(Objective Type Questions)

1. Variance of Poisson distribution is 4, its mean is
    a) 2   b) 4   c) 1   d) ½
2. In computers "ROM" means ---------
3. Which of the following is output device?
    a) Keyboard b) Mouse   c) Printer   d) scanner
4. In sampling "SWOR" means --------
5. Simple Random Sampling is mostly used for heterogeneous Population (T/F)   (1X5)

(Very Short Answer Questions – I)

6. $P(A) = 5/36$ $P(B) = 6/36$ $P(A\ B) = 5/18$ find $P(A\ B)$.
7. For the regression equation $Y = ax + b$, write two normal equations to estimate constants.
8. What type of association the following attributes have?
    $(A) = 30$ $(B) = 100$ $(AB) = 15$ $N = 200$
9. Define Index Number.
10. Define Specific Fertility rate.   (2X5)

(Very Short Answer Questions – II)

11. An integer is chosen from 20 to 30. Find the probability that it is
    (a) a prime number   (b) multiple of 7
12. State Bayes theorem.
13. X is a random variable with probability p(X), find variance of x

X	-1	0	1	2
P(X)	1/3	1/6	1/6	1/3

14. Prove that correlation coefficient is geometric mean of regression coefficients.
15. A and B are two attributes $(AB) = 50$ $(ab) = 782$ $(Ab) = 79$ $(aB) = 89$.
    Find yules coefficient of association.
16. Define association and correlation.
17. Why Fishers index number is known as ideal index number?
18. Define mortality and fertility.
19. What are the various methods used to obtain vital statistics?
20. What are the Principles of sampling survey?
21. What is stratifies sampling? What are its merits?
22. What are the importance of internet?   (3X12)

(Short Answer Type Question)

23. A random variable X has following probability distribution

X	0	1	2	3	4	5	6	7
P(X)	0	k	2k	2k	3k	k^2	$2k^2$	$7k^2 + k$

Find

(a) k   (b) P(0 < X < 5)   (c) P (X > 4)

OR

Define Binomial Distribution. Find its variance.   (4X1)

(Long Answer Type Questions)

24. If θ is the angle between two regression lines deduce the expression for 'tan θ'. Find θ when r = 0 and 1.

OR

Prove that regression coefficients are independent upon change of origin but not scale.

25. What are the components of Time Series? Explain any two.

OR

Fit a trend line by using semi average method

Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Sales	100	200	150	300	200	350	500	300	400	600	500	400

26. What is Time Reversal Test and Factor Reversal Test? Prove that Fishers ideal index number follows both tests.

OR

From the following data, construct the index number by using
(a) Laspeyres method   (b) Paasches Method (c) Fishers method

Commodity	Price in Base year	Price in Current year	Quantity in Base year	Quantity in Current year
A	10	15	2	3
B	20	25	4	5
C	30	35	5	7
D	40	45	6	8
E	50	55	4	5

(5X3)