



7th All India RPS



OL  **MPIAD**

Online & Offline Mega Event

QUESTION PAPER

M.M:60

Time: 60 minutes

OFFLINE EXAMINATION (PHASE-II)

CLASS - VI

Name: _____ Reg. No. _____ Mobile No. _____

General Instructions:

1. Duration of the examination is 60 minutes. Question Paper contains 60 questions with maximum 60 marks.
2. There will be negative marking in Phase – II, i.e. $\frac{1}{4}$ mark will be deducted for each incorrect answer.
3. Use of gadgets is not allowed.
4. Students must abide by the instructions issued during the examination by the invigilator or the centre incharge.
5. Before attempting the question paper ensure that it contains all pages & no question is missing.
6. Immediately fill the particulars on this page of the test booklet and OMR with BLACK ballpoint pen only. Use of pencil is strictly prohibited.
7. Fill and darken the bubbles completely. Do not put a tick or a cross.
8. Half -filled or over-filled bubbles will not be read by the software & liable to be rejected.

Correct Method



Student's Signature

Wrong Method



Invigilator's Signature

SPACE FOR ROUGH WORK

English (15 marks)

Q1. What is the past participle form of the verb 'Bet'?

- (A) Beat (B) Beaten (C) Bet (D) Betted

Q2. What is the function of a 'Gerund'?

- (A) Verb + Noun (B) Verb + Adjective
(C) Verb + Participle (D) Verb + Preposition

Q3. Choose the correct plural form of 'Radius':

- (A) Radiuses (B) Radii (C) Radia (D) Radiums

Q4. This is the _____ of the two solutions.

- (A) better (B) more good (C) good (D) more better

Q5. Which sentence shows noun used as an adjective?

- (A) I love reading books. (B) She wore a gold ring.
(C) Honesty is the best policy. (D) The students are studying.

Q6. Identify the sentence where the adjective is used predicatively:

- (A) She is a tall girl. (B) The boy is tall.
(C) The tall boy won the race. (D) The tall tree fell down.

Q7. Choose the correct sentence:

- (A) You, I and he are criminals. (B) He, you and I are criminals.
(C) I, you and he are criminals. (D) He, I and you are criminals.

Q8. Fill in the blank with an appropriate option:

I wish I _____ taller.

- (A) am (B) was (C) were (D) will be

Q9. Which sentence can not be changed into passive?

- (A) She has a car. (B) They are building a road.
(C) They gave me a prize. (D) The teacher praises him.

Q10. Choose the correct passive form:

She told him to sit down.

- (A) He was told to sit down. (B) He is told to sit down.
(C) He was being told to sit down. (D) He told her to sit down.

Q11. Which is a causative verb?

- (A) He runs fast. (B) She sings sweetly.
(C) The teacher made him stand. (D) They walk quickly.

Q12. Choose the word closest in meaning to 'melancholy':

- (A) sadness (B) happiness (C) anger (D) excitement

Q13. Antonym of 'benevolent' is:

- (A) cruel (B) kind (C) generous (D) charitable

Q14. By next week, I _____ the project.

- (A) will finish (B) will have finished (C) finished (D) have finished

Q15. Choose the correct sentence.

- (A) I am lived here for 5 years. (B) I am living here for 5 years.
(C) I have lived here for 5 years. (D) I was lived here for 5 years.

Mathematics (15 Marks)

Q16. An angle is 14° more than its complementary angle, then the angle is:

- (A) 38° (B) 14° (C) 50° (D) 52°

Q17. A, B, C and D are four collinear points. If $AB > CD$, which of the following must be true?

- I. $AB > BC$ II. $AC > BD$ III. $AC > CD$

- (A) II Only (B) I Only (C) II & III Only (D) III Only

Q18. The ratio of the area of a square to that of the square drawn on its diagonals is:

- (A) 1:1 (B) 1:2 (C) 1:3 (D) 1:4

Q19. The length of the side of a grassy square plot is 80 m. Two walking paths each 4m wide are constructed parallel to the sides of the plot such that they cut each other at the centre of the plot. Determine the area of the paths.

- (A) $624 m^2$ (B) $1200 m^2$ (C) $1360 m^2$ (D) $642 m^2$

Q20. The mean of a set of observation is 'a'. If each observation is multiplied by 'b' and each product is decreased by 'c', then the mean of new set of observation is:

- (A) $\frac{a}{b} + c$ (B) $ab - c$ (C) $\frac{a}{b} - c$ (D) $ab + c$

Q21. In an exhibition hall, there are 24 display boards each of length 1m 50cm and breadth 1m. There is a 100m long aluminium strip, which is used to frame these boards. How many boards will be framed using this strips? Also, find the length of the aluminium strip required for the remaining boards?

- (A) 20, 10 (B) 10, 20 (C) 20, 20 (D) 10, 10

Q22. The average of n number $x_1, x_2, x_3, \dots, x_n$ is A . If x_1 is replaced by $(x + a)$ x_2 is replaced by $(x + a)$ $x_3 \dots \dots x_n$ is replaced by $(x + a)$ x_n , then the new average is-

- (A) $\frac{(n+1)A+x_n}{n}$ (B) $\frac{(x-1)A+nx_n}{n}$ (C) $\frac{nA+1(n+1)x_n}{n}$ (D) $(x + a)A$

Q23. The five digit number $24x8y$ is divisible by 4, 5 and 9. What is the sum of digits x and y ?

- (A) 10 (B) 5 (C) 9 (D) 4

Q24. If a and b are two natural numbers such that their GCD is same as their LCM. Then which of the following is necessarily true?

- (A) $a = b = 1$ (B) $a < b$
(C) a divides b but $a \neq b$ (D) $a > b$

Q25. The LCM of two numbers is 12 times their HCF. The sum of LCM and HCF is

403. If one of the number is 93, then what is the other number?

- (A) 124 (B) 128 (C) 134 (D) 138

Directions (Q26 & Q27): Mr. Sharma wants to create a sustainable garden by planting nature flowering plants in a specific pattern. He planted 1 plant on day 1, 3 on day 2, 6 on day 3 and so on.

Q26. Find the total number of plants planted in first 4 days?

- (A) 9 (B) 15 (C) 16 (D) 20

Q27. If Mr. Sharma continues to plant in the above pattern, then on which day, he will plant 55 plants?

- (A) Day 9 (B) Day 8 (C) Day 10 (D) Day 11

Q28. Find the error in the given palindrome sum

$$\begin{array}{r}
 649 \\
 + 946 \\
 \hline
 1595 \\
 + 5951 \\
 \hline
 7456 \\
 + 6547 \\
 \hline
 14003 \\
 + 30041 \\
 \hline
 44044
 \end{array}
 \begin{array}{l}
 \text{---1} \\
 \\
 \text{---2} \\
 \\
 \text{---3} \\
 \\
 \text{---4}
 \end{array}$$

- (A) In step 1 (B) In step 2 (C) In step 3 (D) In step 4

Q29. I am a 5 - digit number. I have only 3 digits 4, 5, 8.

I am the smallest palindromes form using the given three digits:

- (A) 48584 (B) 45854 (C) 44844 (D) 40508

Q30. If the sides of a square 'x' are two times those of square 'y' then the area of square 'x' would be

- (A) the same as that of square y (B) two times that of square y
 (C) three times that of square y (D) four times that of square y

Science (15 Marks) Phy.+Chem. +Bio.

Physics (5 Marks)

Q31. Two identical bar magnets are placed one over the other such that their same poles coincide. The resultant magnetic moment is:

- (A) zero (B) same as one magnet
 (C) double that of one magnet (D) half that of one magnet

Q32. A mercury thermometer is calibrated from -10°C to 110°C . The length of the mercury column at -10°C is 5 cm and at 110°C is 25 cm. What is the length of mercury column at 50°C ?

- (A) 12.5 cm (B) 14 cm (C) 15 cm (D) 17.5 cm

Q33. What will happen if you touch both terminals of a 9V battery with a metal wire directly?

- (A) The battery will explode immediately
(B) The wire may get hot and the battery will drain quickly
(C) The wire will store electricity
(D) Nothing will happen because it's only 9V

Q34. A car covers the first half of the distance at 40 km/h and the second half at 60 km/h. What is the average velocity for the whole trip?

- (A) 48 km/h (B) 50 km/h (C) 52 km/h (D) 55 km/h

Q35. A runner completes one round of a circular track of radius 35 m. Find the ratio of distance to displacement.

- (A) 0 : 220 (B) 220 : 0 (C) 220 : 1 (D) 2 : 1

Chemistry (5 Marks)

Q36. A few statements about centrifugation method are given:

- (I) The mixture containing very small suspended particles is rotated at a high speed in a centrifuge machine.
(II) The denser particles stay at the top.
(III) The method is used to separate water from wet clothes in a washing machine.
(IV) The method can be used in laboratories for separating plasma and platelets.

The correct statements are:

- (A) I and IV only (B) I, II and III only
(C) II, III and IV only (D) I, III and IV only

Q37. In Canada, municipal workers sprinkle salt on icy roads instead of using hot water. Why?

- (A) Salt reacts with ice to form water
(B) Salt lowers the freezing point of ice
(C) Salt raises the freezing point of water
(D) Salt prevents ice from evaporating

Q38. Properties of three substances X, Y and Z are given below:

X : Heavy and non-magnetic

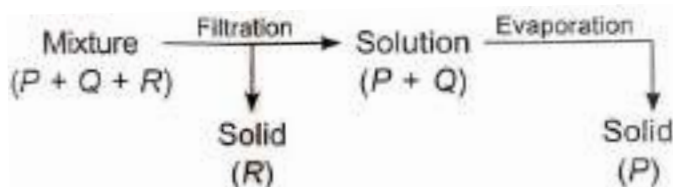
Y : Light and non-magnetic

Z : Magnetic

If X, Y and Z are of the same size and colour then, which of the following can be used to separate these particles from their mixture?

- (A) Handpicking followed by filtration
- (B) Winnowing followed by magnetic separation
- (C) Magnetic separation followed by sieving
- (D) Sublimation followed by distillation

Q39. Study the given flow chart carefully:



P, Q and R could be respectively

- (A) Chalk powder, water and sawdust
- (B) Salt, water and sugar
- (C) Sugar, water and Sawdust
- (D) Sawdust, water and sugar

Q40. Which of the following groups is based on more than one property?

- (A) Metals and Non-metals
- (B) Soluble and Insoluble substances
- (C) Hard and Soft substances
- (D) Transparent, Translucent, and Opaque

Biology (5 Marks)

Q41. A student eats only chapati and ghee for a month. He does not show deficiency of calories, but develops swelling in the face and reddish hair. Which deficiency disease is this?

- (A) Marasmus
- (B) Kwashiorkor
- (C) Beri-beri
- (D) Pellagra

Q42. Match the plant part with its correct modification:

1. Potato

2. Carrot

3. Tendril of pea

4. Thorns of Bougainvillea

a) Stem modification

b) Leaf modification

c) Root modification

d) Underground stem modification

Options:

(A) 1–a, 2–c, 3–d, 4–b

(B) 1–d, 2–c, 3–b, 4–a

(C) 1–d, 2–c, 3–a, 4–b

(D) 1–a, 2–d, 3–c, 4–b

Q43. A student observed an aquatic plant with narrow, ribbon-like leaves submerged fully under water. Which adaptive feature explains this leaf shape?

(A) To reduce resistance to water current.

(B) To increase surface area for sunlight.

(C) To store extra food for survival.

(D) To prevent grazing by aquatic animals.

Q44. During a test for fats, a piece of food was pressed between filter paper. An oily patch appeared, which did not dry up. Which inference is correct?

(A) Fats are soluble in water and leave a greasy mark.

(B) Presence of fats is confirmed because they leave a translucent spot.

(C) Proteins form greasy marks when pressed.

(D) Vitamins dissolve to form oily spots.

Q45. Assertion (A): Polar bear has thick fur and a layer of blubber under skin.

Reason (R): These adaptations help in reducing heat loss in cold polar environment.

(A) Both A and R are true, and R explains A.

(B) Both A and R are true, but R does not explain A.

(C) A is true, but R is false.

(D) A is false, but R is true.

Aptitude (15 Marks)

Q46. The post office is to east of the school while my house is to the south of the school. The market is to the north of the post office. If the distance of the market from the post office is equal to the distance of my house from the school. In which direction is the market with respect to my school?

- (A) North (B) East (C) North- East (D) South-West

Q47. Manish goes 7 km towards South-East from his house then he goes 14km turning to west. After this he goes 7 km towards North West and in the end he goes 9 km towards East. How far is he from his house?

- (A) 14 km (B) 7 km (C) 2 km (D) 5 km

Q48. In a marriage reception, pointing to a lady, a man said, “That lady is the only daughter of the father in law of my eldest brother.” What is the relation of that man with lady ?

- (A) Brother (B) Husband’s Younger Brother
(C) Nephew (D) Father

Q49. Read the following information carefully to answer the question

- (i) A \$ B means A is mother of B, (ii) A # B means A is father of B,
(iii) A @ B means A is husband of B, (iv) A % B means A is daughter of B.

If P @ Q \$ M # T, then how P is related to T?

- (A) Brother (B) Uncle (C) Father (D) Grand father

Q50. If the following mathematical signs are changed as given below, then select the option which represents the correct equation:

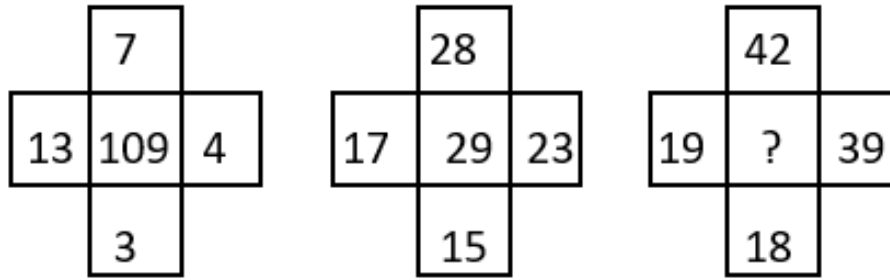
÷ is changed to + × is changed to – + is changed to × – is changed to ÷

- (A) $26 \times 18 \div 39 + 4 - 111 = 100$ (B) $26 + 18 - 39 \times 4 \div 111 = 119$
(C) $26 - 18 + 39 \times 4 \div 111 = 203$ (D) $26 - 18 + 39 \div 4 \times 111 = 40$

Q51. If “Patriot” is coded as (74 - 25) and “Soldier” is coded as (53 - 29), then how can “Chinese” be coded in the same code language?

- (A) (42 - 20) (B) (45 - 10) (C) (44 - 19) (D) (45 - 20)

Q52. Find the correct alternative which will replace the question mark?



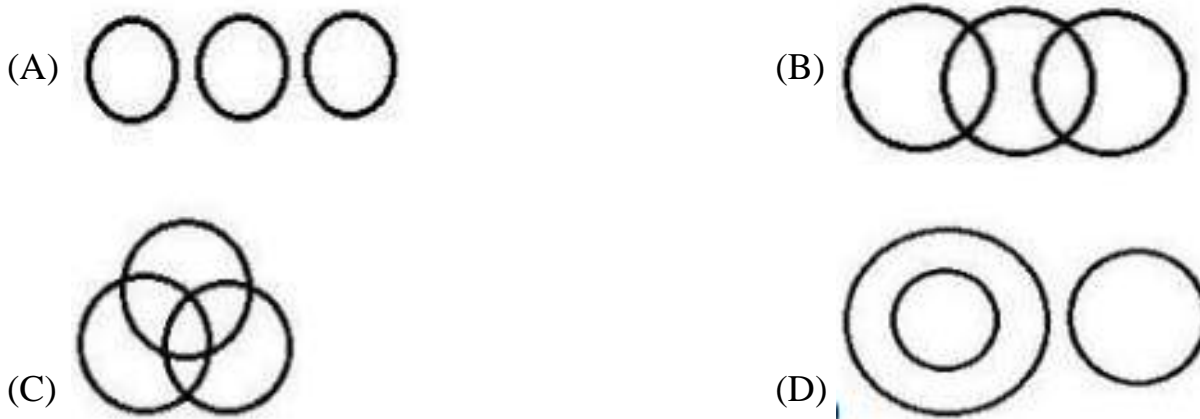
- (A) 7 (B) 25 (C) 4 (D) 10

Q53. In a certain code language, CREATIVE is written as BDSBFUJS, how is TRIANGLE written in that code?

- (A) BHSSFKHM (B) BHSSMHFH
 (C) BSHSFHKM (D) BSSHFMKH

Q54. Identify the diagram that best represents the relationship among the given classes.

Cats, Pets & Dogs



Q55. Select the correct option that will replace the question mark (?).

6, 8, 12, 42, 160, ?

- (A) 870 (B) 840 (C) 850 (D) 810

Q56. Seismology is to Earthquake as Entomology is to_____.

- (A) Insects (B) Blood (C) Soil (D) Heart

Q57. In the following question, find out the alternative which will replace the question mark (?).

$$7124 : 48 :: 3218 : ?$$

- (A) 27 (B) 57 (C) 45 (D) 75

Q58. Choose the 'odd one out' in the given options:

- (A) Zail Singh (B) V.V Giri
(C) Zakir Hussain (D) Rajiv Gandhi

Q59. Find the missing number (?):

4	5	3	2	0
7	3	4	4	21
6	4	4	5	22
9	6	5	5	?

- (A) 34 (B) 42 (C) 44 (D) 45

Q60. Choose the correct option that will replace the question mark (?).

Z, X, S, I, R, R, ?, ?.

- (A) G, I (B) J, I (C) J, K (D) K, M

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