# 6th All India RPS
## OLYMPIAD
**2024-25**

## QUESTION PAPER

**M.M:60**                                    **Time: 60 minutes**

### OFFLINE EXAMINATION (PHASE–II)

### CLASS - VII

**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. ¼ 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 in 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**                                    **Wrong Method**

Student's Signature                                    Invigilator's Signature

**SPACE FOR ROUGH WORK**

## English (15 marks)

**Choose the most appropriate option.**

**Q1. Ram along with his brothers _____coming today.**

   (a) are         (b) were         (c) is      (d) have been

**Q2. She is entirely right.**
   **Identify the kind of adverb 'entirely' used in the above sentence:**

   (a) Adverb of manner            (b) Adverb of degree

   (c) Adverb of number            (d) Adverb of quality

**Q3. Choose the correct Non-finite verb in the given sentence:**
   **Why do you ignore my warning?**

   (a) Gerund            (b) Infinitive

   (c) Past Participle            (d) Perfect Participle

**Q4. I acquiesced _____ his decision.**

   (a) in         (b) to         (c) with      (d) by

**Q5. He gave a talk _____the causes of dengue fever.**

   (a) of         (b) on         (c) for      (d) off

**Q6. You would _____believe me when I tell you what I saw.**

   (a) seldom         (b) often         (c) rarely      (d) scarcely

**Q7. I would have been successful provided _____.**

   (a) I get an opportunity            (b) I would get an opportunity

   (c) I had got an opportunity            (d) None of the above

**Q8. They barely knew each other, _____?**

   (a) did they         (b) didn't they         (c) does they      (d) doesn't they

**Q9. Someone has taken my book, _____?**

   (a) hasn't he         (b) hasn't they         (c) haven't he      (d) has he

**Q10. By next month, she _____that job for six months.**

   (a) will be doing            (b) will have been doing

   (c) will have done            (d) shall be doing

**Q11. Prepare yourself for the worst. (Choose the correct passive voice)**
   (a) You will prepared for the worst.
   (b) Be prepared for the worst.
   (c) The worst shall prepared by yourself.
   (d) For the worst, preparation can be done by you.

**Q12. Choose the correct statement:**

(a) He sweared that he had not stolen the bag.

(b) He was swearing that he had not stolen the bag.

(c) He swore that he had not stolen the bag.

(d) None of these

**Q13. The man said, "Let me have the first choice."**

(a) The man wished that he should have the first choice.

(b) The man proposed to have the first choice.

(c) The man desired that he had the first choice.

(d) The man claimed that he had the first choice.

**Q14. The kidnappers said, "If you do not pay the ransom, we will kill the boy."**

(a) The kidnappers said that if they paid not the ransom, they will kill the boy.

(b) The kidnappers threatened to kill the boy if they did not pay the ransom.

(c) The kidnappers threatened that if the parents of the boy did not pay the ransom, the boy will be killed.

(d) The kidnappers said to them that if you had not pay the ransom, we shall kill the boy.

**Q15. I, like Mohan and Sohan, _____ fond of mangoes.**

(a) are                (b) was                (c) am                (d) were

## Mathematics (15 Marks)

**Q16. Simplify:** $63-(-3)\left[\left\{-2-\overline{8-3}\right\}\div 3\left\{5+(-2)(-1)\right\}\right]$

(a) 26                (b) 48                (c) 62                (d) 96

**Q17. If** $\dfrac{x}{y}=\dfrac{9}{8}$, **then the value of** $\left(\dfrac{6}{7}+\dfrac{y-x}{y+x}\right)$ **equals to _____.**

(a) $\dfrac{9}{119}$        (b) $\dfrac{95}{119}$        (c) $\dfrac{19}{119}$        (d) $1\dfrac{9}{119}$

**Q18. If the mean of observations 14, 5, 4, 8, 2, 3, x is x, then find the value of x.**

(a) 6                (b) 7                (c) 8                (d) 9

**Q19. There are three angles. The second angle is one - third of the complement of the first angle. The third angle is half of the supplement of the first angle. The third angle is 6 times the second angle. Find the first angle.**

(a) $45^0$                (b) $60^0$                (c) $75^0$                (d) $90^0$

**Q20.** A wire is in the form of a square of side 18 m. It is bent in the form of rectangle, whose length and breadth are in the ratio of 3:1. What is the area of the rectangle?

(a) 81 m$^2$  (b) 243 m$^2$  (c) 144 m$^2$  (d) 324 m$^2$

**Q21.** The two sides of a triangle are 20 m and 40 m. Find the maximum length of the third side, if angles are in the ratio of 1:2:3.

(a) 20.5  (b) 25  (c) $20\sqrt{5}$  (d) 22

**Q22.** If an exterior angle of a triangle is 145° and one of the interior opposite angles is 75$^0$, then other angle is 14°×k. Find k.

(a) 3  (b) 4  (c) 5  (d) 6

**Q23.** Choose the correct option to fill in the blanks.

(i) If Nikita travels 252 km in 12 hours, then she travels __P__ km in 21 hours.

(ii) If cost price of 5 chairs and 6 tables is ₹750 and ₹3600 respectively, then cost price of 3 such chairs and 2 such tables is ₹__Q__.

(iii) The ratio of the number of boys to total number of students in a class is __R__ , if the number of boys and girls are 36 and 18 respectively.

| | P | Q | R |
|---|---|---|---|
| (a) | 400 | 1680 | 2:3 |
| (b) | 325 | 2650 | 3:2 |
| (c) | 441 | 1650 | 2:3 |
| (d) | 441 | 3280 | 3:4 |

**Q24.** Raghav was measuring a piece of cloth of length 2.5 m but by mistake he measured its length as 255 cm. Find the change in percentage in measuring the length.

(a) 1.5%  (b) 2.5%  (c) 2%  (d) 1%

**Q25.** A circle is inscribed in a square of side 14 m. The ratio of the area of the circle and that of the square is _____.

(a) $\pi:3$  (b) $\pi:4$  (c) $\pi:2$  (d) $\pi:1$

**Q26.** The straight lines AB and CD intersect at E. If EF and EG are bisectors of ∠DEA and ∠AEC respectively and if ∠AEF = $x \rightleftarrows$ and ∠AEG = y,then

(a) $x + y > 90^0$  (b) $x + y < 90^0$

(c) $x + y = 90^0$  (d) $x + y = 180^0$

**Q27. Which of the following statements is true?**

**Statement-1:** If $x = \left(\dfrac{2}{3}\right)^4 \div \left(\dfrac{2}{3}\right)^2$, **then value of** $x^2 + 2x + 3$ *is* 0

**Statement-2:** If $\left(-\dfrac{1}{2}\right)^4 \times (-2)^8 = (-2)^{4x}$ *then* $x = 1$.

(a) Only Statement-1

(b) Only Statement-2

(c) Both Statement-1 and Statement-2

(d) Neither Statement-1 nor Statement-2

**Q28. The perimeter of a rectangular garden is $2.2 \times 10^8$ km and length is $0.4 \times 10^8$ km. Find the area of the garden in standard form.**

(a) $8 \times 10^6 \, \text{km}^2$      (b) $2.8 \times 10^{15} \, \text{km}^2$      (c) $80 \times 10^8 \, \text{km}^2$      (d) $28 \times 10^{14} \, \text{km}^2$

**Q29. If** $1 + \cfrac{1}{1 + \cfrac{x}{1 - x}} = 1$, then find the value of $\dfrac{x + 1}{4x - 2}$.

(a) $\dfrac{5}{4}$      (b) $\dfrac{3}{2}$      (c) $\dfrac{3}{4}$      (d) $\dfrac{5}{2}$

**Q30. Anita brought certain number of chocolates on her birthday to distribute among the students of her class. If she distributes 3 chocolates to each student, 10 chocolates will be left over. If she distributes 4 chocolates to each student, five students will not get any chocolates. Find the number of chocolates she brought to the class.**

(a) 120      (b) 100      (c) 104      (d) 200

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

**Physics (5 Marks)**

**Q31. A train passes over a 400m long bridge. If the speed of the train is 30m/s and the train takes 20s to cross the bridge, find the length of the train.**

(a) 400m      (b) 600m      (c) 800m      (d) 200m

**Q32. Total internal reflection occurs when light travels from_____.**

(a) a rarer medium to a denser medium & the angle of incidence is less than the critical angle.

(b) a denser medium to rarer medium & the angle of incidence is greater than the critical angle.

(c) a rarer medium to denser medium.

(d) a rarer medium to a denser medium & the angle of incidence is greater than the critical angle.

**Q33. During short circuiting, the value of electric current in a circuit_____.**

(a) becomes zero

(b) increases very high

(c) doesn't change

(d) changes continuously

**Q34. A thermometer is inserted into a beaker filled with ice at 0°C. The beaker is heated slowly. The temperature does not rise for some time. This is because_____.**

(a) ice is very cold.

(b) heat was used for changing ice at 0°C to water at 0°C.

(c) the density of water is more than ice.

(d) the density of water is less than ice.

**Q35. A concave mirror is placed in a horizontal table with its axis directed vertically upwards. Let O be a pole of the mirror and C its centre of curvature. A point object is placed at C. It has a real image also located at C. If the mirror is now filled with water, the image will be:**

(a) real and located at a point between C and O.

(b) real and will remain at C.

(c) real and located at point between C and (infinity).

(d) virtual and located at a point between C and O.

### Chemistry (5 Marks)

**Q36. Acids are the substances that yield $H^+$ ions in aqueous solutions while bases yield $OH^-$ ions. In a neutral solution:**

(a) there are no $H^+$ ions.

(b) there are no $OH^-$ ions.

(c) there are neither $H^+$ nor $OH^-$ ions.

(d) $H^+$ and $OH^-$ ions are present in very small but equal in number.

**Q37. Which of the following is an endothermic reaction?**

(a) Heating carbon with sulphur to form carbon disulphide.

(b) Diluting concentrated sulphuric acid.

(c) Combustion of fuel in a rocket.

(d) All of these

**Q38. If the sun produces 10,000 units of energy, the amount of energy at the level of secondary consumer would be _____.**

(a) 100 units        (b) 0.1units        (c) 10 units     (d) 1 unit

**Q39. Which of the following group is against the plantation of Eucalyptus trees?**

(a) Paper manufacturers                     (b) Wild life protection group

(c) Environmentalists                        (d) Matches manufacturers

**Q40. Test tubes P and Q contain equal amounts of aqueous hydrochloric acid. On adding magnesium to test tube P and sodium carbonate to test tube Q, which of the following observations will be observed?**

**(i) The gas evolved in Q test tube will extinguish a burning splinter.**

**(ii) The gas evolved in test tube Q will extinguish a burning splinter with a pop sound.**

**(iii) The gas evolved in test tube P will turn lime water milky.**

**(iv) The gases evolved in test tubes P and Q are $H_2$ and $CO_2$ respectively.**

(a) (i), (ii) and (iii)                     (b) (i) and (iv)

(c) (i), (iii) and (iv)                     (d) (iii) and (iv)

**Biology (5 Marks)**

**Q41. Syngamy refers to:**

(a) fusion of one of the sperm with secondary nucleus.

(b) fusion of one of the sperm with the egg.

(c) fusion of one of the sperm with an egg and the other with the secondary nucleus.

(d) fusion of one of the sperm with synergid.

**Q42. During inspiration, air passes into lungs due to _____.**

(a) increase in volume of thoracic cavity and fall in lung pressure.

(b) decrease in volume of thoracic cavity and fall in lung pressure.

(c) increase in volume of thoracic cavity and increase in lung pressure.

(d) decrease in volume of thoracic cavity and increase in lung pressure.

**Q43. Which step in blood clotting will not occur in absence of Vitamin K?**

(a) Conversion of fibrinogen to fibrin        (b) Conversion of prothrombin to thrombin

(c) Synthesis of thromboplastin        (d) Synthesis of prothrombin

**Q44. In photosynthesis which one of the following is the first step?**

(a) Formation of ATP

(b) Ionisation of water

(c) Excitation of an electron of chlorophyll by a photon of light

(d) Attachment of $CO_2$ to carbon sugar

**Q45. How do ruminants digest cellulose?**

(a) Using their own enzymes        (b) With the help of bacteria in the rumen

(c) By chewing repeatedly        (d) Through a long digestive tract

## Aptitude (15 Marks)

**Q46. Find the missing term:**
**1, 6, 36, 240, 1960, __?__**
(a) 19600        (b) 19660        (c) 36800        (d) None of these

**Q47. Hear is to Deaf as Speak is to_____.**
(a) Quiet        (b) Silent        (c) Mumb        (d) Dumb

**Q48. Choose the odd one out:**
(a) Water : Thirst        (b) Talent : Education
(c) Food : Hunger        (d) Air : Suffocation

**Q49. In a certain code, PRODUCTIONS is written as QQPCVEUHPMT. How is ORIENTATION written in that code?**
(a) PQJDOVBSJNO        (b) PQJDOUBUJDO
(c) PSJFOVBSJNO        (d) NSHFMVBSJNO

**Q50. If in a certain code, 'bir le nac' means 'green and tasty', 'pic nac hor' means 'tomato is green' and 'coc bir hor' means 'food is tasty', which of the following means 'tomato is tasty' in that code?**
(a) bir le hor        (b) pic hor nac

(c) hor bir pic        (d) None of these

**Q51. If 'A $ B' means 'A is the father of B', 'A * B' means 'A is the mother of B', 'A @ B' means 'A is the wife of B' then which of the following means 'M is the grandmother of N'?**
(a) M * T $ R @ N        (b) M * T $ N @ R

(c) M * R $ T @ N        (d) M * R @ T @ N

**Q52. Anuj started walking positioning his back towards the sun. After sometime, he turned left then turned right and then towards the left again. In which direction is he going now?**

    (a) North or South                       (b) East or West

    (c) North or West                        (d) South or West

**Q53. If the seventh day of a month is three days earlier than Friday, what day will it be on the nineteenth day of the month?**

    (a) Sunday             (b) Monday             (c) Wednesday     (d) Friday

**Q54. How much does the clock gain or lose per day if its hands coincide every 63 minutes?**

    (a) Loses $56\frac{8}{77}$ minutes                       (b) Gains $56\frac{8}{77}$ minutes

    (c) Loses $56\frac{56}{77}$ minutes                      (d) Gains $75\frac{75}{341}$ minutes

**Q55. At what time between 1 and 2 o'clock, both the hands (minutes hand and hour hand) are at right angle?**

    (a) $16\frac{4}{11}$ minutes part 1                     (b) $27\frac{3}{11}$ minutes part 1

    (c) $49\frac{1}{11}$ minutes part 1                     (d) $54\frac{6}{11}$ minutes part 1

**Q56. What was the day on 1ˢᵗ January 2020?**

    (a) Tuesday           (b) Wednesday          (c) Thursday     (d) Friday

**Q57. If 264\*2=6, 870\*3=11, then what should 735\*5 be ?**

    (a) 12                 (b) 16               (c) 3            (d) 5

**Q58. If ZIP=198, ZAP=246, then how will you code VIP?**

    (a) 164               (b) 222             (c) 888           (d) 990

**Q59. Ram walks 10km towards North. From there, he walks 6 km towards South. Then he walks 3 km towards East. How far and in which direction is he with reference to his starting point?**

    (a) 5 km, North-East                    (b) 7 km, North-East

    (c) 6 km, South-West                   (d) 5 km, South-West

**Q60. If '>' stands for 'division', 'V' stands for 'multiplication', '-' stands for 'greater than', 'X' stands for 'less than', '<' stands for 'addition', '∧' stands for 'subtraction', '+' stands for 'equal to' then which of the following equation is correct?**

    (a) 10∧3<5<4+16                    (b) 4∧6<4<4+16

    (c) 12∧3∧5<4+12                    (d) 11∧12<5<4+12

**SPACE FOR ROUGH WORK**