

17. Solve by Quadratic formula $y^2 - y = 7$.
18. If the total costs are $C(x) = 500 + 90x$, and total revenues are $R(x) = 150x + x^2$. Find the Break-even point(s).
19. How many terms of the sequence -8, -4, 0, Must be taken so that the sum be 132.
20. Find three numbers in A.P whose sum is 9 and the product is -165.
21. Explain Methods of collecting secondary data.
22. Calculate the harmonic mean.
- | | | | | | | | | |
|-----------|---|-------|-------|-------|-------|-------|-------|-------|
| Marks | : | 30-39 | 40-49 | 50-59 | 60-69 | 70-79 | 80-89 | 90-99 |
| Frequency | : | 2 | 3 | 11 | 20 | 32 | 25 | 7 |
23. Find QD and its coefficient.
- | | | | | | | | |
|---------------|---|---------|----------|----------|----------|----------|----------|
| Wages | : | Below 5 | Below 10 | Below 15 | Below 20 | Below 25 | Below 30 |
| No of workers | : | 4 | 10 | 13 | 21 | 33 | 40 |

(Ceiling: 35 Marks)

Part C (Essay questions)

Answer any *two* questions. Each question carries 10 marks.

24. If $U = \{1, 2, 3, 4, 5, 6, 7, 8\}$ $A = \{1, 2, 3\}$ $B = \{2, 4, 5\}$ $C = \{2, 4, 6\}$ Verify De Morgan's Law.
25. Solving of simultaneous equations with the help of matrices (Cramer's Rule)
- $$3X + 2Y + Z = 6$$
- $$2X - 3Y + 3Z = 2$$
- $$X + Y + Z = 3$$
26. Solve $x + 9y - z = 4$
- $$2x + 7y + 3z = 7$$
- $$3x + 10y + 4z = 9$$
27. Explain steps in statistical enquiry. Also explain different source and type of data.

(2 × 10 = 20 Marks)
