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EXAMINATION (PHASE-I)

RPS OLYMPIAD- 2022

CLASS-7th

M.M. : 60   Time : 60 Mins.

English (15 Marks)
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1. Choose the correct sentence.
   - a) Three deer are grazing there.   b) Three deers are grazing there.
   - c) Three deer is grazing there.   d) Three deers have been grazing there.

Direction (Q2-3) A sentence has been given in Direct/Indirect speech. Out of the four options, select the one which best expresses the same sentence in Direct/Indirect speech.

2. I said to him, "Why are you working so hard?"
   - a) I asked him why was he working so hard.
   - b) I asked him why had he been working so hard.
   - c) I asked him why he was working so hard.
   - d) I asked him why he had been working so hard.

3. The teacher said to Ram, "Congratulations! Wish you success in life."
   - a) The teacher congratulated Ram and said wish you success in life.
   - b) The teacher wished congratulations and success in life to Ram.
   - c) The teacher wished congratulations to Ram and wished him success in life.
   - d) The teacher congratulated Ram and wished him success in life.

4. Fill in the blank with suitable question tag:
   Sahil is not home………….
   - a) does he?   b) doesn't he?   c) isn't he?   d) is he?

Direction (Q5-6) A sentence has been given in Active voice/Passive voice. Out of the four options, select the one which best expresses the same sentence in Active/Passive voice.

5. Our task had been completed before sunset.
   - a) We completed our task before sunset.
   - b) We have completed our task before sunset.
   - c) We had completed our task before sunset.
   - d) We complete our task before sunset.

6. Please shut the door and go to sleep.
   - a) You are requested to shut the door and go to sleep.
   - b) The door is to be shut and you are to go to sleep.
   - c) Let the door to be shut and you be asleep.
   - d) The door is to be shut and you are requested to sleep.

7. By the next month, we _____the project.
   - a) has completed   b) completing   c) will have completed   d) completed

8. Identify the tense used in the given sentence. "Someone picked my pocket."
   - a) Present Indefinite Tense   b) Past Indefinite Tense
   - c) Past Perfect Tense   d) Present Perfect Tense

9. Choose the correct option:
   - a) I did not accompanied them.   b) I do not accompanied them
   - c) I does not accompany them.   d) I do not accompany them.

10. She is the woman **_whom_** I met in Greece. Identify the kind of the *italicised* word in the sentence.
    - a) Demonstrative Pronoun   b) Relative Pronoun
    - c) Interrogative pronoun   d) Personal Pronoun

11. _____! The baby is sleeping.
    a) Shhhhh b) Yay c) Yuck d) Oops
12. This sofa is _____ than that.
    a) comfortable b) most comfortable c) more comfortable d) very comfortable
13. Your accent is the _____ in the class.
    a) worst b) worse c) bad d) none
14 The scissors _____ on the table.
    a) is b) are c) does d) was
15 Someone is waiting _____ the library.
    a) outside b) through c) of d) out of

Mathematics (15 Marks)

16. The area of the largest triangle that can be inscribed in a semicircle of radius 10cm is
    a) $25cm^2$ b) $50cm^2$ c) $100cm^2$ d) $200cm^2$
17. What number should be added to each of the numbers 3,5,13 and 19 so that the resulting numbers may be in proportion?
    a) 6 b) 2 c) 4 d) 3
18. What is the value of z in terms of x and y?
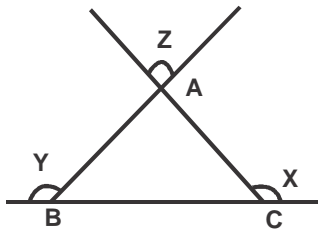
    a) $x + y + 180^0$ b) $x + y - 180^0$ c) $180^0 - (x+y)$ d) $x + y$

19. If $\left(\frac{a}{b}\right)^{x-1} = \left(\frac{b}{a}\right)^{x-3}$, then the value of x is:
    a) – 2 b) 1 c) 2 d) 3

20. If x = $7-4\sqrt{3}$ then the value of $x + \frac{1}{x}$ is
    a) 8 b) 12 c) 14 d) 18

21. If ABC and DEF are two triangles such that $\Delta ABC \cong \Delta FDE$ and AB= 5cm, $\angle B = 40^0$ and $\angle A = 80^0$, then which of the following is true?
    a) DF = 5cm, $\angle F = 60^0$ b) DE= 5cm, $\angle E = 60^0$
    c) DF = 5cm, $\angle E = 60^0$ d) DE = 5cm, $\angle D = 40^0$

22. 55% of 1000 ÷ 60% of 2000 =
    a) $\frac{11}{24}$
    b) $\frac{12}{25}$
    c) $\frac{13}{24}$ d) $\frac{14}{25}$

23. Find the value of $\frac{0.34 - 0.034}{0.0034 \div 34}$

a) 0.306   b) 306   c) 3060   d) 0.0306

24. The solution of $0.2(2x - 1) - 0.5(3x - 1) = 0.4$ is

     a) $\dfrac{1}{11}$ b) $-\dfrac{1}{11}$ c) $\dfrac{3}{11}$ d) $-\dfrac{3}{11}$

25. In the given figure, $\angle A = 80°$, $\angle B = 60°$, $\angle C = 2x°$ and $\angle BDC = y°$. BD and CD bisect angels B and C respectively. The values of x and y respectively are :-

     a) $15°$ and $70°$ b) $10°$ and $160°$ c) $20°$ and $130°$ d) $20°$ and $125°$
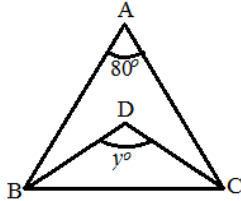
26. If the cost price of an item is $\dfrac{5}{7}$ of its marked price and the profit is 20%, then the percentage of discount is

     a) 20%   b) $63\dfrac{1}{3}\%$ c) $\dfrac{100}{3}\%$ d) $\dfrac{100}{7}\%$

27. The average of the marks in Maths of 100 students in a class was 72. The mean of marks for boys was 75 while their number was 70. The mean of marks of girls in the class was

     a) 35   b) 65   c) 68   d) 86

28. A box contains balls which are numbered 0 to 9. If one ball is drawn randomly, the probability of drawing a number greater than 6 is

     a) $\dfrac{2}{5}$ b) $\dfrac{1}{8}$ c) $\dfrac{1}{3}$ d) $\dfrac{3}{10}$

29. ABCD is a rectangle having length 30cm and breadth 20cm. E, F and G are mid points of AB, CD and AD respectively, then the area of unshaded part is
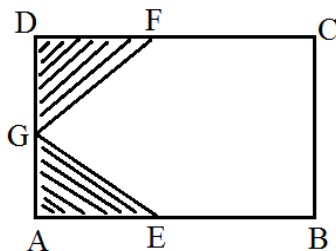
     a) 400 cm^2 b) 450 cm^2 c) 375 cm^2 d) 500 cm^2

30. If the range of 10 observations is 68 and its lowest score of the data is 34 then the highest score of the data is

     a) 68   b) 86   c) 102   d) 112

Science (15 Marks)

Physics (5 Marks)

31. A particle covers half the circle of radius r. Then the displacement and distance of the particle are respectively:

     a) $2\pi r, o$ b) $2r, \pi r$ c) $\dfrac{\pi r}{2}, 2r$ d) $\pi r, r$

32. A ray of light strikes a plane Mirror PQ at an angle of incidence of $30°$, is reflected from the plane Mirror and then strikes a second plane mirror QR placed at right angle of the first mirror. The angle of reflection at the second mirror is

a) 30^0 b) 45^0 c) 60^0 d) 90^0

33. The heat energy required to change a liquid at its boiling point into gaseous state, without any rise in the temperature is called –
    a) Latent heat of vaporization   b) Specific heat capacity
    c) Thermal capacity   d) Latent heat of fusion

34. The potential difference between the terminal of an electric iron is 120 v when it draws a current of 4A. What will be the current in the electric iron if the potential difference between the terminal becomes 180v?
    a) 4A   b) 3.5 A   c) 0 A   d) 6 A

35. A body starts to slide over a horizontal surface with an initial velocity of 0.5 m/s. Due to friction, its velocity decrease at the rate of 0.05 m/s^2 (acceleration $= -0.05 \text{ m/s}^2$). How much time will it take for the body to stop?
    a) 2s   b) 4s   c) 11s   d) 10 s

Chemistry (5 Marks)

36. Ammonium is found in many household products such as window cleaners. What is its nature?
    a) Basic   b) Neutral   c) Acidic   d) Salty

37. ………………. is a member of the camel family. It produces small amounts of extremely fine wool, which is very expensive because the animal can only be shorn every three years and has to be caught from the wild.
    a) Llama   b) Vicuna   c) Alpaca   d) Indian camel

38. Anaerobic bacteria digest animal waste and produce biogas (change A). The biogas is then burnt as fuel (change B). The following statements pertain to these changes. Choose the correct one.
    a) Process – A is a chemical change.   b) Process – B is a chemical change
    c) Both processes A and B are chemical change.   d) None of these processes is a chemical change.

39. Eris is the ancient water harvesting structures which are still in use today. The water harvesting method 'Eris' belongs to ……………
    a) Tamil Nadu   b) Karnataka   c) Kerala   d) Kandi belt of Jammu Region

40. Who gave the ten percent law for the transfer of energy from one trophic level to the next?
    a) Leonhard Euler   b) Lindemann   c) Amedeo Avogadro   d) Isaac Newton

Biology (5 Marks)

41. The cellular energy reserve in an autotroph is –
    a) Proteins   b) Fatty acids   c) Starch   d) Glycogen

42. One of the following does not depend on simple diffusion of gases for breathing and respiration. This organism is :
    a) Amoeba   b) Paramecium   c) Prawn   d) Leishmania

43. The process by which the oxygenated blood moves from left auricle to left ventricle and then through aorta to all parts of the body is known as
    a) Extracellular circulation   b) Intracellular circulation
    c) Pulmonary circulation   d) Systemic circulation

44. How many Polar nuclei are present in an embryo sac ?
    a) One   b) Two   c) Three   d) Four

45. The process that regulates the body's salt and water concentration is called :
    a) Osmoregulation   b) Sweating   c) Egestion   d) Ingestion

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Aptitude (15 Marks)

*Direction (Q46-Q47)* Find the next term: ?

46. 4,2,0.5,0.25,0.5 ?

 a) 10   b) 2.5   c) 2   d) 4

47. 1,0,1,8,81,?

 a) 286   b) 784   c) 1024   d) 841

48. In a certain language FEED is coded as 47, MEET is coded as 118, then TREE is coded as………….

 a) 91   b) 81   c) 101   d) 111

49. *Direction :*-Select the related number from the given alternatives.

 8:36::12:?

 a) 84   b) 59   c) 78   d) 64

Direction (Q50-Q51):- In each of the following questions; four words have been given out of which three are a like in some manner, while the fourth one is different. Choose the word which is different from the rest.

50. a) Morbid   b) Swindle   c) Deceit   d) Fraud

51. a) Radiation   b) Concentration   c) Confluence   d) Concourse

52. Ankit, in order to go to university, started from his house in the east and came to a crossing. The road to the left ends in a theatre, straight ahead is the hospital. In which direction is the university?

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

Direction (Q53):- Which one will replace the question mark ?

53.
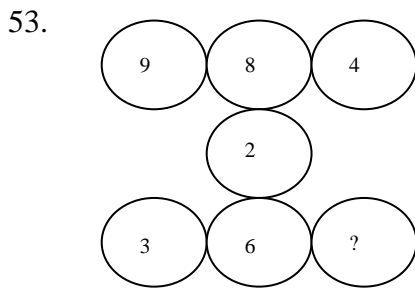
 a) 6   b) 7   c) 8   d) 9

54. The minute hand of a clock overtakes the hour hand at intervals of 65 minutes. How much in a day does the clock gain or lose?

 a) Gains $56\dfrac{8}{77}$ min   b) Loses $32\dfrac{8}{11}$ min

 c) Loses $9\dfrac{10}{143}$ min   d) *Gains* $10\dfrac{10}{143}$ min

55. My brother is 562 days older to me while my sister is 75 weeks older to him. If my sister was born on Tuesday, on which day was I born?

 a) Sunday   b) Monday   c) Tuesday   d) Thursday

Direction (Q56-Q57) :- Each of these questions 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 elements which correctly fits into the diagrams.

56.   Profit, Dividend and Bonus.

a)

b)

c)

d)
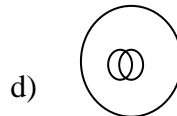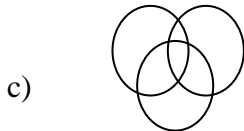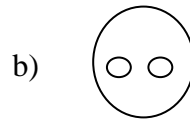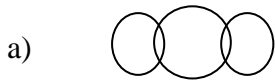
57.   Which one will replace the question mark?

1	2	3	32
2	3	4	287
3	4	5	?

   a) 2076   b) 3964   c) 3408   d) 3308

Direction (Q58 to 60): - Study the following set of questions carefully and answer the questions given below

   A family of 10 members over three generation goes to a picnic. Kapil is the father of Boby and has only one son. Ratna is the son-in-law of Atma and the father of Jetha. Sonu is the uncle of Champa. Charu is the aunt of Babita who is the daughter of Daya. Daya is the daughter in law of Kapil. Atma is the mother of Charu who has two children. Each child has both of its parents alive.

58.   Three of the following four are alike in the certain way and so form a group. Which is the one that does no belong to the group?

   a) Boby   b) Daya   c) Sonu   d) Charu

59.   How many married couples are there in the family?

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

60.   How is Kapil related to Champa?

   a) Father-in-law   b) Father   c) Grandfather   d) Brother