure for cost/benefit determination?
b. What categories of information are available for analysis? How would one decide on the category?

5a. Describe the concept and procedure used in constructing DFDs

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b. The unit price of a particular product is ₦ 15 if less than 10 are purchased. ₦14 if between 10 and 49 are purchased, and ₦13.80 if 50 or more are purchased. If the customer also has preferred customer status then the purchase is subject to a discount of 10%. Prepare a Decision Table.

c. What considerations are involved in feasibility analysis? Which do you think is the most crucial? Why?

6a What is structured analysis? Briefly review the tools used and how does it differs from the traditional approach?

b. What is the role of user in this activity?

c. Consider an automobile and a hospital as two systems. Identify the following as an input and/or output for each system: Batteries, Cured patient, Doctors, Driver's performance, Drugs, Gasoline, Information, Motion, A patient who died, Tires and X- Ray machine.