

**Fourth Semester FYUGP Degree (Reg) Examination April 2026**

**KU4VACMAT201 - MATHEMATICAL REASONING**

2024 Admission onwards

Time : 1.5 hours

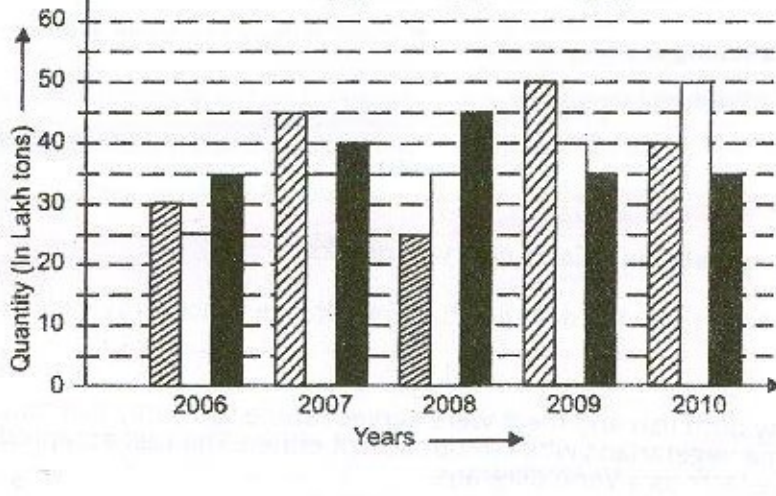
Maximum Marks : 50

**Section A**

Answer any 6 questions. Each carry 2 marks.

- Find out the wrong term in the number series:  
196, 169, 144, 121, 101, ?
- Find the missing number in the sequence:  
1, 6, 15, ?, 45, 66, 91
- The bar graph given below gives the data of the production of paper (in lakh tonnes) by three different companies X, Y and Z over the last 5 years. Study the graph carefully and answer the questions that follow. What is the difference

**Production of Paper (in lakh tons) By Companies X, Y and Z over the Years**



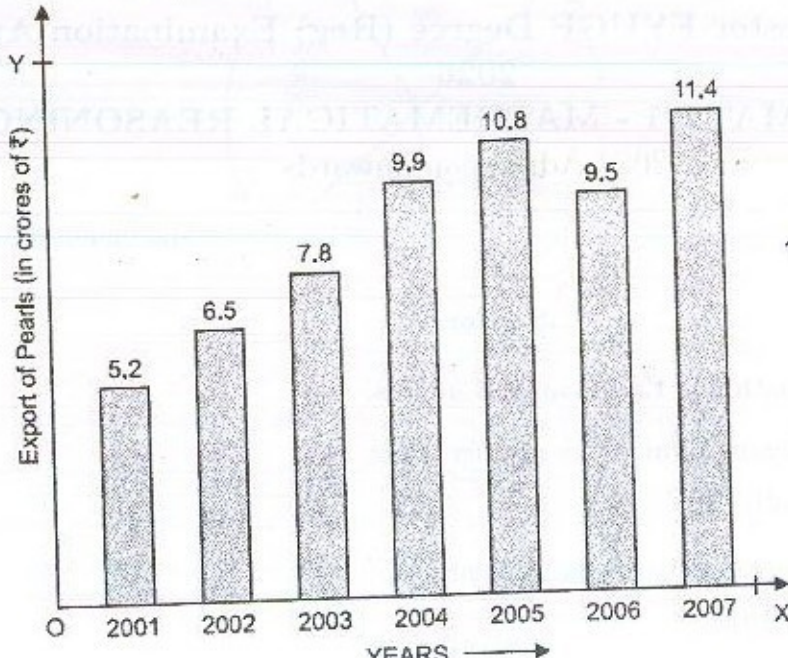
between the production of Company Z in 2008 and Company Y in 2006?

- In the series given below, how many 8's are there each of which is exactly divisible by its immediate preceding as well as succeeding numbers?  
2838248248682824838286

- Study the following bar graph carefully and answer the question. What is the average export of pearls for the given period (in crores)?

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**Export of Pearls (in crores of rupees)**



- If Atul finds that he is twelfth from the right in a line of boys and fourth from the left, how many boys should be added to the line such that there are 28 boys in the line?

- If  $A = 26$ ,  $SUN = 27$ , then  $CAT = ?$

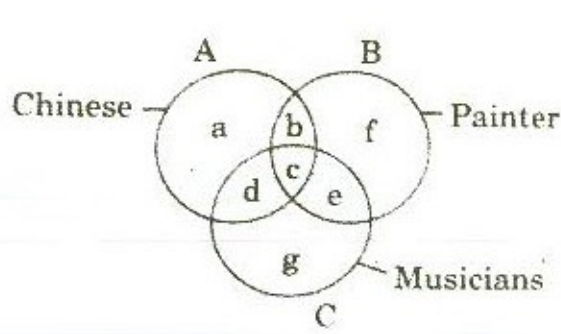
- Two separate items belong to the class of third. Represent these as a Venn diagram.

**Section B**

Answer any 4 questions. Each carry 6 marks.

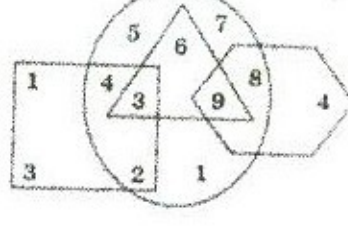
- How many numbers from 11 to 50 are there which are exactly divisible by 7 but not 3?
- In a dinner party both fish and meat were served. Some took only fish and some only meat. There were some vegetarians who did not accept either. The rest accepted both fish and meat. Represent these facts as a Venn diagram.
- Rajan is sixth from the left end and Vinay is tenth from the right end in a row of boys. If there are eight boys between Rajan and Vinay, how many boys are there in the row?
- In certain code, 3456 is coded as ROPE and 15526 is coded as APPLE. How is 54613 written in the same code?
- In the figure given below, there are three intersecting circles each representing certain section of people. Read the statements in each of the following questions and choose the letter of the region which represents the statement.

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- Chinese who are painters but not musicians?
- Painters who are neither Chinese nor musicians?
- Chinese who are musicians but not painters?
- Chinese who are painters as well as musicians?

- Study the figure given below and answer the questions that follow:



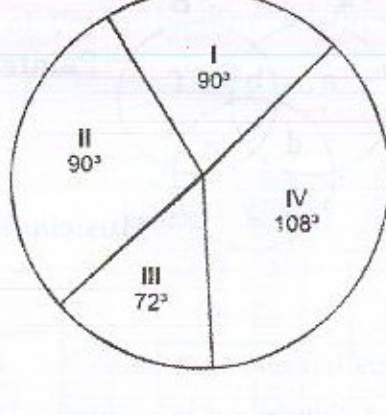
- Which number belongs to all the figures ?
- What is the sum of the numbers which belong to two figures only ?
- What is the product of the numbers which belong to three figures only ?
- What is the sum of the numbers which belong to one figure only ?
- What is the product of the numbers which belongs to two figures only ?
- What is the product of numbers outside the triangle ?

**Section C**

Answer any 1 questions. Each carry 14 marks.

- Find the missing number in the sequence:  
325, 259, 204, 160, 127, 105, ?
  - Find out the wrong term in the number series:  
25, 36, 49, 81, 121, 169, 225
  - Which number set of numbers is like the given set (6, 15, 28) ? Also explain the relationship with the given group of numbers.  
(i) (46, 56, 66) (ii) (50, 59, 71) (iii) (60, 67, 72) (iv) (60, 69, 82)
- The total expenditure of a company for a particular month is 60000. The various heads of expenditure I to IV are indicated in a pie chart given below. These heads are: I. Raw materials II. Conveyance III. Electricity IV. Overhead expenses

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- What percentage of total expenditure is on Electricity?
- What is the total expenditure on Conveyance?
- What is the amount spent on Overhead expenses?
- What percentage of total expenditure is on Raw materials?

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