

8/5/2024 (Mookey)

Exam. Code: 0040
Sub. Code: 0996

2054
B.Sc. (Hons.) Bio-Informatics
Second Semester
BIN-2004: Statistics and Computer Fundamentals

Time allowed: 3 Hours

Max. Marks: 60

NOTE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each Unit.

x-x-x

1. Answer the following:-
- i) What do you mean by classification of the data?
 - ii) Show graphically the positions of mean, median and mode in a positively and negatively skewed series.
 - iii) Define normal distribution and write its probability density function.
 - iv) Differentiate between discrete and continuous random variable.
 - v) What is a stored program in computing?
 - vi) What are the milestones in the development of hardware and software?
 - vii) Write the name of primary and secondary storage devices in computer.
 - viii) Discuss about light pen mouse and joystick.

$(8 \times 1 \frac{1}{2})$

Unit-I

- 2 (a) Distinguish between primary and secondary data. State the chief sources of secondary data. What precautions should be taken in the use of secondary data?
- (b) Explain the difference between a histogram and frequency polygon and draw the histogram and frequency polygon of the following data:

Weekly Wages ('00Rs.)	10-20	20-30	30-40	40-50	50-60
No. of Workers	10	20	40	20	10

(6, 6)

P.T.O.

3. (a) Find the median, mode, quartile deviation and standard deviation of the following data:

Class:	10-20	20-30	30-40	40-50	50-60	60-70	70-80
Marks:	13	18	22	26	21	15	12

- (b) Define box and whisker plots and mention its construction in detail. (8, 4)

- 4 (a): Define the following with suitable examples:

- Moment generating function,
- Cumulative distribution function,
- Conditional probability,
- Uniform and Bernoulli distribution.

- (b): The probability that a contractor will get a plumbing contract is $\frac{2}{3}$ and the probability that he will not get an electrical contract is $\frac{5}{9}$. If the probability of getting at least one contract is $\frac{4}{5}$, what is the probability that he will get both?

- (c) Let X be a discrete random variable with probability distribution as:

$x:$	1	2	3
$P(X=x):$	$\frac{1}{6}$	$\frac{2}{6}$	$\frac{3}{6}$

Find mean and variance of random variable X by using mathematical expectation.

(6, 3, 3)

Unit-II

5. a) What are the basic organization of a computer system? Discuss in detail.
 (b) Define computer algorithms and discuss their importance in computing. Provide examples of commonly used algorithms. (6, 6)
6. (a) Explain the concept of computers as a system, including basic components such as stored programs and functional units. Discuss how these components interact within a computer system.
 b) Differentiate between the primary and secondary memory. (8, 4)
7. Discuss the commonly used mass storage devices in computer systems. Explain the role or significance of mass storage devices in modern computing environments. (12)