



RPS
GROUP OF SCHOOLS



RPS Olympiad 2023-24 (Phase-I) Grade- VII

English

Choose the correct alternative:

- Q1. I don't know the boy ____ is standing there.
- (a) whose
 - (b) which
 - (c) whom
 - (d) who
- Q2. Somebody has stolen his watch. Identify the underlined Pronoun.
- (a) Demonstrative
 - (b) Indefinite
 - (c) Possessive
 - (d) Relative
- Q3. The roses are ____ than the sun flowers.
- (a) beautiful
 - (b) more beautiful
 - (c) most beautiful
 - (d) beautifuller
- Q4. The children collected the apples that ____ from the tree.
- (a) are falling
 - (b) had fell
 - (c) had fallen
 - (d) fell
- Q5. They ____ playing cricket since morning.
- (a) are
 - (b) were
 - (c) will
 - (d) have been

Q6. He is cured ____ illness after a long treatment.

- (a) of
- (b) from
- (c) with
- (d) to

Q7. The farmer divided his property ____ his two sons.

- (a) in
- (b) among
- (c) between
- (d) into

Select the correct Indirect Speech of the given sentences (Q8 & Q9)

Q8. The teacher said, "India became free in 1947."

- (a) The teacher said that India had become free in 1947.
- (b) The teacher said that India became free in 1947.
- (c) The teacher said if India became free in 1947.
- (d) The teacher asked if India became free in 1947.

Q9. The doctor said to me, "Do regular exercise".

- (a) The doctor advised me to do regular exercise.
- (b) The doctor said to me to do regular exercise.
- (c) The doctor asked me to do regular exercise.
- (d) The doctor ordered me to regular exercise.

Q10. Choose the correct alternative

Let us play cricket, ____

- (a) shall us?
- (b) shall we?
- (c) shalln't we?
- (d) are we?

Q11. We often play chess in the afternoon, _____

- (a) doesn't we?
- (b) don't we?
- (c) didn't we?
- (d) wasn't we?

Q12. The Director and Principal ____ on round.

- (a) have
- (b) had

- (c) are
- (d) is

Q13. A pair of spectacles _____ been broken.

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

Q14. _____! I have defeated them.

- (a) Ouch
- (b) Alas
- (c) Hurrah
- (d) Oh

Q15. Choose the option that correctly changes voice of the given sentence:

My hair needs cutting.

- (a) My hair needed cutting.
- (b) My hair should be cut.
- (c) My hair needs to be cut.
- (d) None of these

Maths

Q16. Match each item of column I with the corresponding item of column II.

Column I

Column II

- | | |
|---------------------------------------|-------------------------------|
| (i) $(xy)^{y+x}$ | (p) $\frac{1}{x^2}$ |
| (ii) $\left(\frac{x}{y}\right)^y$ | (q) $\frac{x^{y+x}}{y^{x+y}}$ |
| (iii) $\left(\frac{x^0}{x^2}\right)$ | (r) $x^{y+x} \cdot y^{x+y}$ |
| (iv) $\left(\frac{x}{y}\right)^{x+y}$ | (s) $\frac{x^y}{y^y}$ |

- | | | | | |
|-----|-----|------|-------|------|
| | (i) | (ii) | (iii) | (iv) |
| (a) | s | r | p | q |
| (b) | r | s | p | q |
| (c) | q | r | s | p |
| (d) | p | s | r | q |

Q17. The average weight of 10 students of class 7 is 36kg. If the average weight of 8 of them is 37kg, then find the sum of weight of remaining two students.

- (a) 88kg
- (b) 45kg

- (c) 70kg
- (d) None of these

Q18. Answer the following questions and select the correct option:

P. A wire of length 352cm is bend to form a circle. What is the area of the circle formed?

Q. A parallelogram MNRS has two sides MN and NR are 14cm and 8cm. If the height corresponding to MN is 4cm, then find the height corresponding to NR.

- | P | Q |
|-----------------------|-----|
| (a) 9856cm^2 | 8cm |
| (b) 6844cm^2 | 7cm |
| (c) 6844cm^2 | 8cm |
| (d) 9856cm^2 | 7cm |

Q19. Which of the following number should be subtracted from 66486.67 to get the predecessor of smallest 5-digit number?

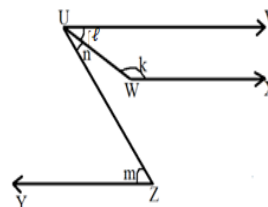
- (a) 56387.53
- (b) 56487.67
- (c) 48593.28
- (d) 43548.48

Q20. Simplify:

$$7\frac{2}{3} - \left[\frac{8}{3} - \left\{ 3\frac{1}{8} - \left(\frac{1}{6} - \frac{1}{8} \right) \right\} \right]$$

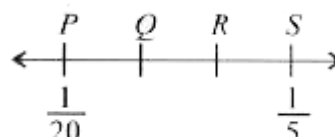
- (a) $9\frac{1}{11}$
- (b) $8\frac{1}{12}$
- (c) $3\frac{7}{4}$
- (d) $5\frac{1}{2}$

Q21. In the given figure UV, WX and YZ are parallel lines. If $m=85^\circ$ and $n = \frac{m}{5}$, then find the value of k



- (a) 90°
- (b) 110°
- (c) 112°
- (d) 180°

Q22. The given number line shows four fractions P,Q,R and S. If $PQ=QR=RS$, then find the value of Q and R respectively.



- (a) $3/20, 1/10$
- (b) $1/8, 1/10$
- (c) $1/10, 3/20$

(d) $\frac{1}{10}$, $\frac{1}{8}$

- Q23. 10 men can finish the construction of a wall in 8 days. How many more men are required to finish the work in half a day?
- (a) 160
(b) 100
(c) 120
(d) 150
- Q24. Square ABDE and ACFH are drawn externally on the sides AB and AC respectively of a scalene $\triangle ABC$. Which one of the following is correct.
- (a) $BH=CE$
(b) $AD=AF$
(c) $BF=CD$
(d) $DF=EH$
- Q25. Which of the following options is not incorrect
- P.** $x = 5$ is the solution of $3x + 7 = 22$
Q. The equation $3x + 5 = 13$ represents "5 more than 3 times a number x give 13".
R. The solution of the equation $5x - 8 = 2$ is unique and that solution is $x = -2$
S. The solution of the equation is that value of variable which satisfies the linear equation.
- (a) only P,R
(b) only P,Q,R
(c) only Q,R,S
(d) only P,Q,S
- Q26. Which of the following is correct?
- (a) Sum of negative integer with positive integer is always a negative integer.
(b) Product of two negative integer is always a positive integer.
(c) -27 is greater than -25
(d) There are four integers between -82 and -86
- Q27. If the numerator of a fraction is increased by 10% and its denominator is decreased by 6%, then the value of fraction is $\frac{25}{47}$. Find the original fraction.
- (a) $\frac{5}{11}$
(b) $\frac{11}{5}$
(c) $\frac{3}{4}$

(d) $\frac{4}{3}$

Q28. Rs. 6400 were sent to Karan and Jaya at 15% per annum for $3\frac{1}{2}$ and 5 years respectively. The difference in the interest paid by them is:

- (a) Rs. 1440
- (b) Rs. 1400
- (c) Rs. 1450
- (d) Rs. 1390

Q29. Manish has one-rupee coins, 50-paisa coins and 25-paisa coins. The number of coins are in the ratio 2.5:3:4. If the total amount with Manish is Rs. 210, find the number of one-rupee coins.

- (a) 90
- (b) 85
- (c) 100
- (d) 105

Q30. If $\frac{a}{8} = \frac{b}{9} = \frac{c}{6}$, then $\frac{a+b+c}{c}$ is equal to

- (a) 7
- (b) $2\frac{1}{2}$
- (c) $3\frac{5}{6}$
- (d) $3\frac{1}{6}$

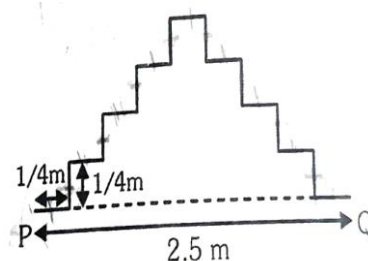
Physics

Q31. The relation between the amounts of heat produced in two wires having thickness 2m50cm and 2m respectively and same length will be:

- (a) $\frac{H_1}{H_2} = \frac{4}{5}$
- (b) $\frac{H_1}{H_2} = 20$
- (c) $\frac{H_1}{H_2} = \frac{5}{4}$
- (d) $\frac{H_1}{H_2} = \frac{1}{5}$

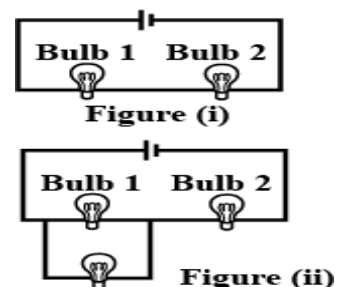
Q32. An ant moves along the identical steps from P to Q as shown in the figure in a duration of 8.5 seconds, then the speed and velocity of the ant respectively are _____ ms^{-1} and _____ ms^{-1}

- (a) $0.5, \frac{5}{17}$
- (b) 0.5, 0.5
- (c) $\frac{5}{17}, \frac{5}{17}$
- (d) Cannot be determined



- Q33. Which of the following temperature cannot be measured using a clinical thermometer?
- 109°F
 - 98°F
 - 105°F
 - 80°F
- Q34. Which of the following is not a possible characteristic of an image formed by a convex lens?
- Real and magnified
 - Virtual and diminished
 - Virtual and magnified
 - Real and diminished
- Q35. A Bulb 1 and bulb 2 are connected in series as shown in the given figure (i). What will happen to the brightness of these two bulbs when a third identical bulb is connected across bulb 1 as shown in the given figure (ii)?

- | | Bulb 1 | Bulb 2 |
|-----|----------|----------|
| (a) | Brighter | Brighter |
| (b) | Brighter | Dimmer |
| (c) | Dimmer | Dimmer |
| (d) | Dimmer | Brighter |



Chemistry

- Q36. Which chemical reaction shows single displacement reaction:
- $2\text{AgNO}_3 + \text{BaCl}_2 \rightarrow 2\text{AgCl} + \text{Ba}(\text{NO}_3)_2$
 - $\text{H}_2\text{SO}_4 + 2\text{NaOH} \rightarrow \text{Na}_2\text{SO}_4 + 2\text{H}_2\text{O}$
 - $\text{Cu}(\text{NO}_3)_2 + \text{Zn} \rightarrow \text{Zn}(\text{NO}_3)_2 + \text{Cu}$
 - All the above
- Q37. Which of the following is not a physical change?
- Melting of solid wax to form liquid wax
 - Evaporation of liquid wax to form wax vapours
 - Combustion of LPG
 - Dissolution of salt in water
- Q38. In the given diagrams, which ones represent alkalis and bases in the correct form?

- (i) only
- (iii) only
- (ii) & (iii) only
- (i) & (iv) only



Q39. Choose the option and fill the appropriate word in the blank
Caustic Soda and Hydrochloric Acid react to form _____ and _____. The process is accompanied by _____ of heat. The resulting solution is _____ in nature.
(a) Salt, water, absorption, basic
(b) Salt, water, absorption, neutral
(c) Salt, water, evolution, neutral
(d) Salt, water, evolution, acidic

Q40. Match the following:

- | | |
|--------------------------|----------------------------|
| (i) Lindemann | (a) Top consumer |
| (ii) Oval leaf, Drip tip | (b) Bridges between trees |
| (iii) Hawk | (c) 90% energy is consumed |
| (iv) Tree-top walkways | (d) Canopy |
- (a) (i) (d), (ii) (a), (iii) (d), (iv) (b)
(b) (i) (c), (ii) (a), (iii) (d), (iv) (b)
(c) (i) (c), (ii) (d), (iii) (a), (iv) (b)
(d) None of these

Biology

Q41. Respiration is an example of which of the following processes?

- (a) Anabolism
- (b) Catabolism
- (c) Metabolism
- (d) Both (a) & (c)

Q42. In fishes, gills are the respiratory organs. Gills are projections of which of the following parts?

- (a) Nostril
- (b) Alimentary canal
- (c) Skin
- (d) None of these

Q43. Which animal use tentacles to catch its prey?

- (a) Snail
- (b) Hydra
- (c) Starfish
- (d) Amoeba

Q44. Which of the following statements is true about croton plants?

- (a) Croton plants do not contain chlorophyll
- (b) Croton plants are dark red in colour. Hence they depend on other plants for food.
- (c) Croton plants have chlorophyll but it is hidden by dark red colour pigments
- (d) Croton plant are parasites

- Q45. Assertion (A): Heart is a tissue which acts as a pump.
Reason (R): Heart is roughly the size of your clenched fist.
- (a) Both A and R are true and R is correct explanation of A.
 - (b) Both A and R are true but R is not the correct explanation of A
 - (c) A is true but R is false
 - (d) A is false but R is true

Reasoning

- Q46. Complete the following series:

1,-8,81,?,15625

- (a) -1022
 - (b) -1024
 - (c) -4094
 - (d) -4096
- Q47. 'Rabbit' is related to 'Burrow' in the same way as 'Lunatic' is related to:
- (a) prison
 - (b) Cell
 - (c) Barrack
 - (d) Asylum
- Q48. In the following question, select the odd word from the given alternative:
- (a) Thyroxin
 - (b) Insulin
 - (c) Adrenalin
 - (d) Hormone
- Q49. At what time between 6 and 7 will the hands of a watch makes an angle of $12\frac{1}{2}$ degree?
- (a) 10 min past 6
 - (b) 15 min past 6
 - (c) 25 min past 6
 - (d) 35 min past 6
- Q50. How many leap years in 300 years have?
- (a) 72
 - (b) 73
 - (c) 74
 - (d) (a) or (b)

Q51. At 2:10 the hour hand and the minute hand of a clock form an angle of:

- (a) 25°
- (b) 10°
- (c) 5°
- (d) 0°

Q52. P is the mother of K; K is the sister of D; D is the father of J. how is P related to J?

- (a) Mother
- (b) Grandmother
- (c) Aunt
- (d) Data inadequate

Q53. If $5 \times 6 = 31$

$$8 \times 4 = 36$$

Then $6 \times 8 = ?$

- (a) 46
- (b) 34
- (c) 50
- (d) 38

Directions Q54-Q55: Six friends are sitting in a circle facing the centre. Deepa is between Prakash and Pankaj. Priti is between Mukesh and Lalit. Prakash and Mukesh are opposite to each other. Prakash is to the left of Lalit.

Q54. Who is sitting right to Prakash?

- (a) Mukesh
- (b) Deepa
- (c) Pankaj
- (d) Lalit

Q55. Who is sitting opposite to Priti?

- (a) Prakash
- (b) Deepa
- (c) Pankaj
- (d) Lalit

Q56. A watch reads 1:30. If the minute Hand point South-West, in which direction will be Hour Hand Point?

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

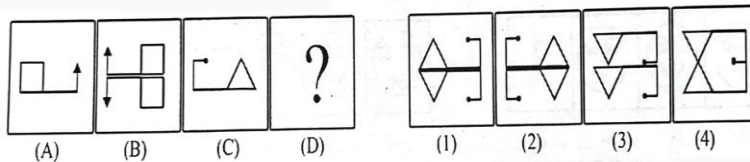
Q57. Which one will replace the question mark?

- (a) 18
- (b) 24
- (c) 36
- (d) 58

7	9	21	27
4	2	36	18
9	4	54	?

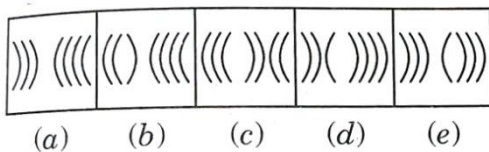
Direction Q58: Each of the following questions consists of two sets of figure. Figures (a), (b), (c) and (d) constitute the Problem Set while figures 1,2,3 & 4 constitute the Answer Set. There is a definite relationship between figures (a) and (b). Establish a similar relationship between figures (c)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

Q58. Problem figures:

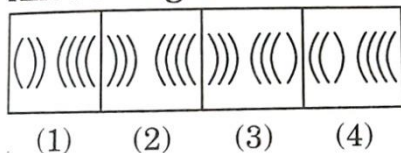


Directions Q59: Select a figure from amongst the Answer Figures which will continue the same series as established by the five problem figures:

Q59. Problem figures:



Answer Figures :



Q60. Which of the following diagrams indicates the best relation between White, Flower, Clothes.

