FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA
SCHOOL OF ENVIRONMENTAL TECHNOLOGY
DEPARTMENT OF QUANTITY SURVEYING

FIRST SEMESTER EXAMINATION 2017/2018 SESSION
COURSE CODE: *QTS 418* **COURSE TITLE:** *INFORMATION TECHNOLOGY APPLICATION TO QUANTITY SURVEYING*
TIME ALLOWED: *2 Hours*   **CREDIT LOAD:** *2 Units*
INSTRUCTION: *Answer Question **One** and any other **Two** Questions.*

Question 1.

Table 1 shows a spreadsheet with profit margin computations prepared by contractors bidding for a contract. The contractors must develop competitive rates to win the project, hence some rigorous analysis must be undertaken to guide the senior management of your firm in deciding a competitive profit margin for the bid.

    a. Set up a hypothetical spreadsheet with properly referenced rows and columns that reproduces table 1.
    b. Write the formulae that calculate the **"Profit margin amount"** and **"Adjusted unit rate"** for each item of work taking the following conditions into consideration:
Profit should be charged for the following:

i.   Rates greater than ₦2000, but less than ₦5,000 = 45%
ii. Rates greater than or equal to ₦5,000 but less than ₦30,000 = 35%
iii. Rates greater than or equal to ₦30,000 = 30%

TABLE 1: Profit Margin Computation

KEY RATES - JANUARY 2017			
Item	**Rate**	**Profit Margin Amount**	**Adjusted Unit Rate**
Reinforced concrete 1:2:4 mix	35,000.00	10,500.00	45,500.00
230mm hollow block work	3,700.00	1,665.00	5,365.00
Trench Excavation n.e 1.00m deep	780.56	No profit	780.56
Form work to surfaces exceeding 300mm wide	2,400	1,080.00	3,480.00
230mm filled solid blockwork in foundation	5,300.00	1,855.00	7,155.00
Leveling and compaction of bottom of excavation	280.00	No profit	280.00

Question 2.

Set up a hypothetical spreadsheet with properly referenced rows and columns that reproduces Table 2. If each CA score is 10 marks, compute the following: i. Total CA, ii. CA/40, iii. Total and Average Scores for all the CAs, Total CA and CA/40. Indicate the excel formulas in the appropriate cells.

Table 2

S/No	REG NO	CA1	CA 2	CA3	CA4	CA5	CA6
1	P07EVQS8005	8	8	9	7	6	8
2	P07EVQS8006	7	6	8	9	5	6
3	P07EVQS8007	8	7	6	6	7	8
4	P07EVQS8008	8	7	6	8	9	6
5	P07EVQS8016	8	8	9	7	6	8
6	P07EVQS8019	7	6	8	9	5	6
7	P07EVQS8023	8	7	6	6	7	8
8	P07EVQS8024	8	7	6	8	9	6
9	P07EVQS8025	8	8	9	7	6	8
10	P07EVQS8030	7	6	8	9	5	6
11	P07EVQS8031	8	7	6	6	7	8
12	P07EVQS8032	8	7	6	8	9	6
13	P07EVQS8033	7	6	8	9	5	6

Question 3

a) - What is cost plan and give detail description of the stages of a typical cost plan.

b) - Write concisely on the following specific application softwares:

    i)   QS CAD,
    ii)   QS Plus,
    iii)   WinQS,
    iv)   DimensionX,
    v)   CostX Takeoff.

c) - Explain the terms IT software and hardware

Question 4

a. i) - While explaining the unique features of Autodesk QTO as specific application software for quantity surveying, explain its connection with BIM.

  ii) - Write on five examples of Database Management System (DBMS).

b. i) - Clearly relate the advantages of information technology in quantity surveying

  ii) - What is word processing? State four examples of word processing applications.

Question 5

a) - Distinguish general application software from specific application software and write succinctly on two general application software that are commonly used in Quantity Surveying.

b) - What is information Technology? State five advantages and disadvantages of Information Technology.