



6th All India RPS
OLYMPIAD
 2024-25



QUESTION PAPER

M.M:60

Time: 60 minutes

OFFLINE EXAMINATION (PHASE-II)

CLASS - VIII

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 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



Student's Signature

Wrong Method



Invigilator's Signature

SPACE FOR ROUGH WORK

ENGLISH (15 Marks)

Choose the most appropriate option:

Q1. My father gave Tia a book. (Identify the case of underlined word)

- (a) Nominative case (b) Possessive case
(c) Dative case (d) Vocative case

Q2. Those books, which were recommended by the teacher, are very helpful for our exam preparation.

- (a) Demonstrative Pronoun (b) Demonstrative Verb
(c) Demonstrative Adjective (d) Regular Verb

Q3. Select the option that expresses the given sentence in Passive Voice:

The company will implement new policies, which the management team has carefully designed to improve employee productivity.

- (a) New policies, which have been carefully designed by the management team to improve employee productivity, will be implemented by the company.
(b) New policies, which has been carefully designed by the management team to improve employee productivity, will implemented by the company.
(c) New policies, which have been carefully designed by the management team to improve employee productivity, is being implemented by the company.
(d) No change.

Q4. Select the option that expresses the given sentence in Active Voice:

It was used to be said in similar situations.

- (a) He has said this in similar situations.
(b) We used to say it in similar situations.
(c) He used to be saying it in similar situations.
(d) No change

Direction (Q5 to Q15): Choose the correct option:

Q5. He will pay _____ price he is asked.

- (a) a few (b) some (c) the (d) little

Q6. Five boys stood in _____ row.

- (a) all (b) each (c) neither (d) none

Q7. We ____ help the poor.

- (a) shall (b) ought to (c) may (d) might

Q8. You ____ heard this news already.

- (a) will (b) will have (c) will be (d) will had

Q9. She ____ her homework while I was cooking dinner.

- (a) had completed (b) completed
(c) was completing (d) has completed

Q10. I ran ____ my old friends in the market place.

- (a) into (b) over (c) about (d) unto

Q11. I decided to put ____ my visit till next week.

- (a) over (b) down (c) off (d) across

Q12. The series of lectures ____ been well-received by the audience.

- (a) is (b) have (c) has (d) are

Q13. The teacher, along with the students, ____ excited about the upcoming field trip.

- (a) has (b) is (c) are (d) am

Q14. The project was completed on time, ____ the team faced numerous challenges.

- (a) although (b) until (c) unless (d) since

Q15. As you sow, so shall you reap.

- (a) Adjective Clause (b) Prepositional Clause
(c) Adverb Clause (d) Adjective Phrase

Mathematics (15 Marks)

Q16. If $29^{41} + 37^{41}$ is divided by 33, then the remainder is _____.

- (a) 2 (b) 3 (c) 1 (d) 0

Q17. A, B, C started a business with their capitals in ratio 2:3:5. A increased his capital by 50% of his capital after 4 months. B increased his capital by $33\frac{1}{3}\%$ after 6 months and C withdrew 50% of his capital after 8 months, from the start of the business. If the total profit at the end of year was ₹86800, the difference between the shares of A and C in the profit was _____.

- (a) ₹12600 (b) ₹7000 (c) ₹9800 (d) ₹8400

Q18. A person made a fixed deposit of ₹30000 in a bank for 5 years at 10% simple interest per annum. He had to withdraw the whole amount after 3 years to meet the expenses of his daughter's marriage and he received Rs. 3000 less than what he would have got after 5 years. What is the rate of simple interest per annum paid by the bank for this premature encashment?

- (a) 6% (b) 7% (c) 13.3% (d) 8%

Q19. The distance between the two stations X and Y is 220 km. Trains P and Q leave the station X at 8 a.m. and 9:51 a.m. respectively at the speed of 25 kmph and 20 kmph respectively for journey towards Y. Train R leaves station Y at 11:30 a.m. at the speed of 30 kmph for journey towards X. When will P be at equal distance from Q and R?

- (a) 12:48 p.m. (b) 12:30 p.m. (c) 12:45 p.m. (d) 11:48 p.m.

Q20. If $6\sqrt{6} p^3 + 2\sqrt{2} q^3 = (\sqrt{6} p + \sqrt{2} q) (Sp^2 + Mq^2 - Npq)$ then the positive value of $\sqrt{S^2 + M^2 + 2N^2}$ is _____.

- (a) 10 (b) 8 (c) 9 (d) 12

Q21. If $x - y + z = 0$ then find the value of $y^2/2xz - x^2/2yz - z^2/2xy$.

- (a) 3/2 (b) 1/2 (c) -6 (d) -3/2

Q22. A rectangular portion of an airport runway was getting repaired for which an estimate was made on the basis of a rate ₹R per square unit. But while doing the work, the length of the portion increased by 10% and breadth by 8%. Above this, there was an increase in the cost of repair work to the extent of 15%. What was the overall percentage increase in the cost of repair over the estimate?

- (a) 36.62 (b) 34.58 (c) 33 (d) 35.24

Q23. The base of a right prism is a regular hexagon of the side 5 cm. If its height is $12\sqrt{3}$ cm, then its volume (in cm^3) is _____.

- (a) 1800 (b) 900 (c) 1350 (d) 675

Q24. If $\frac{4}{1 + \sqrt{2} + \sqrt{3}} = a + b\sqrt{2} + c\sqrt{3} - d\sqrt{6}$,

Where a, b, c, d are whole numbers then the value of $a+b+c+d$ is _____.

- (a) 0 (b) 2 (c) 4 (d) 1

Q25. What is the value of $99\frac{11}{99} + 99\frac{13}{99} + 99\frac{15}{99} + \dots + 99\frac{67}{99}$?

- (a) 94220 / 33 (b) 95120 / 33 (c) 97120 / 33 (d) 96220 / 33

Q26. 80% and 90% pure acid solutions are mixed to obtain 20 litres of 87% pure acid solution. Find the quantity (in litres) of 80% pure acid solution taken to form the mixture.

- (a) 4 (b) 8 (c) 6 (d) 9

Q27. A and B enter into partnership and invest in a stock market trading. Their investments initially were ₹50000 and ₹45000. After 4 months A withdraws half his capital. At the end of 8 months B withdraws half his capital and C joins them with a capital of ₹70000. What should be the ratio in which profit will be divided at the year end?

- (a) 40: 35:21 (b) 40:45:28 (c) 40:28:21 (d) none of these

Q28. If $(4x + 2y)^3 + (4x - 2y)^3 = 16(Ax^3 + Bxy^2)$ then what is value of $\frac{1}{2}(\sqrt{A^2 + B^2})$?

- (a) 8 (b) 3 (c) 5 (d) 7

Q29. A conical vessel whose internal radius of base is 18 cm and height 60 cm, is filled with a liquid. The whole liquid of this vessel is poured into a cylindrical vessel whose internal radius is 15 cm. Upto what height the liquid rise in the cylindrical vessel?

- (a) 24 cm (b) 30.2 cm (c) 27 cm (d) 28.8 cm

Q30. Three plots having an area of 165, 195 and 285 square meters respectively are to be sub- divided into equalized flower beds. If the breadth of a bed is 3 meters, what is the maximum length of a bed?

- (a) 5.5 meters (b) 6 meters (c) 5 meters (d) 6.5 meters

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

Physics (5 Marks)

Q31. A person 1.6 m tall is standing at the center between two walls 3 m high. What should be the minimum size of the plane mirror fixed on the wall in front of him if he is to see the full height of the wall behind him?

- (a) 0.8 m (b) 1 m (c) 1.5 m (d) 2.3 m

Q32. Formula for pressure in liquid is:

- (a) $P = hdg$ where h is height, d is density and g is gravity.
- (b) $P = dg/h$ where h is height, d is density and g is gravity.
- (c) $P = hg/d$ where h is height, d is density and g is gravity.
- (d) $P = hd/g$ where h is height, d is density and g is gravity.

Q33. A hockey player receives a corner shot at speed of 15 ms^{-1} at an angle of 30° with y-axis and then shoots the ball of mass 100 g along the negative x-axis with a speed of 30 ms^{-1} . If it remains in contact with the hockey stick for 0.01 sec , the force imparted to the ball in the x-direction is:

- (a) 281.25 N
- (b) 187.5 N
- (c) 562.5 N
- (d) 375 N

Q34. Two soundwaves of frequency 256 and 286 superimposed to produce beats in air.

Then the number of beats heard by the person will be:

- (a) 7.5
- (b) 30
- (c) 0
- (d) 15

Q35. Why does a horse need to pull harder during the first few steps in pulling the cart?

- (a) Static friction is greater than sliding friction.
- (b) Sliding friction is greater than rolling friction.
- (c) No friction force acts after the cart comes in motion.
- (d) Air friction is greater during first few steps of motion.

Chemistry (5 Marks)

Q36. Carbon monoxide is naturally produced by oxidation of X, a gas present in the swamp area while it can be produced by Y of fuels containing carbon.

- (a) $X = \text{CO}_2$, $Y = \text{Complete combustion}$
- (b) $X = \text{CH}_4$, $Y = \text{Incomplete combustion}$
- (c) $X = \text{C}$, $Y = \text{Oxidation}$
- (d) $X = \text{CH}_4$, $Y = \text{Complete combustion}$

Q37. Which of the following is a set of greenhouse gases?

- (a) CO_2 , CH_4 , N_2O
- (b) NO_2 , SO_2 , Cl_2
- (c) CH_4 , N_2 , SO_2
- (d) N_2 , CO_2 , NO_2

Q38. Which of the following statement(s) is correct regarding electrolysis of water?

- (i) The gas released at anode is hydrogen
- (ii) The gas released at cathode is oxygen
- (iii) The gas released at cathode burns with a pop sound
- (iv) The gas released at anode supports combustion

- (a) (i) & (ii)
- (b) (ii) & (iii)
- (c) (iii) & (iv)
- (d) (i), (iii) & (iv)

Q39. What is the SI unit of conductivity?

- (a) Sm
- (b) Sm^{-1}
- (c) Sm^2
- (d) Sm^{-2}

Q40. The position of some metals in the electrochemical series in decreasing electropositive character is given as $\text{Mg} > \text{Al} > \text{Zn} > \text{Cu} > \text{Ag}$. What will happen if a copper spoon is used to stir a solution of aluminium nitrate?

- (a) The spoon will get coated with aluminium.
- (b) An alloy of copper and aluminium is formed.
- (c) The solution becomes blue.
- (d) There is no reaction.

Biology (5 Marks)

Q41. Which reproductive strategy involves the development of offspring within the body of the mother, with the young born in a relatively undeveloped state and completing their development externally?

- (a) Oviparity
- (b) Viviparity
- (c) Ovoviviparity
- (d) Parthenogenesis

Q42. In an external fertilization, which of the following adaptations is typically observed to increase the likelihood of successful fertilization?

- (a) Internal gestation
- (b) Sequential hermaphroditism
- (c) Large number of gametes released
- (d) Placental development

Q43. In which reproductive cycle do animals exhibit distinct phases of activity and inactivity related to reproductive behavior, often influenced by seasonal changes?

- (a) Estrous cycle
- (b) Menstrual cycle
- (c) Ovarian cycle
- (d) Hibernation cycle

Q44. Which hormone helps in the reabsorption of water in the kidneys?

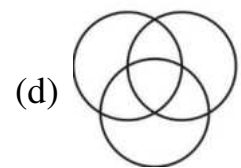
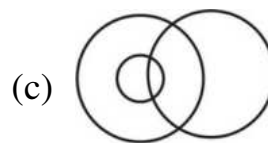
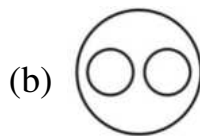
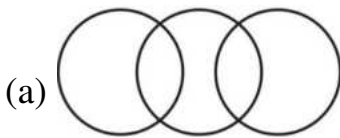
- (a) Aldosterone
- (b) Antidiuretic hormone (ADH)
- (c) Insulin
- (d) Glucagon

Q45. Which of the following pairs correctly matches a type of microorganism with its main characteristic?

- (a) Bacteria - Always multicellular and visible to the naked eye.
- (b) Viruses - Can be treated with antibiotics.
- (c) Fungi - Includes organisms like yeast and molds that can decompose organic material.
- (d) Protozoa - Typically found only in water and can cause diseases in plants.

Aptitude (15 Marks)

Q46. Select the venn diagram that best illustrates the relationship between the following- Female, Teacher, Mother



Q47. Find the missing term.

1, 1, 5, 23, 71, ?, 351

- (a) 100
- (b) 170
- (c) 171
- (d) None of these

Q48. Out of 35 students, A is placed 7th from bottom whereas B is placed 9th from the top and C is placed exactly between these two. What is A's position from C ?

- (a) 9th
- (b) 10th
- (c) 11th
- (d) None of these

Q49. Choose the correct option:

Cow : Gir :: Dog : ?

- (a) H.F.
- (b) Boxer
- (c) Ravi
- (d) None of these

Q50. After walking 6 km, Mohit turned right and covered a distance of 2 km, then turned left and covered a distance of 10 km; again turned left and covered 4 km, then turned right and covered 6 km. If in the end he was facing towards the North, in which direction did Mohit start his journey ?

- (a) East
- (b) West
- (c) North
- (d) South

Q51. Find the odd one out:

- (a) Steel
- (b) Brass
- (c) Bronze
- (d) Copper

Q52. Pointing to a girl, Reema said, "She is the only sister of the only son-in-law of my mother's husband". How is that girl related to Reema, if Reema has no sister?

- (a) Sister
- (b) Sister-in-law
- (c) Mother
- (d) Niece

Q53. How many times both hands will coincide in 15 hours ?

- (a) 11 (b) 14 (c) 15 (d) 16

Q54. Select the correct set of symbols which will fit (in same order) in the blank spaces of given expression to make it correct. $28 _ 6 _ 25 _ 5 _ 4 = 2$

- (a) $- \times \div +$ (b) $+ \div - \times$ (c) $\div + - \times$ (d) $- + \times \div$

Q55. If all the faces of a large cube is coloured and then it is cut into 216 equal small cubes, how many cubes have no face painted?

- (a) 4 (b) 16 (c) 64 (d) None of these

Q56. Find the next term:

92, 103, 107, 115, 122, ?

- (a) 128 (b) 125 (c) 127 (d) None of these

Direction (Q57 & Q58): Study the given table and choose the correct option:

Column I	Column II
BEIKL	61520
PNBTK	34568
XLPBE	57401
KNIXV	27396
XBNPE	45713

Q57. Code BIKE

- (a) 5261 (b) 6325 (c) 2560 (d) None of these

Q58. Code PIN + NIP

- (a) 423 (b) 744 (c) 777 (d) 747

Q59. Choose the correct option:

29 : 319 :: 23 : ?

- (a) 252 (b) 100 (c) 115 (d) 69

Q60. How much does a watch lose per day, if its hands coincide every 64 minutes?

- (a) $36\frac{5}{11}$ min. (b) $32\frac{8}{11}$ min. (c) 90 min. (d) 96 min.

SPACE FOR ROUGH WORK

RPS GROUP OF SCHOOLS
Under the aegis of RPS Education Society, M/Garh



Gold Medal
UGANDA PARA BADMINTON CHAMPIONSHIP

Bronze Medal
HYDROPLUS INDONESIA PARA BADMINTON INTERNATIONAL CHAMPIONSHIP 2024

KARTIK SUHAG (Grade IX)

International Science Olympiad
Rank-1
Earned a Trip to NASA, USA

PRANAV
GRADE VII

715
720

NEET-2024



VMMC New Delhi

RITESH SHARMA
S/o Mr. JAI PRAKASH & Ms. SAMMAT KUMARI

1st
YOUNGEST CROREPATI
IN KAUN BANEGA
CROREPATI

MAYANK,
A PROUD RPSIAN

JEE Advanced
-2024



IIT BOMBAY
COMPUTER SCIENCES

IJSO-2024

BHAVYAA GUNWAL

D/o Dr. SUMAN YADAV & Dr. ANIL YADAV
(Ateli-Narnaul)

THE FIRST EVER STUDENT
of the Region

SELECTED IN TEAM INDIA
for

**INTERNATIONAL JUNIOR
SCIENCE OLYMPIAD**
to be held in

BUCHAREST, ROMANIA

International Dancers

CHIRANSHI

D/o Mr. Bhavneet Kumar

LAVANYA

D/o Late Mr. Sanjay Kumar

1st Prize Under 14

IIGF DANCE COMPETITION
KUALA LUMPUR, MALAYSIA

Won **2nd Position**
(Silver Medal)



EVENT: KUDO EURASIAN CUP, 2024

Under-13, Female Category, at Yerevan, Armenia.

Vrinda Soni
Class - VII (The Satluj)

Ensuring 360° Approach
Towards Holistic Development

Our Campuses: Mahendergarh Ph.:01285-222645, 9416150201 | Rewari Ph.:8222000359 | Rewari City Ph.:9053555526 | Dharuhera Ph.:9467064534
Kosli Ph.:9255148141 | Behror Ph.:9529678004 | Hansi Ph.:9813196969, 9896100407 | Narnaul Ph.: 8198976666 | Hisar Ph.:8307760465
Gurugram Sec- 50 Ph.:8409989898, 7827466258 | Gurugram Sec- 89 Ph.:8222999182 | Karnal Ph.:8398000304/06 | Rohtak Ph.: 7419998800
Dadri Ph.: 8222048283, 84 | Rosewood City, Gurugram : Ph.: 70424 96986 | Kanina Ph.: 7056743636 | Dharuhera -2 Ph.: 9467064534

Web.: www.rpsgroup.edu.in

Top-Notch **Hostel Accommodation** for Boys and Girls at M/GARH, KANINA, BEHROR, KOSLI & HANSI CAMPUSES