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PRINCE SAINIK SCHOOL

ADMISSION TEST - 2021

Date : **21 March, 2021 (Sunday)**

Time : **10:00 AM to 12:00 Noon**

1. Reduce $\frac{128352}{238368}$ to its lowest terms.

(a) $\frac{3}{4}$	(b) $\frac{5}{13}$
(c) $\frac{7}{13}$	(d) $\frac{9}{13}$
2. A, B and C start at the same time in the same direction to run around a circular stadium. A completes a round in 252 seconds, B in 308 seconds and C in 198 seconds, all starting at starting at the same point. After what time will they meet again at the starting point?

(a) 26 minutes 18 seconds	(b) 42 minutes 36 seconds
(c) 45 minutes	(d) 46 minutes 12 seconds
3. On simplification of $\frac{(2.644)^2 - (2.356)^2}{0.288}$, we get :

(a) 1	(b) 4
(c) 5	(d) 6
4. The volumes of two spheres are in the ratio of 64 : 27. The ratio of their surface areas is :

(a) 1 : 2	(b) 2 : 3
(c) 9 : 16	(d) 16 : 9
5. The radii of two cones are in the ratio 2 : 1, their volumes are equal. Find the ratio of their heights.

(a) 1 : 8	(b) 1 : 4
(c) 2 : 1	(d) 4 : 1
6. What is the value of $\frac{(P+Q)}{(P-Q)}$ if $\frac{P}{Q} = 7$?

(a) $\frac{1}{3}$	(b) $\frac{2}{3}$
(c) $\frac{4}{3}$	(d) $\frac{7}{3}$
7. In an examination, a student scores 4 marks for every correct answer and loses 1 mark for every wrong answer. If he attempts in all 60 questions and secures 130 marks, the number of questions he attempts correctly, is :

(a) 35	(b) 38
(c) 40	(d) 42
8. If the volumes of two cubes are in the ratio 27 : 1, the ratio of their edges is :

(a) 1 : 3	(b) 1 : 27
(c) 3 : 1	(d) 27 : 1
9. The difference between the circumference and the radius of a circle is 37 cm. The area of the circle is :

(a) 111 cm ²	(b) 148 cm ²
(c) 154 cm ²	(d) 259 cm ²
10. The value of $\sqrt{10 + \sqrt{25 + \sqrt{108 + \sqrt{154 + \sqrt{225}}}}}$ is :

(a) 4	(b) 6
(c) 8	(d) 10
11. If 1 is added to the denominator of a fraction, the fraction becomes $\frac{1}{2}$. If 1 is added to the numerator of the fraction, the fraction becomes 1. The fraction is :

(a) $\frac{1}{3}$	(b) $\frac{2}{3}$
(c) $\frac{3}{4}$	(d) $\frac{3}{2}$
12. The length of a room is 5.5 m and width is 3.75 m. Find the cost of paving the floor by slabs at the rate of Rs. 800 per sq. metre.

(a) Rs. 15,000	(b) Rs. 15,550
(c) Rs. 15,600	(d) Rs. 16,500
13. A man can row upstream at 8 km/h and downstream at 13 km/h. The speed of the stream is :

(a) 2.5 km/h	(b) 4.2 km/h
(c) 5 km/h	(d) 10.5 km/h
14. A man walking at the rate of 5 km/h crosses a bridge in 15 minutes. The length of the bridge (in metres) is :

(a) 600	(b) 750
(c) 1000	(d) 1250
15. The value of $\tan 1^\circ \tan 2^\circ \tan 3^\circ \dots \dots \tan 89^\circ$ is

(a) 1	(b) -1
(c) 0	(d) None of these
16. The value of $\cos 1^\circ \cos 2^\circ \cos 3^\circ \dots \dots \cos 180^\circ$ is

(a) 1	(b) 0
(c) -1	(d) None of these
17. If $5 \tan \theta - 4 = 0$, then the value of $\frac{5 \sin \theta - 4 \cos \theta}{5 \sin \theta + 4 \cos \theta}$ is

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

(b) $\frac{5}{6}$

(c) 0

(d) $\frac{1}{6}$

(a) $\frac{1}{3}$

(b) $-\frac{1}{3}$

(c) $\frac{2}{3}$

(d) $-\frac{2}{3}$

18. Sides of two similar triangles are in the ratio 4 : 9. Areas of these triangles are in the ratio.

(a) 2 : 3

(b) 4 : 9

(c) 81 : 16

(d) 16 : 81

19. $\frac{2 \tan 30^\circ}{1 - \tan^2 30^\circ}$ is equal to

(a) $\cos 60^\circ$

(b) $\sin 60^\circ$

(c) $\tan 60^\circ$

(d) $\sin 30^\circ$

20. If A, B and C are interior angles of a triangle ABC, then $\sin \left(\frac{B+C}{2} \right) =$

(a) $\sin \frac{A}{2}$

(b) $\cos \frac{A}{2}$

(c) $-\sin \frac{A}{2}$

(d) $-\cos \frac{A}{2}$

21. If the distance between the points (4, p) and (1, 0) is 5, then p =

(a) +4

(b) 4

(c) -4

(d) 0

22. In a simultaneous throw of two coins, the probability of getting at least one head is :

(a) $\frac{1}{2}$

(b) $\frac{1}{3}$

(c) $\frac{2}{3}$

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

23. The perimeter of the triangle formed by the points (0,0), (1,0) and (0,1) is

(a) $1 \pm \sqrt{2}$

(b) $\sqrt{2} + 1$

(c) 3

(d) $2 + \sqrt{2}$

24. Two dice are tossed. The probability that the total score is a prime number is :

(a) $\frac{1}{6}$

(b) $\frac{5}{12}$

(c) $\frac{1}{2}$

(d) $\frac{7}{9}$

25. If the sum of n terms of an A.P. be $3n^2 + n$ and its common difference is 6, then its first term is

(a) 2

(b) 3

(c) 1

(d) 4

26. If the point $(k, 2k)$, $(3k, 3k)$ are collinear, then k

27. If α, β are the zeros of the polynomial $f(x) = x^2 + x + 1$, then $\frac{1}{\alpha} + \frac{1}{\beta} =$

(a) 1

(b) -1

(c) 0

(d) None of these

28. The angle of elevation of the sun, when the length of the shadow of a tree is $\sqrt{3}$ times the height of the tree, is :

(a) 30°

(b) 45°

(c) 60°

(d) 90°

29. From a point P on a level ground, the angle of elevation of the top of a tower is 30° . If the tower is 100 m high, the distance of point P from the foot of the tower is :

(a) 149 m

(b) 156 m

(c) 173 m

(d) 200 m

30. If 7th and 13th terms of an A.P. be 34 and 64 respectively. Then its 18th term is

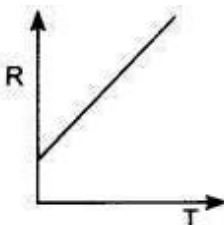
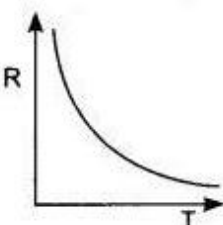
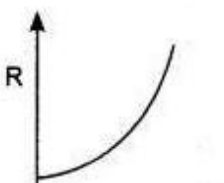
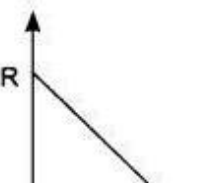
(a) 87

(b) 88

(c) 89

(d) 90

31. Magnesium ribbon is rubbed before burning because it has a coating of
 (a) basic magnesium carbonate
 (b) basic magnesium oxide
 (c) basic magnesium sulphide
 (d) basic magnesium chloride
32. Which of the following are energy foods?
 (a) Carbohydrates and fats
 (b) Proteins and mineral salts
 (c) Vitamins and minerals
 (d) Water and roughage
33. Which one of the following salt does not contain water of crystallisation?
 (a) Blue vitriol (b) Baking soda
 (c) Washing soda (d) Gypsum
34. Which plant hormone promotes dormancy in seeds and buds?
 (a) Auxin (b) Gibberellin
 (c) Cytokinin (d) Absciscic acid
35. The most abundant metal in the earth's crust is
 (a) Iron (b) Aluminium
 (c) Calcium (d) Sodium
36. The poorest conductor of heat among metals is
 (a) Lead (b) Mercury
 (c) Calcium (d) Sodium
37. The ability of a cell to divide into several cells during reproduction in Plasmodium is called
 (a) Budding (b) Multiple fission
 (c) Binary fission (d) Reduction division
38. The IUPAC name of

$$\begin{array}{c} \text{CH}_3 \\ | \\ \text{CH}_3 - \text{C} - \text{CH}_2 - \text{CH}_3 \\ | \\ \text{CH}_3 \end{array}$$
 is
 (a) 2-ethyl-2-methyl propane
 (b) 2, 2-demethyl butane
 (c) 1, 1, 1-trimethyl propane
 (d) 2, 2-methyl butane
39. Upto which element, the Law of Octaves was found applicable?
- (a) Oxygen (b) Calcium
 (c) Cobalt (d) Potassium
40. An atom of an element has the electronic configuration 2,8,2. To which group does it belong?
 (a) 4th group (b) 6th group
 (c) 3rd group (d) 2nd group
41. The angle of incidence for a ray of light having zero reflection angle is
 (a) 0 (b) 30°
 (c) 45° (d) 90°
42. For a real object, which of the following can produce a real image?
 (a) Plane mirror (b) Concave mirror
 (c) Concave lens (d) Convex mirror
43. Which of the following mirror is used by a dentist to examine a small cavity?
 (a) Convex mirror
 (b) Plane mirror
 (c) Concave mirror
 (d) Combination of convex and concave mirror
44. A concave mirror of radius 30 cm is placed in water. It's focal length in air and water differ by
 (a) 15 (b) 20
 (c) 30 (d) 0
45. The muscular diaphragm that controls the size of the pupil is
 (a) cornea (b) ciliary muscles
 (c) iris (d) retina
46. The temperature of a conductor is increased. The graph best showing the variation of its resistance is
 (a)  (b) 
 (c)  (d) 

47. A battery of 10 volt carries 20,000 C of charge through a resistance of 20 Ω . The work done in 10 seconds is

- (a) 2×10^3 joule (b) 2×10^5 joule
(c) 2×10^4 joule (d) 2×10^2 joule

48. Magnetic effect of current was discovered by

- (a) Oersted (b) Faraday
(c) Bohr (d) Ampere

49. Inside the magnet, the field lines moves

- (a) from north to south
(b) from south the north
(c) away from south pole
(d) away from north pole

50. An ideal source of energy should have

- (a) higher calorific value
(b) easy transportability
(c) easy accessibility
(d) All of these

51. Read the following passage carefully and answer.

All the performances of human art, at which we look with praise or wonder, are instances of the resistless force of perseverance, it is by this that the quarry becomes a pyramid, and that distant countries are united by canals. If a man to compare the effect of a single stroke of a pickaxe or of one impression of the spade, with the general design and last result, he would be overwhelmed by the sense of their disproportion ; yet those petty operations, incessantly continued, in time surmount the greatest difficulties and mountains are levelled, and oceans bounded, by the splendor force of human beings.

We look at the performance of human art with :

- (a) praise and wonder (b) hate and wonder
(c) restless force (d) None of these

52. Read the following passage carefully and answer.

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Man is overwhelmed by :

- (a) perseverance (b) disproportion
(c) encouragement (d) hopelessness

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How are the distant countries united ?

- (a) by sea routes (b) by canals
(c) by air routes (d) by roads

54. Fill in the blanks with appropriate Adjectives :

This is the post office to my house.

- (a) next (b) last
(c) later (d) nearest

55. Pick up the correct indirect narration.

The nurse said to me, "How are you?"

- (a) The nurse enquired me how I was.
(b) The nurse asked me how I was.
(c) The nurse told me how I was.
(d) None of the above.

56. Change the voice :

John likes Michael.

- (a) John is liked by Michael.
(b) Michael is liked by John.
(c) Michael was liked by John.
(d) John was liked by Michael.

57. Fill in the blanks with suitable words

It'll rain soon, ?

- (a) won't it (b) ought it
(c) isn't it (d) may it

58. Fill in the blanks with suitable words

My book is the new one but is old.

- (a) your (b) you
(c) yours (d) yourself

59. Fill in the blanks with suitable words

Both John Harry are good poets.

- (a) but (b) or
(c) and (d) with

60. Fill in the blanks with suitable words

A little knowledge is a thing.

- (a) good (b) nice
(c) ugly (d) dangerous

61. Choose the correct form of the word to fill in each blank :

I bow to you and take my (depart)

- (a) depart (b) departed
(c) departure (d) departs

62. Choose the correct form of Verb to fill in each blanks:

The teacher said that the earth..... round the sun.

- (a) is moving (b) moved
(c) has moved (d) moves

63. Choose the correct form of Verb to fill in each blanks:

If she a bird, she would fly.

- (a) is (b) are
(c) were (d) was

64. Choose the correct word:

The young one of a **lion** is called :

- (a) Bitch (b) Colt
(c) Kid (d) Cub

65. Choose the appropriate article to fill in each blanks:

Man is only animal that uses fire

- (a) a (b) an
(c) the (d) no article

66. Choose the appropriate article to fill in each blanks:

French is easy language.

- (a) a (b) an
(c) the (d) no article

67. Choose the opposite words :

Knowledge :

- (a) study (b) ignorance
(c) intelligent (d) weak

68. Choose the opposite words :

Concrete

- (a) substance (b) abstract
(c) object (d) solid

69. Adjective of the given noun

Honour

- (a) Honours (b) Honor
(c) Honourable (d) Honour

70. Choose the correct word according to the sense of the sentences from the choice :

- (a) principle (b) principal
(c) preaching (d) perfect

71. Direction : In the following question, select the related word from the given alternatives.

Country : President : State : ?

- (a) Chief Minister (b) Prime Minister
(c) Speaker (d) Governor

72. Direction : In the following question, select the related letters from the given alternatives.

AFKP : BGLQ :: GLQV : ?

- (a) HMRW (b) HNRW
(c) HKRW (d) HMPW

73. Direction: Select the odd word from the given alternatives

- (a) Copper (b) Bronze
(c) Gold (d) Silver

74. A man from point A walks 20m. to the north, then turns left and walks 40m. Again turns left and walks 20 m. At last the turns right and walk 20m, to reach at point B. Find Distance and Direction from point A to B ?

- (a) 20m/west (b) 40 m/ East
(c) 60 m/ West (d) 60 m/ East

75. In a row of men, Manoj is 30th from the right and Kiran is 20th from the left. When they interchange their position. Manoj becomes 35th from the right. What is the total number of men in the row ?

- (a) 34 (b) 45
(c) 44 (d) 54

76. What angle is made by minute and hour hand at 4 : 12?

- (a) 66° (b) 44°
(c) 54° (d) 60.5°

77. Roshan is taller than Hardik. Hardik is smaller than Sushil. Nija is taller than Hari but smaller than Hardik. Sushil is smaller than Roshan who is the tallest among them ?

- (a) Sushil (b) Hardik
(c) Hari (d) Roshan

78. If H = 8 and HAT = 29, find how much BOX = ?

- (a) 46 (b) 43
(c) 42 (d) 41

79. DOG : Z :: CAT : ?

- (a) X (b) Y
(c) V (d) W
- 80.** Select the odd word from the given alternatives.
6, 9, 12, 15, 18, 22
(a) 12 (b) 18
(c) 22 (d) 6
- 81.** Select the odd word from the given alternatives.
(a) EPH (b) FQI
(c) HSK (d) KWO
- 82.** Rohit from point 'A' walks 20m. to the east. Then turns right and walks 10m, again turns right and walks 9m, then turns left and walks 5m, again turns left and walks 12m, again turns left and walks 5m and reached at point B. In which direction is he going now ?
(a) South (b) West
(c) North (d) South
- 83.** Five friends are sitting in line. A is the left of B but on the right of C. D is to the right of B but on the left of E. Who are at the extremes ?
(a) AB (b) AD
(c) BD (d) CE
- 84. Direction :** Select the odd word from the given alternatives.
(a) A (b) I
(c) D (d) E
- 85.** Paw : Cat :: Hoof : ?
(a) Horse (b) Lion
(c) Lamb (d) Elephant
- 86.** 2, 15, 4, 47, 7, 118, 11, ?
(a) 260, 15 (b) 252, 16
(c) 250, 17 (d) 254, 16
- 87.** 7 : 56 :: 9 : ?
(a) 63 (b) 81
(c) 90 (d) 99
- 88.** Raju is standing facing north. He goes 30 metres ahead and turns left and goes for 15 metres. Now he turns right and goes for 50 metres and finally turns to his right and walks. In which direction is he heading ?
(a) North (b) East
(c) South (d) West
- 89.** Out of 46 students if Ramya's rank is 22nd from start. What is her rank from the last ?
(a) 26 (b) 29
(c) 32 (d) 25
- 90.** Of the six members of a panel sitting in a row. E is to the left of B, But on the right of A. F is on the right of B but is on the left of G who is the left of C. find the members sitting right in the middle.
(a) A E (b) B F
(c) G C (d) F G

91. The species which are found in particular region is known as
- (a) rare species (b) endemic species
(c) extinct species (d) vulnerable species
92. In the north -east india the slash and burn (shifting) cultivation is known as
- (a) dipa (b) valra
(c) podu (d) jhumming
93. Which one is not a renewable source of energy
- (a) wind power (b) biogas
(c) petrolium (d) solr energy
94. Which one is known as national waterway -1
- (a) prayagraj to haldia(ganga river)
(b) sadiya to dhubri(bhramputra river)
(c) Kottapurma to Kollam(West Coast Canal of Kerala)
(d) Canal connecting Krishna to Godawari
95. Human development index is being prepared by which institutes
- (a) uno (b) undp
(c) w.h.o (d) unep
96. Teaching,Banking,Army are field of which sectors of a economy
- (a) Primary (b) Secondry
(c) Tertiary (d) None of these
97. Which country export 70-80 percent of toys to India
- (a) Japan (b) China
(c) USA (d) China
98. Who was the head of dandi march(Salt Satyagrah) started at 12 March 1930.
- (a) Jawahar Lal Nehru
(b) Veer Savarkar
(c) Mahatma Gandhi
(d) Subhas Chandra Bose
99. Which of the following is not a list of subjects in Indian constitution ?
- (a) Reserve list (b) Union list
(c) States list (d) Concurrent list
- 100.Which one is the first vaccine developed by bharat biotech and icmr(Indian council of medical research)in india ?
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Prince Sainik School Admission Test

Final Answer Key

Class - XII

Date : 21-03-2021

Que	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Ans	3	4	3	4	2	3	2	3	3	1	2	4	1	4	1	2	3	4	3	2	1	4	4	2	4
Que	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
Ans	2	2	1	3	3	2	1	2	4	2	1	2	2	2	4	1	2	3	4	3	1	2	1	2	4
Que	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75
Ans	1	2	3	4	2	2	1	3	3	4	3	4	3	4	3	2	2	2	3	1	4	1	2	3	4
Que	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
Ans	3	4	4	1	4	4	1	4	3	1	2	3	2	4	2	2	4	3	1	2	3	2	3	1	3