MOSHOOD ABIOLA POLYTECHNIC

ABEOKUTA. OGUN STATE.

DEPARTMENT OF STATISTICS & MATHEMATICS

1ST SEMESTER EXAMINATION

2023/2024 SESSION

COURSE TITLE:**STATISTICSFOR COMPUTING I(FT/PT)** COURSE CODE:**COM114**

LEVEL:**ND I COMPUTER SCIENCE** UNIT:**2**

TIME ALLOWED: **2Hrs**

INSTRUCTION (S): (i) Write ONLY your Matriculation Number on this question paper

(ii) Answer any FOUR (4) Questions

1. (a) Mention and discuss in details the various levels of measurement for quantitative data.
(b) Out of total number of 2,807 women, who were interviewed for employment in a textile factory, 912 were from textile areas and the rest from non-textile areas. Amongst the married women, who belonged to textile areas, 347 were having some work experience and 173 did not have work experience, while for non-textile areas the corresponding figures were 199 and 670 respectively. The total number of women having no experience was 1,841 of whom 311 resided in textile areas. Of the total number of women, 1,418 were unmarried and of these the number of women having experience in the textile and non-textile areas was 254 and 166 respectively. Tabulate the above information.

2. (a) In a certain government office, there are 800 employees. Among them are 300 men, 552 university graduates, 424 married persons, 188 male university graduates, 302 married university graduates, 238 married men and 144 married male university graduates.
   i. What is the probability of single women who are not university graduates?
   ii. What is the probability of women who are married but not graduate?
   iii. What is the probability of women who are married or graduate?
   (b) What is a questionnaire? Discuss the characteristics of a good questionnaire.

3. (a) "By Statistics we mean aggregate of facts affected to a marked extent by multiplicity of causes, numerically expressed, enumerated or estimated according to reasonable standards of accuracy, collected in a systematic manner for a pre-determined purpose and placed in relation to each other". Comment on the following statements illustrating your view point with suitable example.

   (b) A Chartered Accountant applies for a job in two firms X and Y. He estimates that the probability of his being selected in firm X is 0·7, and being rejected at Y is 0·5 and the probability of at least one of his applications being rejected is 0·6. What is the probability that he will be selected in one of the two firms?

4. (a) Define the following

i. Sample
ii. Population
iii. Parameter
iv. Statistic
v. Survey
vi. Census
vii. Sampling frame

(b) Let A and B be the two possible outcomes of an experiment and suppose $P(A) = 0{\cdot}4$, $P(A \cup B) = 0{\cdot}7$ and $P(B) = p$

(i) For what choice of p are A and B mutually exclusive?

(ii) For what choice of p are A and B independent?

5. (a) It is compulsory to answer 10- questions in an examination choosing at least 4 questions from each part A and part B. If there are 6 questions in part A and 7 questions in part B, in how many ways can 10 questions be attempted?

(b) The probability that a person gets affected by disease X is 0.08, that a person gets affected by disease Y is 0.05, and that a person gets affected by both diseases is 0.02, in a given community. Then, Find the probability that a randomly selected person from this community:

i Gets affected by either or both diseases;

ii Gets affected by only one of the diseases

6. (a) Distinguish between primary and secondary data. State the sources of each. Give also the advantages and disadvantages of each.

(b) The Director of Students' Affair of MAPOLY was concerned about the congestion of students at bus stop to convey into school for lectures. A committee was setup to look into the proportion of Buses/Cabs that use a single carriageway between $7am$ and 8am. The committee records the details of every vehicle and produces a list of data in the order of the time that the vehicle passes the school gate. 16 vehicles are recorded per minute on one day. The committee uses a systematic sample to select a random sample of 5% of the data for their report. Determine which vehicles within the hour will be in the sample using (4, 7) from the random table below. Show all workings.

73547	43759	95632	39555	74391	07579	69491	02647	17050	49869
07277	93217	79421	21769	83572	48019	17327	99638	87035	89300
65128	48334	07493	28098	52087	55519	83718	60904	48721	17522
38716	61380	60212	05099	21210	22052	01780	36813	19528	07727
31921	76458	73720	08657	74922	61335	41690	41967	50691	30508