NATIONAL OPEN UNIVERSITY OF NIGERIA
Plot 91, Cadastral Zone, Nnamdi Azikiwe Express Way, Jabi - Abuja
FACULTY OF MANAGEMENT SCIENCES
DEPARTMENT OF BUSINESS ADMINISTRATION
2024_2 EXAMINATION

Course Code: BUS800
Course Title: Qualitative Techniques
Time Allowed: 2hrs
INSTRUCTIONS*: Attempt three (3) questions from the following four (4) questions. Question one (1) is compulsory. Question One carry* ***30 marks*** *while the others carry* ***20 marks*** *each.*

1a. In a confectionary firm, assuming eight jobs are waiting to be processed. The processing time and due dates for the jobs are given below: Determine the sequence processing according to

(a) FCFS (b) SPT (c) EDD and (d) LPT in the light of the following criteria:

(i) Average flow time,

(ii) Average number of jobs in the system,

(iii) Average job lateness,

(iv) Utilization of the workers

JOB	PROCESSING TIME	DUE DATE (DAYS)
A	4	9
B	10	18
C	6	6
D	12	19
E	7	17
F	14	20
G	9	24
H	18	28

Job	Processing Time	Flow time	Job due date	Job lateness (0 of negative)
A	4	4	9	0
B	10	14	18	0
C	6	20	6	14
D	12	32	19	13
E	7	39	17	22
F	14	53	20	33
G	9	62	24	38
H	18	80	28	52
	80	304		172

2a.Given U={1,2,3,...,8,9}, X = {1,2,3,4}, Y = {2,4,6,8} and Z = {3,4,5,6}.

Find : X‘, (b) Y‘, (Z) (X∩Z)‘, (c) (X∪Y)‘, (e) (X‘)‘, (f) (Y – Z)‘ **(30 Marks)**

2b. Madam Uju, a wholesaler stocks heavy (2B), medium (HB), fine (2H) and extra fine (3H) pencils which come in packs of 10. Currently in stock are 5 packs of 3H, 32 packs of 2H, 62 packs of HB and 16 packs of 2B. If a pack of pencil is chosen at random for inspection, what is the probability that they are: (a) medium (b) heavy (c) not very fine (d) neither heavy nor medium?

2c. Prove that if $a < b$ and $b < c$, then $a < c$.

3a. Given the frequency distribution:

Number of children:	0	1	2	3	4	5 or more
Number of families:	22	34	15	18	12	26

calculate the relative frequency (probability) of families above having a certain number of children. **(20 Marks)**

3b. Find the values of x and y given the equality of the ordered pairs (x + y, 1) and (3, x - y).

3c. Highlight and explain in succinct term, the basic essentials features of a system in terms of Information systems. **(20 Marks)**

4a. what is a gaming in quantitative techniques/analysis?

4b. The following seven jobs are waiting to be processed at a machine centre

Job	Due date	Processing time
A	13	8
B	20	14
C	10	10
D	23	16
E	21	11
F	24	18
G	28	13

In what sequence would the job be ranked according to the following decision rules (1) EDD, (2) SPT, (3) LPT, (4) FCFS). **(20 Marks)**