5th All India RPS OLYMPIAD 2023-24

| Phase – II | Question Paper | Class - VII |

M.M:60   Time: 60 Minutes

OFFLINE EXAMINATION (PHASE–II)

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 the particulars on this page of the test booklet and **OMR** with **BLACK** ballpoint pen only. Use of pencil is strictly prohibited.
7. Darken the bubbles completely. Do not put a tick ☑ or a cross ☒. Fill the bubbles completely.
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 correct options:

Q1. The captain, along with the players _____ in the field.

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

Q2. Politics _____ been one of his favourite pastimes.

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

Q3. Identify the sentence which is in passive voice.

(a) We need a new couch for this room.

(b) The report was filed in that cabinet.

(c) The explosion occurred this morning.

(d) Sales have increased since last month.

Q4. **Select the option that expresses the given sentence in Passive Voice.**

No one will miss him if he goes away.

(a) He will have been missed by no one if goes away.

(b) He will have missed by no one if he goes away.

(c) He will be missed by no one if he goes away.

(d) He will has been missed by no one if he goes away.

Q5. She _____ very worried for the past few days but when I asked what the matter was she said that it was nothing.

(a) looking   (b) had been looking

(c) looked   (d) looks

Q6. I asked my little sister if she _____ to play with toys.

(a) likes   (b) liked

(c) like   (d) has liked

Q7. Every sensible citizen abides _____ the law of the country.

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

Q8. In the world of today, material values take precedence _____ spiritual values.

(a) at   (b) on   (c) over   (d) about

Q9. **Identify the type of adjective of the underlined word.**

John has <u>enough</u> money in his pocket.

(a) Adjective of Quality   (b) Adjective of Quantity

(c) Adjective of Number   (d) Distributive Adjective

Q10. There is _____ milk in the pan. She can not make a cup of tea for you.

(a) little   (b) a little   (c) few   (d) a few

Direction for Q11 & Q12: Select one option which best expresses the same sentence in Indirect Speech.

Q11. My neighbour said to me, "Let's forget our differences and be friends again."

(a) My neighbour told to me to forget our differences and be friends again.

(b) My neighbour suggested to me that we should forget our differences and be friends again.

(c) My neighbour said to me to forget my differences with him and be friends again.

(d) My neighbour told me that I should forget their differences and be friends again.

Q12. The little boy said to his father, "Why does ice float on water?"

(a) The little boy asked his father why ice floats on water.

(b) The little boy asked his father that why ice floated on water.

(c) The little boy asked his father why did ice float on water.

(d) The little boy asked his father why ice floated on water.

Q13. You wanted that, _____ ?

(a) would you   (b) would n't you

(c) didn't you   (d) do you

Q14. You think you know the answer but you don't, _____ ?

(a) don't you   (b) would you

(c) wouldn't you   (d) do you

Q15. _____! Mother is asleep. Don't disturb her.

(a) Alas   (b) Oh

(c) Hush   (d) Hurrah

Q16. If the angles of a triangle are in the ratio 1:2:1 then which of the following statement(s) is/are correct.

(i) Triangle is right angled triangle

(ii) Triangle is an isosceles triangle.

(iii) Angles of triangle are 45°,45° and 90° respectively.

(a) (i) and (iii) is correct   (b) Only (iii) is correct

(c) (ii) and (iii) is correct   (d) (i) and (ii) is correct

Q17. Match each of the entries in column I with the appropriate entries in column II.

Column I   **Column II**

(A) $\frac{2y}{3} - 5 = 3$ (p) $\frac{1}{2}$

(B) $-4(2+y)=8$ (q) 2

(C) $4+3(y+2)=16$ (r) 8

(D) $7y + \frac{19}{2} = 13$ (s)12

(E) $4+5(y-1)=39$ (t) -4

(a) (A)→(s);(B)→(t);(C)→(q);(D)→(r);(E)→(p)

(b) (A)→(s);(B)→(t);(C)→(r);(D)→(q);(E)→(p)

(c) (A)→(s);(B)→(t);(C)→(q);(D)→(p);(E)→(r)

(d) (A)→(q);(B)→(t);(C)→(p);(D)→(s);(E)→(r)

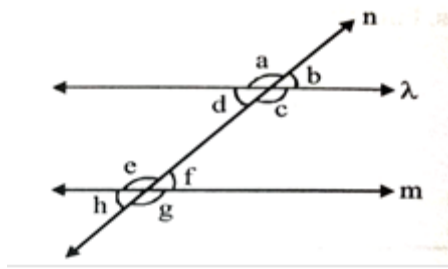**Q18.** Match the column and select the correct options:

Column I   **Column II**

(i)   60% of__$- 60=60\%$ (p) 4

(ii) 2 : __ :: __ : 8   (q) 8

(iii) cost price of 27 articles   (r) 10

     is equal to selling price of 25

     articles. Profit % is

(iv) 50% of __$+2 = 7$ (s) 101

(a) (i)→(s),(ii)→p,(iii)→r,(iv)→q   (b) (i) →s,(ii)→p,(iii)→q,(iv)→r

(c) (i)→p,(ii)→r,(iii)→s,(iv)→q   (d) (i)→r,(ii)→s,(iii)→q,(iv)→p

Q19. Which of the following statement is/are incorrect?

(i) The probability of drawing a red card from a pack of 52 playing cards is 1/2.

(ii) All probabilities have a value between 0 and 1.

(iii) A bag holds 4 green marbles, 3 red marbles and 5 blue marbles. The probability of pulling out a red marble is 1/3.

(a) only (i) and (ii)　　　　　　　　　(b) only (iii)

(c) only (ii) and (iii)　　　　　　　　(d) only (i) and (iii)

Q20. The perimeter of the given figure is 18m and the area of rectangular part ACEF is $8\frac{1}{2}$ m². Find the length and breadth of the rectangular part respectively.

(a) $1\frac{1}{2}$ m, $5\frac{2}{3}$ m　　　　　　　　(b) $5\frac{2}{3}$ m, $1\frac{1}{2}$ m

(c) $7\frac{1}{2}$ m, $5\frac{2}{3}$ m　　　　　　　　(d) $5\frac{2}{3}$ m, $7\frac{1}{2}$ m

Q21. Simplify:

(i) $\dfrac{2^{x+3}\times 3^{2x-y}\times 5^{x+y+3}\times 6^{y+1}}{6^{x+1}\times 10^{y+3}\times 15^{x}}$

(ii) $\left(\frac{8}{3}\right)^{2x+1}\times\left(\frac{8}{3}\right)^{5}=\left(\frac{8}{3}\right)^{x+2}$, then find the value of x.

	(i)	(ii)
(a)	0	0
(b)	1	−4
(c)	1	2
(d)	2	−4

Q22. Observe the figure and match the column:

Column-I	Column-II
(A) Supplementary angle of ∠b	(p) ∠g
(B) Vertically opposite angle of ∠g	(q) ∠h
(C) Adjacent angle of ∠g	(r) ∠c
(D) Corresponding angle of ∠c	(s) ∠e

(a) (A)→(r);(B)→(s);(C)→(q);(D)→(p)

(b) (A)→(p);(B)→(q);(C)→(r);(D)→(s)

(c) (A)→(q);(B)→(s);(C)→(r);(D)→(p)

(d) (A)→(s);(B)→(p);(C)→(q);(D)→(r)

Q23. Consider the following statements:

A. The product of an integer and a rational number can never be a natural number.

B. The quotient of division of an integer by a rational number can never be an integer.

Which of the statements given above is/are correct?

(a) A only   (b) B only

(c) Both A and B   (d) Neither A nor B

Q24. Every floor of a 96 storey skyscraper is 5m high. If a balloon rises 3m every second, then how long will it take for the balloon to rise from 47th to 92nd floor?

(a) 140 secs   (b) 3 mins   (c) 2 mins   (d) 75 secs

Q25. Peter defines a rational number in the following ways. "It is of the form p/q, where q is the smallest whole number. "This definition is

(a) Always true

(b) Represents some rational number only

(c) Same as the definition of rational number

(d) Always false

Q26. The following pie chart represents food items preferred by 13320 people in a survey. Find the difference between the number of people preferring bread and salad.

(a) 1402   (b) 1406   (c) 1468   (d) 1516

Q27. The sum of the present ages of Radhey and Shyam is 94 years. If 8 years ago, the ratio of Radhey's age and Shyam's age was 5:8 respectively, then find the difference between their present ages.

(a) 15 years   (b) 18 years   (c) 16 years   (d) 20 years

Q28. The radius of the circular park covered with grass is 3m. A path of width 2.5m is to be made around it. People uses this path for walking. Find the area of the path.

(Use $\pi = 3.14$)

(a) 61.755m^2 (b) 64.325m^2 (c) 66.725m^2 (d) 68.235m^2

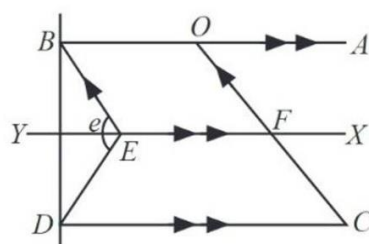Q29. Read the statements carefully and select the correct option.

Statement-I: The line segment joining a vertex of a triangle to the mid point of its opposite side called the vertex of median of the triangle.

Statement-II: If the exterior angle of a triangle is a right angle, then each opposite interior angle is an obtuse angle

(a) Both Statement-I and Statement-II are true.

(b) Both Statement-I and Statement-II are false.

(c) Statement-I is true but Statement-II is false.

(d) Statement-I is false but Statement-II is true.

Q30. In the given figure, if AB ‖ CD ‖ XY and OC ‖ EB, ∠ABE=46° and ∠EDC=33°, then

(a) e=79°, ∠OCD=46°

(b) e=101°, ∠OCD=33°

(c) e=89°, ∠OCD=46°

(d) e=79°, ∠OCD=33°

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

Physics (5 Marks)

Q31. Two identical mirrors are placed in a hollow cylindrical tube as shown in the figure. A light ray incident on one of the mirrors undergoes multiple reflections. If the length of each mirror is 3m and the velocity of light is 3×10^8 m/s, then find the time taken by the light ray incident on the mirror to come out of the hollow cylinder.

(a) $\sqrt{2} \times 10^{-8} \ s$

(b) $\sqrt{3} \times 10^{-8} \ s$

(c) $\sqrt{4} \times 10^{-8} \ s$

(d) $\sqrt{5} \times 10^{-8} \ s$

Q32. An ungraduated thermometer is fixed onto a meter scale. Its mercury column lies at 9.0cm for the icepoint and 22.5cm for the steam point. Temperature of a mixture is measured using this, if length of mercury column is 7.5cm above the ice point, the approximate temperature of the mixture will be:

(a) 48.0°C   (b) 55.5°C   (c) 7.5°C   (d) 270°C

Q33. A cyclist starts from the centre O of a circular park of radius 1km, reaches the edge P of the park, then cycles along the circumference and returns to the centre along QO as shown in figure. If the round trip takes 10minutes, then the average speed of cyclist is:

(a) $\frac{\pi+4}{10}$ km per minute

(b) $\frac{\pi+4}{20}$ km per minute

(c) $\frac{\pi}{4}$ km per minute

(d) $\frac{\pi}{2}$ km per minute

Q34. MCBs are connected to the:

(a) Neutral wire

(b) Earth wire

(c) Live wire

(d) None of these

Q35. When light travels from glass to water, angle of incidence:

(a) is lesser than the angle of refraction

(b) is greater than the angle of refraction

(c) is equal to the angle of refraction

(d) none of these

Chemistry (5 Marks)

Q36. Observe the following experimental set-up carefully.

Identify liquid (X) in the test tube, residue (Y) left in the beaker during process (Z) involved
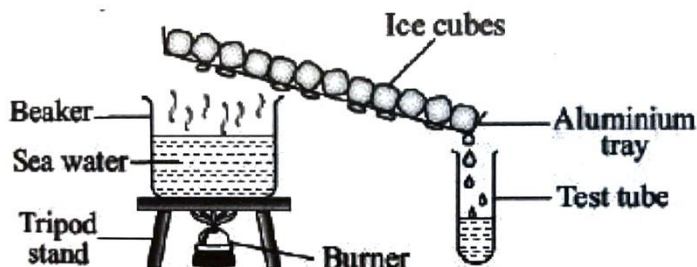
	X	Y	Z
(a)	Sea water	Sugar	Sedimentation and Decantation
(b)	Water	Salt	Evaporation and Filtration
(c)	Sea water	Salt	Condensation and Evaporation
(d)	Water	Salt	Evaporation and Condensation

Q37. Study the flow chart carefully and identify X & Y.
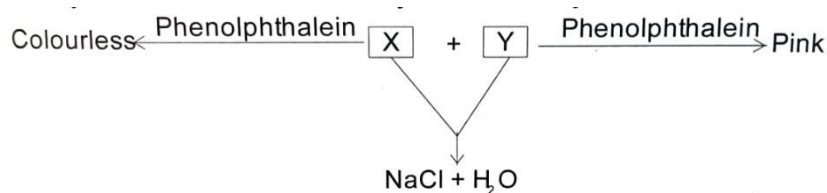
(a) X=NaOH, Y=HCL   (b) X=NaOH, Y=NaCl

(c) X=HCl, Y=H_2O (d) X=HCl, Y=NaOH

Q38. Which of the following is used as fertilizer ?

(a) NH_4NO_3 (b) KNO_3

(c) $(NH_4)_2SO_4$ (d) All of these

Q39. Name the Acid, which is a weak acid and also a mineral acid.

(a) H_3BO_3 (b) H_3PO_3

(c) CH_3COOH (d) H_2CO_3

Q40. DDT is synthesized from which substance?

(a) Chlorobenzene   (b) Chloral

(c) Both (a) & (b)   (d) None of these

Biology (5 Marks)

Q41. Digestion is completed in

(a) duodenum   (b) ileum

(c) stomach   (d) large intestine

Q42. Read the given statements and select the correct option.

Statement 1: Plants serve as the ultimate food source for all the organisms whether herbivores or carnivores.

Statement 2: Plants use solar energy to prepare their own food.

(a) Both statement 1 and 2 are true and statement 2 is the correct explanation of statement 1.

(b) Both statement 1 and 2 are true but statement 2 is not the correct explanation of statement 1.

(c) Statement 1 is true but statement 2 is false.

(d) Both statements 1 and 2 are false.

Q43. Refer to the given Venn diagram and identify P, Q, R and S.
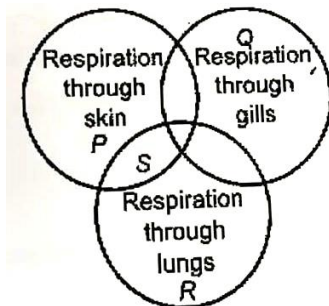
(a) P- Paramecium, Q- Scoliodon, R-Spiny ant eater, S-Lung fish.

(b) P-Lion tailed macaque, Q-Salmon, R-Dolphin, S-Platypus.

(c) P- Earthworm, Q- Rohu, R-Blue whale, S-Frog.

(d) P-Amoeba, Q- Tadpole, R- Trout, S – Snake.

Q44. Which among the following statement is true?

(a) In Protozoans and Annelids, no specific excretory organs are present.

(b) In porifera and Cnidarians, no specific excretory organs are present.

(c) In Cnidarians and insects, no specific excretory organs are present.

(d) In Protozoans and Flatworms, no specific excretory organs are present.

Q45. Which of the following contributes most to transport of water from the ground to the leaves of a tall tree?

(a) Breakdown of ATP

(b) Cohesion of water and transpiration pull

(c) Root pressure

(d) Capillary rise of water in xylem

Reasoning (15 Marks)

Q46. In the series 3,9,15,…… what will be the 21st term ?

(a) 117   (b) 121   (c) 123   (d) 129

Q47. **Direction** : Which option will replace the question mark (?).

ATTRIBUTION, TTRIBUTIO, RIBUTIO, IBUTI, ?

(a) IBU   (b) UT   (c) UTI   (d) BUT

Q48. In certain language SUPPORTERS is coded as 8780, then INEVITABLE is coded as what. ?

(a) 4950   (b) 5940   (c) 6940   (d) 4940

Q49. **Direction** : Find out the alternative which will replace the question mark.

8 : 28 :: 27 : ?

(a) 28   (b) 8   (c) 64   (d) 65

Q 50. In the question, certain pairs of words are given, out of which the words in all pairs except one, bear a certain common relationship. Choose the pair in which the words are differently related.

(a) Malaria : Protozoa   (b) Yeast : Fungi

(c) Typhoid : Bacteria   (d) Corona : Virus

Q 51. Beena starts at point at T, walks straight to point U which is 4 ft away. She turns left at 90^0 and walks to W which is 4 ft away, turns 90^0 right and goes 3ft to P, turn 90^0 right and walks 1 ft away and once again turns 90^0 right and goes to R, 3 ft away. What is the distance between T and R?

(a) 4 ft   (b) 5 ft   (c) 7 ft   (d) 8 ft

Q52. If A+B means A is the mother of B, A-B means A is the brother of B, A%B means A is the father of B and A×B means A is the sister of B, which of the following shows that P is the maternal uncle of Q?

(a) Q-N+M×P   (b) P+S×N-Q

(c) P-M+N×Q   (d) Q-S%P

Q53. Which one will replace the question mark?

5	2		17	3		11	7
	45			95			?
3	8		7	5		2	21
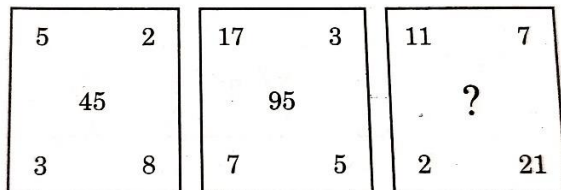
(a) 121   (b) 240   (c) 156   (d) 225

Q54. If '-' stands for '÷' ,'+' stands for 'x', '÷' stands for '-' and '×' stands for '+', which one of the following equation is correct ?

(a) 30-6+5×4÷2=27   (b) 30+6-5÷4×2=30

(c) 30×6÷5-4+2=32   (d) 30÷6×5+4-2=40

Q55. A clock was 7 min behind the actual time at 3pm on Wednesday and 8 min ahead of actual time at 4pm on Friday. When will it show the correct time?

(a) 1:51pm on Thursday   (b) 2:36pm on Thursday

(c) 5:30pm on Thursday   (d) None of these

Q56. **Direction**: In the question given below contains three elements. These elements may or may not have some inter linkage. Each group of elements may fit into one of these diagrams at (a), (b), (c), (d). You have to indicate the group of element which correctly fits into the diagram.

Mammal, Cow and Bat ?
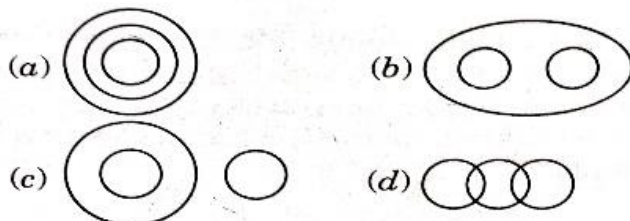
(a) a   (b) b   (c) c   (d) d

Q57. **Direction:** The given question consists of the figures marked (a), (b), (c), (d) and (e) called the Problem Figures followed by four other figures marked 1,2,3 and 4 called the Answer Figures. Select a figure from amongst the Answer Figures which will continue the same series as established by the five Problem Figures.

Problem Figures :

(a)   (b)   (c)   (d)   (e)

Answer Figures :

(1)   (2)   (3)   (4)
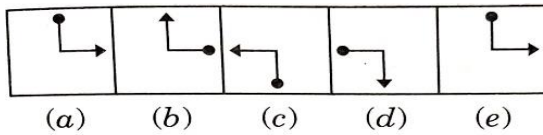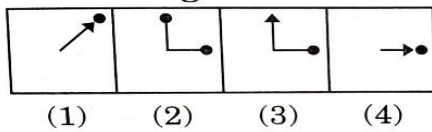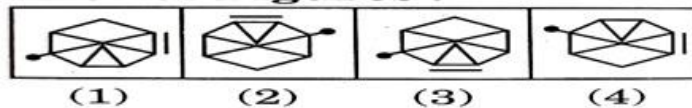
(a) 1   (b) 2   (c) 3   (d) 4

Q58. **Direction:** The given question consists of two sets of figures. Figures (a), (b), (c) and (d) constitute the Problem Set while figures 1,2,3 and 4 constitute the Answer Set. There is a definite relationship between figures (a) and (b). Establish a similar relationship between figures (c) and (d) by selecting a suitable figure from the Answer Set that would replace the question mark (?) in figure.

Problem Figures :

(a)   (b)   (c)   (d)

Answer Figures :

(1)   (2)   (3)   (4)
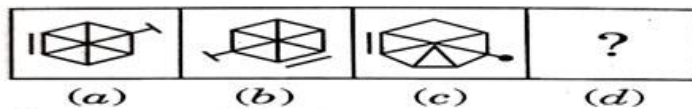
(a) 1   (b) 2   (c) 3   (d) 4

Q59. Which of the following days may represent the last day of a century?

(a) Tuesday   (b) Thursday   (c) Saturday   (d) Monday

Q60. What was the day of the week on 17 June 1998?

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

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3RD PRIZE	SCOOTY	TABLET	TABLET	KINDLE
4TH TO 30TH PRIZE	SPORTS KIT	SPORTS KIT	SPORTS KIT	BICYCLE
31ST TO 40TH PRIZE	SPORTS KIT	SPORTS KIT	SPORTS KIT	SPORTS KIT

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