# 2303080603060004
# EXAMINATION MARCH 2025
# MASTER OF SCIENCE (MICROBIOLOGY)
# (THIRD SEMESTER)
# GE - 4 : MATHEMATICS AND GENERAL APTITUDE SKILLS

**[Time: As Per Schedule]** **[Max. Marks:30 ]**

**Instructions:**
**1. Fill up strictly the following details on your answer book**
   a. Name of the Examination : **MASTER OF SCIENCE (MICROBIOLOGY) (THIRD SEMESTER)**
   b. Name of the Subject : **GE - 4 : MATHEMATICS AND GENERAL APTITUDE SKILLS**
   c. Subject Code No : **2303080603060004**
2. Sketch neat and labelled diagram wherever necessary.
3. Figures to the right indicate full marks of the question.
4. All questions are compulsory.
5. Appropriate calculations wherever is required.

Seat No:

| | | | | | |
|---|---|---|---|---|---|
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Student's Signature

**Q.1 Answer the following: (Any two)** **7**

A. (i) What is the day of the week for 4th July 2024, if 1st July 2024 is a Monday?

(a) Saturday (b) Thursday

(c) Tuesday (d) Monday

(ii) If today is Friday, what day of the week will it be 45 days from now?

(a) Saturday (b) Thursday

(c) Tuesday (d) Monday

B. (i) Find the missing number in the series: 5, 15, 35, ___, 135

(a) 21 (b) 36

(c) 75 (d) 90

(ii) Find the missing number in the series: 3, 12, 27, ____,75

(a) 64 (b) 74

(c) 30 (d) 55

C. (i) What time between 3:00 and 4:00 are the hour and minute hands of a clock exactly on top of each other?

(a) 3:30 (b) 3:10

(c) 3:16 (d) 3:30

(ii) A cyclist travels at a speed of 15 kilometers per hour. How far will they travel in 3 hours and 30 minutes?

(a) 50 km (b) 52.5 km

(c) 39 km (d) 45 km

**Q.2 Answer the following: (Any two)** **8**

A. (i) Find the greatest common divisor (GCD) of 45 and 75.

(a) 15 (b) 12

(c) 18 (d) 25

(ii) What is the sum of the first 100 natural numbers?

(a) 2300 (b) 5050

(c) 4542 (d) 2895

B. (i) Susan walks 5 km north, then 12 km west. How far is Susan from her starting point?

(a) 13 km (b) 45 km

(c) 36 km (d) 48 km

(ii) A hiker walks 9 km west, then 12 km south. How far is the hiker from the starting point?

(a) 45 km (b) 36 km

(c) 48 km (d) 15 km

C. (i) A deck of cards has 52 cards. What is the probability of drawing a king?

(a) 1/13 (b) 4/52

(c) 5/12 (d) 4/13

(ii) If in a certain code, the word "CAT" is written as "3120", how would you encode the word "DOG"?

(a) 24567 (b) 41507

(c) 54608 (d) 34543

**Q.3 Answer the following: (Any two)** **8**

A. (i) $5X - 12 = 3X + 8$

(ii) $\sqrt{x + 4} = 5$

B. (i) The average age of 5 students is 20 years. If the age of one more student is added, the average increases by 1 year. What is the age of the sixth student?

(a) 120 (b) 110

(c) 200 (d) 220

(ii) A company's revenue increased by 15% this year. If the revenue last year was ₹50,000, what is the revenue this year?

(a) ₹57500 (b) ₹43000

(c) ₹20000 (d) ₹60000

C. (i) A car dealer sells a car for ₹5, 00,000 with an option of a 10% down payment and the rest payable in 24 equal monthly installments. What is the amount of the down payment and each installment?

(a) ₹18750 (b) ₹19870

(c) ₹12450 (d) ₹34530

(ii) Neha took a loan of ₹300,000 to buy a car. The loan is to be repaid in 5 equal annual installments at an interest rate of 7% per annum. What is the amount of each installment?

(a) ₹73,147.43 (b) ₹20,146.67

(c) ₹3280.00 (d) ₹27,145.87

**Q.4 Answer the following: (Any two)** **7**

A. (i) Calculate the circumference of a circle with a radius of 3 cm. Use Π = 3.14

(a) 18.84 (b) 54.60

(c) 25.57 (d) 65.23

(ii) Find the volume of a cube with a side length of 4 cm.

(a) 64 $cm^2$ (b)25$cm^2$

(c) 45 $cm^2$ (d) 54$cm^2$

B. (i) Find the area of a rectangle with a length of 9 cm and a width of 6 cm.

(a) 64 $cm^2$ (b) 35 $cm^2$

(c) 40 $cm^2$ (d) 54$cm^2$

(ii) A fruit vendor sells apples at ₹30 each and oranges at ₹20 each. If a customer buys 4 apples and 5 oranges, what is the total cost?

(a) ₹220 (b) ₹320

(c) ₹450 (d) ₹500

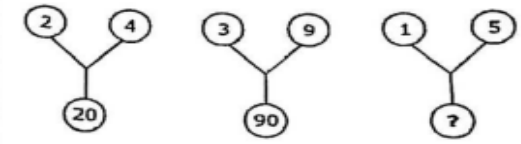
C. (i)

How many square are there in above image.

(a) 8 (b) 9

(c) 11 (d) 6

(ii) Find the question mark in the following series?




(a) 21 (b) 50

(c) 26 (d) 30

*****END*****