OLABISI ONABANJO UNIVERSITY, AGO-IWOYE

DEPARTMENT OF MATHEMATICAL SCIENCES

B.SC. COMPUTER SCIENCES DEGREE PROGRAMME

2015/2016 RAIN SEMESTER EXAMINATIONS

COURSE CODE: CMP 306 **COURSE TITLE: SYSTEM ANALYSIS AND DESIGN**

Instruction: Answer any four questions Course Code: 2units Time: 2 hrs

1. (a) What activities make up system design? How does system design simplify implementation?
   (b) What is structured analysis? Briefly review the tools used and how does it differs from the traditional approach?
   (c) What is the role of user in this activity?
   (d) 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.

2. (a) What traditional information–gathering tools are available for analyst? Explain each tool briefly
   (b) Differentiate between analysis and design. Describe the content of a system specification.
   © Distinguish between implementation and changeover. Describe the various methods of changeover.
   (d) Information is available from internal and external sources. Discuss briefly the internal and external sources.

3. (a) 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?
   (c) Describe the concept and procedure used in constructing DFDs
   (d) What considerations are involved in feasibility analysis? Which do you think is the most crucial? Why?

4. 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.

Feedback – Information is formally disseminated in instructions memos or reports from top management to the intended user in the organization This structure also allows feedback up the chain of command for follow up.

Interdependence – are parts of organization or computer system depend on one another

Open and closed system – It permits interaction across the boundary (open). Is isolated from environmental influences (closed).

System design is the process of defining the architecture, modules, and data for a system to satisfy specified requirements.

Implementation is the stage of a project during which theory is turned into practice

Changeover is the process after the users are trained about

5. (a). Distinguish between a couple and cohesion.

(b) Design a structured chart using the following information

Calling Module: RECORD STUDENT GRADES

Called Module: GET ACADEMIC RECORD

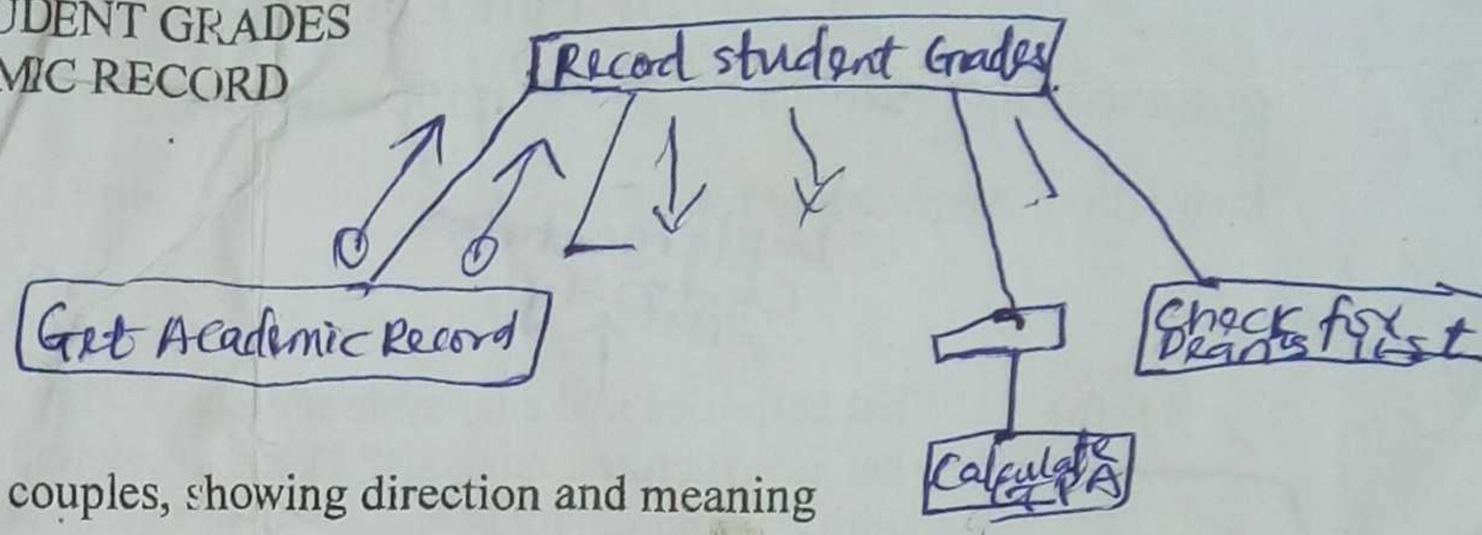
GET VALID GRADES

ADD NEW GRADES

REPORT ERRORS

CHECK FOR PROBATION

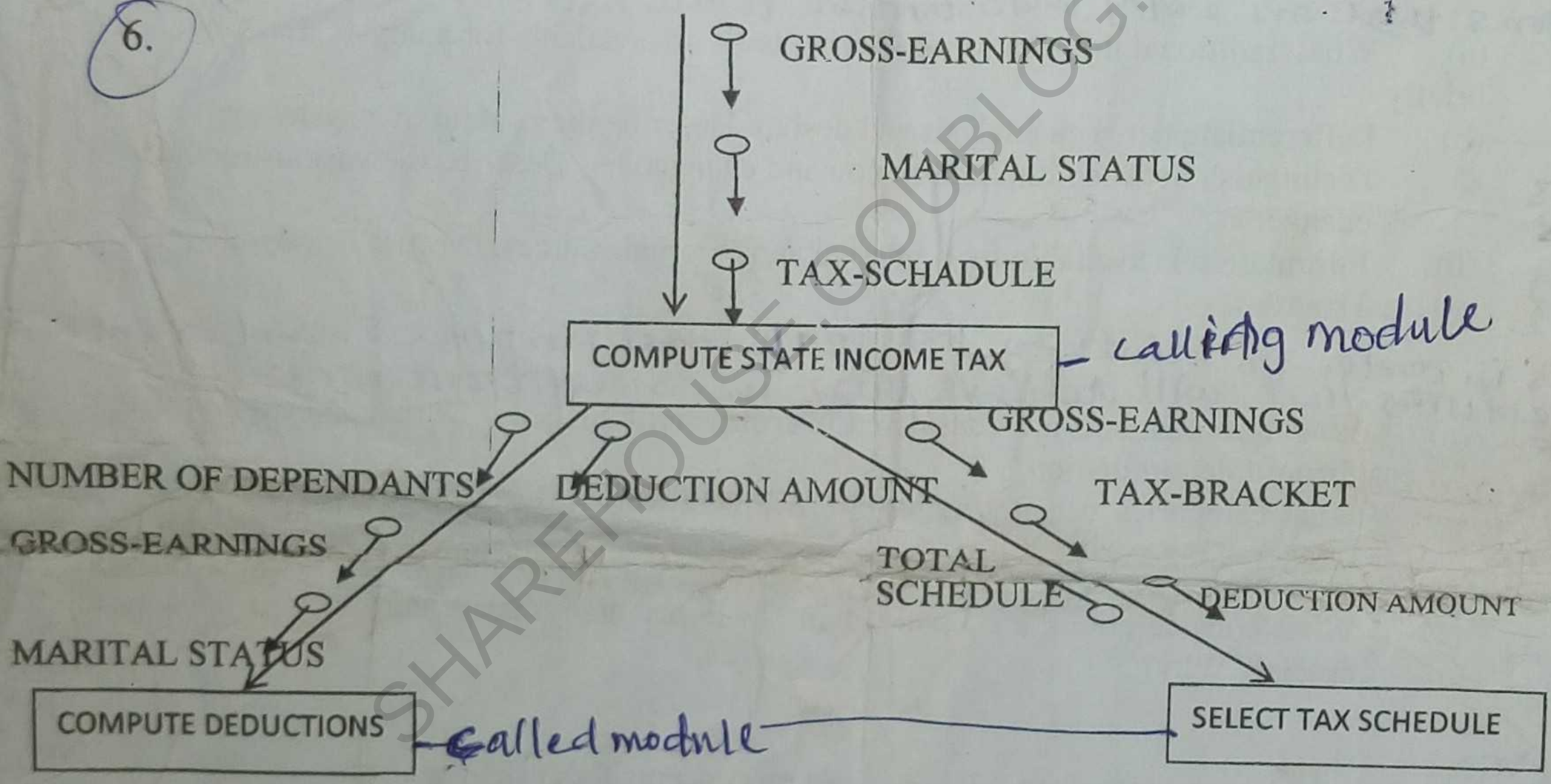
CHECK FOR DEAN'S LIST



Include the required input and output couples, showing direction and meaning

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.

6.



a. How many modules, connections and couples are there in the chart? What do they mean?
b. Which module is the calling module? The called module?
c. How many couples are passed to the calling module? 5
d. What is the minimum number of call statements inside COMPUTE STATE INCOME TAX? 7 Call statement
e. What is the output of SELECT TAX SCHEDULE? 2 Tax Schedule

Parallel arrangement - the old system is operated along the new system
Direct - the old system replaced by the new one
Phase - gradually implement system across all users.