

**3/LIS/302 (For Repeaters)**

**2005**

( December )

**LIBRARY AND INFORMATION SCIENCE**

**( Library System Analysis and Elements of  
Statistical Methods )**

Course No. : 302

*Full Marks : 75*

*Time : 3 hours*

*The questions are of equal value*

Answer **five** questions, taking at least **two**  
from each Section

**SECTION—A**

1. What is a system? Discuss the characteristics of a library as an open system with suitable examples.
2. What is system analysis? What is the role of library professionals in system analysis?
3. What is Data Flow Diagrams (DFD)? Discuss the charting tools used for Data Flow Diagrams.
4. Suppose you are required to computerise a small library. What are the steps you will consider? Explain with flow charts.

5. Write short notes on any *two* of the following :

- (a) Decision tables
- (b) Knowledge-based systems
- (c) Systems development life cycle
- (d) Systems implementation

SECTION—B

6. (a) Obtain the median for the following frequency distribution :

$x$	:	1	2	3	4	5	6	7	8	9
$f$	:	8	10	11	16	20	25	15	9	6

(b) What are the merits and demerits of mode?

7. (a) What are (i) quartile deviation, (ii) mean deviation and (iii) standard deviation?

(b) Calculate the mean and standard deviation for the following table giving the age distribution of 542 members :

Age (in years)	:	20-30	30-40	40-50	50-60
No. of members	:	3	61	132	153

Age (in years)	:	60-70	70-80	80-90
No. of members	:	140	51	2

8. (a) Calculate the correlation coefficient for the following heights (in inches) of fathers (X) and their sons (Y) :

X : 65 66 67 67 68 69 70 72

Y : 67 68 65 68 72 72 69 71

- (b) What are the lines of regression? Show that correlation coefficient is the geometric mean between the regression coefficients.

9. (a) What is meant by probability?

- (b) What do you understand by—

(i) exhaustive events;

(ii) mutually exclusive events;

(iii) equally likely events?

10. Write notes on any *two* of the following :

(a) Methods of collection of primary and secondary data

(b) Skewness and kurtosis

(c) Expectations

(d) Scope of statistics and its applications in library science

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