ALLAMA IQBAL OPEN UNIVERSITY
(Department of Mathematics)

WARNING

1. **PLAGIARISM OR HIRING OF GHOST WRITER(S) FOR SOLVING THE ASSIGNMENT(S) WILL DEBAR THE STUDENT FROM AWARD OF DEGREE/CERTIFICATE, IF FOUND AT ANY STAGE.**
2. **SUBMITTING ASSIGNMENT(S) BORROWED OR STOLEN FROM OTHER(S) AS ONE'S OWN WILL BE PENALIZED AS DEFINED IN "AIOU PLAGIARISM POLICY".**

Assignment Submission Schedule			
6 credit Hours	**Due Date**	**3 credit hours**	**Due date**
Assignment 1	**15-12-2026**	**Assignment 1**	**08-01-2027**
Assignment 2	**08-01-2027**		
Assignment 3	**30-01-2027**	**Assignment 2**	**20-02-2027**
Assignment 4	**20-02-2027**		
Note: ***Tutorial schedule (Rehnama-e-Tulba) will available on AIOU website: http://www.aiou.edu.pk***			

Course: Mathematics-I (247) **Semester: Autumn, 2026**

Level: Matric

Please read the following instructions for writing your assignments. (SSC, HSSC & BA Programmes)

1. All questions are compulsory and carry equal marks but within a question the marks are distributed according to its requirements.
2. Read the question carefully and then answer it according to the requirements of the questions.
3. Late submission of assignments will not be accepted.
4. Your own analysis and synthesis will be appreciated.
5. Avoid irrelevant discussion/information and reproducing from books, and study guides of allied material.

Total Marks: 100 **Pass Marks: 40**

Assignment No. 1
(Units 1 to 5)

Question 1 **(20)**

(a) The price of a car is Rs. 12,50,000, whereas the rate of premium is Rs. 4.50% for a tenure of 5 years. Calculate the total amount paid as insurance while depreciation is 10% yearly.

(b) Jamila and Alia enter into a partnership, and their shares are in the ratio $\frac{1}{2}:\frac{1}{3}$. After 4 months, Jamila withdraws half of her capital, and after 8 months more, a profit of Rs. 500 is divided. What is Jamila's share of profit?

Question 2 **(20)**

(a) XYZ Bank Rs. 8034 on its loan at 6% compound markup in 2 years. What amount did it lend?

(b) An army formation of 900 men has a food stock for 30 days. Later on, 150 army men leave the formation. For how many days will the same food be sufficient for the remaining army men?

Question 3 **(20)**

(a) The total taxable income of a person is Rs. 4,30,000. If he is given a rebate of Rs. 3000 on the tax chargeable, then work out the amount he has to pay as income tax @ 4.5%

(b) A shopkeeper bought 100 hockey balls for R. 40 each. He sells 20 of them at a profit of 5%. At what profit percent must he sell the remaining so as to get a profit 20% on the whole?

Question 4 **(20)**

(a) Najeeb left a wealth amounting to Rs. 4,00,000. He left behind a widow, while they did not have any children. Find the share of Najeeb's widow.

(b) In a certain year, Javed puts Rs. 600 in a private bank at the end of March and Rs. 400 in the same bank at the end of June. The bank offers 3% per annum simple interest rate. Find the total amount Javed receives from the bank at the end of December in that year?

Question 5 **(20)**

(a) A lady worker works a six-day week. She starts work at 7.00 AM and finishes at 4 PM. She has 15 minutes break in the morning and 45 minutes break in the afternoon. How long does she actually work in a week, and how much is she paid, if the rate of payment is Rs. 40 per hour?

(b) The marked price of a book is Rs. 480. The shopkeeper offers a discount of 10% and still gains 8%. Find the price at which the shopkeeper purchased it.

Total Marks: 100 **Pass Marks: 40**

Assignment No. 2
(Units 6 to 9)

Question 1 **(20)**

(a) Insert n G.Ms between two numbers a and b.

(b) If $L = \{1,2,3\}$ and $M = \{2,3,4\}$ Then write a binary relation R such that $R = \{(x, y) | \ x \in L, \ y \in M \wedge y \leq x\}$. Also write Dom (R) and Range (R).

Question 2 **(20)**

(a) Using a logarithmic table, evaluate $\frac{(6.45)^3 \times (0.00034)^{1/3} \times (981.9)}{(9.37)^2 \times (8.93)^{1/4} \times (0.0617)}$

(b) Prove that $7\log\left(\frac{16}{15}\right) + 5\log\left(\frac{25}{24}\right) + 3\log\left(\frac{81}{80}\right) = \log 2.$

Question 3 **(20)**

(a) If $A = \{1,2,3,4,5\}$, $B = \{6,7,8\}$ and $C = \{3,4,6\}$. Verify that

$$(A \cup B) \cap C = (A \cap C) \cup (B \cap C).$$

(b) Insert n A.Ms between two numbers a and b.

Question 4 **(20)**

Draw the graphs of:

(a) $\frac{y}{7} = \frac{x}{4} - \frac{7}{17}$.

(b) $\frac{y}{6} = \frac{2x}{17} + \frac{7}{4}$.

Question 5 **(20)**

(a) Find the harmonic mean of the values $20, 500$ and 1500.

(b) Find the median for the set of values: $8, 6, 5, 2, 3, 1, 7, 4$.