RISE SCHOLARSHIP – ADMISSION TEST – SAMPLE PAPER

CLASS - 8

Rani Institute of Scholastic Education

Section – I

MATHEMATICS

1. On subtracting the reciprocal of $\frac{5}{7}$ from the additive inverse of $\left(\frac{-3}{4}\right)$ we get

   (a) $\frac{11}{20}$ (b) $\frac{13}{20}$

   (c) $\frac{-11}{20}$ (d) $\frac{-13}{20}$

2. If $\sqrt{x} + \sqrt{49} = 8.2$, then the value of x is _____.

   (a) 1.20 (b) 1.40

   (c) 1.44 (d) 1.89

3. The smallest number by which 2560 must be multiplied so that the product is a perfect cube is _____.

   (a) 25. (b) 15.

   (c) 10. (d) 5.

4. If the ratio of two sides of a parallelogram is 4: 5 and its perimeter is 90 cm, its sides are _____.

   (a) 5 cm and 18 cm (b) 20 cm and 25 cm

   (c) 25 cm and 20 cm (d) 40 cm and 50 cm

5. The solution of the equation $\frac{6x+7}{3x+2} = \frac{4x+5}{2x+3}$ is ____

   (a) $-\frac{11}{9}$ (b) $-\frac{13}{4}$

   (c) $-\frac{9}{14}$ (d) $-\frac{2}{13}$

6. The value of $\frac{1}{2} \div \left(\frac{1}{3} \div \frac{2}{5}\right)$ is ____

   (a) $-\frac{5}{3}$ (b) $-\frac{3}{5}$

   (c) $-\frac{5}{12}$ (d) $\frac{3}{5}$

7. 25 times the square of 125 is same as _____

   (a) square of 625 (b) 5 times the square of 25

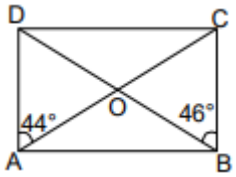
   (c) 125 times the square of 25 (d) 25 times the square of 5

8. Cube of an even number _____

   (a) is always even (b) is always odd

   (c) is sometimes even and sometimes odd (d) always end with 0

9. In parallelogram ABCD, $\angle DAC = 44°$ and $\angle CBD = 46°$ then $\angle AOB =$



(a) 80° (b) 90°

(c) 60° (d) 45°

10. What is the value of $3(x^2 - 4x)$ when $x = 4$?

(a) 5 (b) 0

(c) 30 (d) 55

Section – II

PHYSICS

11. Pressure is measured in _____

(a) Pa (b) N

(c) Nm^{-2} (d) both (a) and (c)

12. Which of the following is NOT a correct statement?

(a) A force can change the state of rest or motion of a body

(b) A force can change the direction of a body

(c) A force can change the chemical properties of a body

(d) A force can change the dimension of a body

13. The impact which a body can produce due to the combined effect of mass and velocity is called –

(a) momentum (b) force

(c) moment of force (d) pressure

14. Equal and opposite forces acting on a body which do not change its state of rest or motion are called –

(a) null forces (b) unlike parallel force

(c) balanced force (d) all to these

15. Pressure of water ____

(a) increases with depth (b) decreases with depth

(c) remains same with depth (d) none of these

16. A batsman hits a cricket ball which then rolls on a level ground. After covering a short distance, the ball comes to rest. The ball slows down to stop because ___

(a) The batsman did not hit the ball hard enough

(b) velocity is proportional to the force exerted on the ball

(c) there is a force on the ball opposing the motion

(d) there is no unbalanced force on the ball, so the ball would come to rest

17. Equal forces $\vec{F}$ act on isolated bodies A and B as shown. The mass of B is three times that of A. The magnitude of the acceleration of A is _____

(a) three times that of B
(b) 1/3 that of B
(c) nine time that B
(d) 1/9 that of B

18. Friction can be increased by _____
(a) making the surface smooth
(b) lubricating the surface
(c) using ball bearing
(d) making the surface rough

19. It is difficult to walk on ice because ___
(a) Pressure is high
(b) pressure is low
(c) friction is high
(d) friction is low

20. Friction is _____
(a) always a disadvantage
(b) always an advantage
(c) sometimes a disadvantage and sometimes an advantage
(d) neither a disadvantage nor an advantage

Section – III

CHEMISTRY

21. Metal A – Highly malleable and ductile, reacts easily with air, water and acids.
Metal B – Highly malleable and ductile, non-reactive
Metal C – Malleable and ductile, forms very strong alloys
Metal D – Has a melting point below room temperature
Which of the following statement is false?
(a) Metal A can be used to make electrical wires
(b) Metal B can be used to make jewellery
(c) Metal C can be used in constructions
(d) Metal D can be used in thermometers

22. A brown-colored metal on exposure to air reacts with components of air to form a green coloured compound. The composition of this substance is _____
(a) $Cu(OH)_2$
(b) $CuO.\ CuCO_3$
(c) $Cu(OH)_2.CuCO_3$
(d) $CuO.Cu(OH)_2.CuCO_3$

23. Which of these was used earlier in railway engines to produce steam from water?
(a) Petroleum
(b) Diesel
(c) Kerosene
(d) Coal

24. The composition of the chemicals on the head of the match stick is _____
(a) Antimony disulphide + Potassium Chlorate + Red Phosphorous
(b) Antinomy trisulphide + Potassium chlorate + Red Phosphorous
(c) Antinomy trisulphide + Potassium chlorate + White Phosphorous
(d) Antimony disulphide + Potassium Chlorate + White Phosphorous

25. Salt of metal A, ASO_4 is blue. Salt of metal B, BSO_4 is green. When B is added to ASO_4, the color changes to green. This shows that _____

    (a) A is more reactive than B
    (b) B is more reactive than A
    (c) Both are equally reactive
    (d) Can't be predicted

26. A magician wanted to perform a show. He got out a powder from inside water which immediately caught fire on exposure to air. This substance must be ___

    (a) Sulphur
    (b) Phosphorous
    (c) Carbon
    (d) Mercury

27. Which of these can be used to make thin long wires?

    (a) Copper
    (b) Mercury
    (c) Sulphur
    (d) Sodium

28. Basu was cooking potatoes using LPG while Veena was using CNG. Basu finished cooking faster than Veena. Which could be the correct calorific value of LPG and CNG respectively?

    (a) 10,000 and 8000
    (b) 8000 and 10,000
    (c) both 10,000
    (d) both 8000

29. Increased levels of carbon dioxide causes global warming because _____.

    (a) carbon dioxide is a hot gas
    (b) carbon dioxide can trap the heat waves in the atmosphere
    (c) carbon dioxide reacts with other gases and liberates heat
    (d) none of the above

30. Water can be used to extinguish fire because _____.

    (a) It decreases the ignition temperature of the burning substance
    (b) It converts to water vapour and surrounds the burning substance
    (c) Both (a) and (b)
    (d) It absorbs the fire and extinguishes it

Section – IV
BIOLOGY

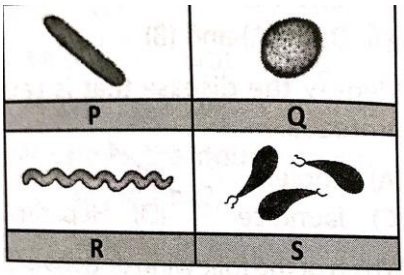
31. Which part within the uterus prevents the mixing of the blood of the foetus with that of the mother?

    (a) Umbilical cord
    (b) Uterus wall
    (c) Placenta
    (d) Water sac

32. AIDS is a deadly disease which is caused by

    (a) a protozoan
    (b) a fungus
    (c) a bacterium
    (d) a virus

33. What causes the dough to rise when yeast is added to it?
    (a) An increase in temperature
    (b) An increase in the amount of substance
    (c) An increase in the amount of released water by yeast cells
    (d) The release of carbon dioxide gas
34. Which of the following bacteria causes Cholera?
    (a) *Streptococcus* (b) *Clostridium*
    (c) *Pasteurella* (d) *Vibrio*
35. Which of these is the correct sequence of steps to develop a new plant variety?
    P – Evaluation
    Q – Multiplication of improved seeds
    R – Selection
    S – Distribution of improved seeds
    T – Development of gene variation
    (a) T, R, P, Q, S (b) R, T, P, Q, S
    (c) S, Q, P, R, T (d) P, Q, R, T, S
36. Which of the following methods of cultivation causes salinization of soil?
    (a) Transplantation (b) Crop rotation
    (c) Excessive irrigation (d) Broadcasting
37. Observe the given figure and identify P, Q, R and S.



    (a) P – Coccus, Q – Bacillus, R – Vibrio, S – Spirillum
    (b) P –Bacillus, Q – Coccus, R –Spirillum, S – Vibrio
    (c) P –Bacillus, Q – Vibrio, R –Coccus, S – Spirillum
    (d) P –Bacillus, Q – Spirillum, R –Vibrio, S –Coccus
38. Which of the following statements are correct about menstrual cycle?
    (a) A girl who has reached puberty will menstruate throughout her life
    (b) Menstruation occurs every 28 days
    (c) During every menstrual cycle, one mature ovum will be released by the ovary
    (d) Both (b) and (c)
39. Which of the following is an oviparous mammal?
    (a) Echidna (b) Kangaroo (c) Rabbit (d) Bat

40. Which of the following processes refers to the casting away of the skin by a caterpillar to allow a larger caterpillar to emerge?

(a) Metamorphosis (b) Chrysalis

(c) Moulting (d) Development

Section – V

Aptitude

41. Find the missing number/letter.

65, 91, 143, 169?

(a) 231 (b) 241 (c) 221 (d) 233

42. Find the missing number/letter.

16, 48, 52, 260, 266, ?

(a) 1896 (b) 1826 (c) 1862 (d) 1962

43. Find the missing number/letter.

7, 15, 22, 37, 59, 96, ?

(a) 165 (b) 125 (c) 123 (d) 155

44. Find the missing number/letter.

– qr – rp – p q p – r – r p r p q

(a) p q r q q (b) q q q r r (c) q p r q p (d) p q q r r

45. Find the missing number/letter.

m m n – m m – n nn – m mm – n nn

(a) m n n m (b) n m m n (c) m mm n (d) m n m n

46. Find the missing number/letter.

a b c a – b c a a b – c a – b b c –

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

47. Find the missing number/letter.

J2Z, K4X, I7V, ?, H16R, M22P

(a) I11T (b) L 11S

(c) L 12 T (d) L 11 T

48. Find the odd-number.

(a) 1345 (b) 5675

(c) 3675 (d) 4578

49. Find the odd-number.

(a) 1234 (b) 5678

(c) 4567 (d) 4272

50. Find the odd-number.

(a) 216 (b) 343

(c) 960 (d) 125

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CLASS - 8

ANSWER KEY:

1. D	2. C	3. A	4. B	5. A	6. D	7. A	8. A	9. B	10. B
11. D	12. C	13. A	14. C	15. A	16. C	17. A	18. D	19. D	20. C
21. A	22. C	23. D	24. B	25. B	26. B	27. A	28. A	29. B	30. C
31. C	32. D	33. D	34. A	35. A	36. C	37. B	38. D	39. A	40. C
41. C	42. C	43. D	44. A	45. B	46. C	47. D	48. D	49. D	50. C