



Federal Board SSC-I Examination
General Mathematics Model Question Paper

Time allowed: 2.40 hours

Total Marks: 60

Note: Attempt any nine parts from Section 'B' and any three questions from Section 'C' on the separately provided answer book. Use supplementary answer sheet i.e. Sheet-B if required. Write your answers neatly and legibly. Log book and graph paper will be provided on demand.

SECTION – B (Marks 36)

Q.2 Attempt any **NINE** parts from the following. All parts carry equal marks. ($9 \times 4 = 36$)

- i. Out of his total income, Hamza spends 20% on house rent and 70% of the rest on household expenditure. If he saves Rs.1800, what is his total income?
- ii. If 4200 soldiers have food for 32 days sufficient at a rate of 12 hectograms per soldier. How many soldiers may leave so that the same food may be sufficient for 42 days at a rate of 16 hectograms per soldier?
- iii. An amount of Rs.4,00,000 left as an inheritance is to be distributed among a widow and four daughters. Workout the share of each.
- iv. If 15% discount on Marked Price of a heater is allowed and still makes a profit of 2%. If it is sold on Marked Price, what is profit percentage?
- v. Rs.3720 are to be divided into three shares in such a way that 1st share would be double, triple to the 2nd and 5 times to the 3rd are equal.
- vi. Mr. Akram got a truck on lease for 5 years through a bank. The price of truck is Rs.2,000,000. He paid 20% of price as down payment. Find mark up on the balanced amount at the rate of 17%.
- vii. Find compound profit on Rs.600 for 4 years at 6% per annum.
- viii. The total taxable income of a person is Rs.4,30,000. If he is given rebate Rs.3,000 on the tax chargeable, then workout the amount he has to pay as an income tax @ 4.5%.
- ix. Simply $\frac{(2ab^2)^4 \times (6a^2b)^2}{4ab \times 16a^2b^2}$
- x. Prove that $\log\left(\frac{a^2}{bc}\right) + \log\left(\frac{b^2}{ca}\right) + \log\left(\frac{c^2}{ab}\right) = 0$
- xi. Insert three A.Ms between 3 and 31.
- xii. If $A = \{1, 7, 11, 15, 17, 21\}$, $B = \{11, 17, 19, 23\}$ and $C = \{2, 3, 5\}$, verify that $(A \cap B) \cap C = A \cap (B \cap C)$
- xiii. If $S = \{1, 2, 4, 8\}$ and $T = \{1, 3, 9\}$
 - (a) Find $S \times T$
 - (b) Write the binary relation $R = \{(x, y) | x \in S, y \in T \wedge y > 2x\}$ in tabular form.
 - (c) Find the domain of R.
 - (d) Find the range of R.

- xiv. For $x + 2y = -2$
- find x when $y = 2$
 - find y when $x = 4$
 - find x -intercept
 - use results of (a), (b), (c) to plot the graph.

SECTION – C (Marks 24)

Note: Attempt any **THREE** questions. Each question carries six marks. (3 × 8 = 24)

- Q.3 A person insured his bus worth Rs.2,500,000 @ 4.5% for 6 years. After two years, he claimed for Rs.400,000. How much loss had he recovered if rate of depreciation is 10%?
- Q.4 What sum of money would produce Rs.630.50 in 3 years at 5% compound profit?
- Q.5 Evaluate by using the logarithm $\frac{\sqrt[3]{8.59} \times (55.6)^2}{2.51 \times \sqrt{2.12}}$
- Q.6 If $U = \{7, 8, 9, 10, 11, 12, 13, 14\}$, $A = \{7, 10, 13, 14\}$ and $B = \{7, 8, 11, 12\}$, then
- find $A \cap B$
 - find A^c
 - find B^c
 - find $A^c \cup B^c$
 - find $(A \cap B)^c$
 - check if $(A \cap B)^c = A^c \cup B^c$
- Q.7 For the given values 1, 2, 3, 4, 6, 8, 11
- find $\sum x$
 - calculate mean \bar{x}
 - for every x , find $x - \bar{x}$
 - find $(x - \bar{x})^2$ for every x
 - find the standard deviation