

**DO NOT OPEN THIS BOOKLET UNTIL YOU ARE ASKED TO DO SO**



**ENTRANCE EXAMINATION - VIII**  
**DEFENCE CAREER ACADEMY,**

**CHH. SAMBHAJINAGAR**

**As an ISO 9001 : 2008 - Certified**

**SET  
A**

**ENT : 2024-25**

**Sr. No.**

**TIME : 2.00 Hrs.**

**MAXIMUM MARKS : 100**

**QUESTION - BOOKLET**

**GENERAL INSTRUCTIONS**

1. Do not carry any book, paper or any other material with you inside the Examination Hall.
2. Carry only writing material with you in the Examination Hall.
3. Keep the Hall Ticket with you ready for scrutiny.
4. Result of this Examination will be displayed on the Notice Board. The Result Sheet will include the successful/ qualified candidates ONLY.
5. All successful candidates indicated on the list shall present themselves for the interview on the same day.
6. This Test Booklet contains 100 items (Questions). Each item comprises four responses (Answers). You have to select the response which you want to mark on the Answer Sheet. In case you feel that there is more than one correct response, mark the response which you consider the best. In any case, Choose Only One response for each item.
7. All the answers must be marked on the Answer Sheet only. Do not write anything on this Test Booklet.

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8. IMMEDIATELY AFTER THE COMMENCEMENT OF THE EXAMINATION, YOU SHOULD CHECK THAT THIS TEST BOOKLET DOES NOT HAVE ANY UNPRINTED OR TORN OR MISSING PAGES OR QUESTION ETC. IF SO, GET IT REPLACED BY A NEW ONE.
9. Ask for a separate paper for rough work.
10. Read the questions carefully, Remember, answers are to be indicated in the Answer Sheet Only. Return the Test Booklet, Rough work papers and the Answer Sheet immediately when asked to do so. You are NOT permitted to take away with you any paper concerning the Examination.

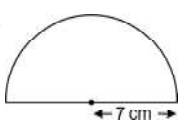
### **ANSWER SHEET**

11. The Answer Sheet contains 100 counts, each subdivided in four { (a) (b) (c) (d) } subdivisions for indicating the correct choice of answers. After having selected the correct choice from the test Booklet, you should indicate that choice by completely blackening the respective circle, DO NOT merely cross the circle. You should indicate correct answer by blackening ONLY ONE circle in each answer. Any answer having more than ONE blackened circle will be treated as WRONG answer.
12. Before starting the answering ensure that you have filled the complete information at the top of this Answer Sheet. Incomplete Answer Sheet will be regarded as invalid.

**THANK YOU AND BEST OF LUCK**



1. How many vertices does a triangle have?  
a) 1                                      b) 2                                      c) 3                                      d) 4
2. How many elements are there in a triangle?  
a) 3                                      b) 6                                      c) 4                                      d) None of these.
3. If two sides of a triangle are equal, the triangle is called?  
a) Scalene                                      b) Isosceles                                      c) Equilateral                                      d) Right-Angled
4. Which of the following is a perfect square?  
a) 1057                                      b) 625                                      c) 7928                                      d) 64000
5. Which of the following will have 6 at unit place?  
a)  $19^2$                                       b)  $11^2$                                       c)  $24^2$                                       d)  $13^2$
6. What will be the number of zeros in square of 400?  
a) 2                                      b) 3                                      c) 4                                      d) 6
7. How many natural numbers lie between  $9^2$  and  $10^2$ ?  
a) 17                                      b) 18                                      c) 19                                      d) 20
8. The exponential form of 10000 is  
a)  $10^3$                                       b)  $10^4$                                       c)  $10^5$                                       d) None of these
9. The exponential form of 81 is  
a)  $3^4$                                       b)  $3^3$                                       c)  $3^2$                                       d) None of these
10. The value of  $(-2)^3$  is  
a) 8                                      b) -8                                      c) 16                                      d) -16
11.  $(2^2)^3 =$   
a)  $2^2$                                       b)  $2^3$                                       c)  $2^1$                                       d)  $2^6$
12. In the India-Australia one day match, due to rain, India needed 324 runs in 48 overs to win. In initial 10 overs, the average scoring rate was 6, but in next 10 overs it increased to 8.5. It then declined to 5.5 in next 10 overs and again rose to 7 in next 10 overs. To win the match now what average is needed?  
a) 8.25                                      b) 6.75                                      c) 7.75                                      d) 7.0
13. Average age of 5 people is 42 years. Another group has 8 people who have average age of 81 years. When both groups are mixed what is average age of all people?  
a) 64 years                                      b) 66 years                                      c) 61.5 years                                      d) 70 years
14.  $\triangle ABC$  is a right angled triangle, where  $AB = 5\text{cm}$ ,  $BC = 10\text{cm}$ ,  $AC = 15\text{cm}$ .  
a) False                                      b) True
15. What will be the distance of the foot of ladder from the building, if the ladder of 12 m high reaches the top of a building 35 m high from the ground?  
a) 32.65 m                                      b) 32.87 m                                      c) 31.87 m                                      d) 32.85 m
16. The heights of two vertical lamp posts are 33 m and 24 m high. If the distance between them is 40 m, then what will be the distance between their tops?  
a) 47.89m                                      b) 56.56m                                      c) 32.81m                                      d) 41m
17. A quadrilateral has \_\_\_\_\_ diagonals.  
a) 2                                      b) 3                                      c) 4                                      d) 5
18. Which of the following statement is false?  
a) A quadrilateral has four diagonals                                      b) A quadrilateral has Two diagonals  
c) A quadrilateral has four angles                                      d) A quadrilateral has four sides and four vertices

19. The Quadrilateral Having All its Sides as an Equal and Angles Which are Equal to 90 Degrees, it is Called:  
 a) Rectangle                      b) Square                      c) Kite                      d) Parallelogram
20. The numerator of the rational number  $\frac{3}{5}$  is  
 a) 3                      b) 5                      c) 2                      d) 8
21. The denominator of the rational number 0 is  
 a) 0                      b) 1                      c) - 1                      d) Any non-zero integer
22. The numerator of a rational number 8 is  
 a) 2                      b) 4                      c) 6                      d) 8
23. The denominator of the rational number - 9 is  
 a) - 9                      b) 9                      c) - 1                      d) 1
24. On selling a Chair for Rs1080/- a man gains 25%. What is cost price?  
 a) Rs. 760/-                      b) Rs. 850/-                      c) Rs. 864/-                      d) Rs. 890/-
25. The ratio of Rs 10 to 50 paise is  
 a) 20 : 1                      b) 10 : 1                      c) 5 : 1                      d) 1 : 20
26. The ratio of 6 kg to 400 g is  
 a) 10 : 1                      b) 15 : 1                      c) 12 : 1                      d) 6 : 1
27. Perimeter of a square =  
 a) side  $\times$  side                      b) 3  $\times$  side                      c) 4  $\times$  side                      d) 2  $\times$  side
28. The circumference of a circle of diameter d is  
 a)  $\pi d$                       b)  $2\pi d$                       c)  $\frac{1}{2} \pi d$                       d)  $\pi d^2$
29. Which of the following is not the value of  $\pi$ ?  
 a)  $\frac{22}{7}$                       b)  $\frac{7}{22}$                       c)  $\frac{355}{113}$                       d) 3.14
30. The radius of a circle is 7 cm. Its circumference is  
 a) 22 cm                      b) 44 cm                      c) 11 cm                      d) 66cm
31. The perimeter of the following figure is  
 a) 27 cm                      b) 28 cm  
 c) 36 cm                      d) 40 cm
- 
32. Which of the following is not an equivalent fraction of  $\frac{3}{5}$ ?  
 a)  $\frac{6}{10}$                       b)  $\frac{9}{15}$                       c)  $\frac{12}{20}$                       d)  $\frac{15}{24}$
33.  $1 - \frac{1}{5}$  is equal to  
 a)  $\frac{2}{5}$                       b)  $\frac{3}{5}$                       c)  $\frac{4}{5}$                       d)  $\frac{1}{5}$
34.  $2 + \frac{1}{4}$  is equal to  
 a)  $\frac{7}{4}$                       b)  $\frac{9}{4}$                       c)  $\frac{5}{4}$                       d)  $\frac{11}{4}$
35.  $\frac{1}{2} + \frac{1}{3}$  is equal to  
 a)  $\frac{1}{6}$                       b)  $\frac{5}{6}$                       c)  $\frac{7}{6}$                       d)  $\frac{11}{6}$
36. There are 40 students in a class.  $\frac{1}{2}$  of the total number of students like Mathematics. The number of students who like mathematics is  
 a) 10                      b) 20                      c) 30                      d) 40
37. Two angles are congruent if they have:  
 a) Same name                      b) Equal measures                      c) Unequal measures                      d) None of these
38. Which of the following is not a congruence criterion?  
 a) SSS                      b) SAS                      c) ASA                      d) None of these
39. If a  $\triangle ABC \cong \triangle PQR$ , then AB is equal to:  
 a) QR                      b) PQ                      c) PR                      d) None of these

40. What is the angle included between the sides PN and PM of AMNP?  
 a)  $\angle N$                               b)  $\angle P$                               c)  $\angle M$                               d) none of these
41. In triangles ABC and PQR, AB = 3.5 cm, BC = 7.1 cm, AC = 5 cm, PQ = 7.1 cm, QR = 5 cm and PR = 3.5 cm, then which of the following is true?  
 a)  $\triangle ABC \cong \triangle QRP$     b)  $\triangle ABC \cong \triangle PQR$     c)  $\triangle ABC \cong \triangle RPQ$     d)  $\triangle ABC \cong \triangle QPR$
42. If ABC and DEF are congruent triangles such that  $\angle A = 47^\circ$  and  $\angle E = 83^\circ$ , then  $\angle C =$   
 a)  $50^\circ$                               b)  $60^\circ$                               c)  $70^\circ$                               d)  $80^\circ$
43. A line that intersects two or more lines at distinct points is called:  
 a) Parallel                              b) transversal                              c) intersecting                              d) none of these
44. If two angles are complementary, then the sum of their measures is.....  
 a)  $45^\circ$                               b)  $180^\circ$                               c)  $90^\circ$                               d)  $360^\circ$
45. If two parallel lines are cut by a transversal, each pair of the corresponding angles are .....in measure.  
 a) equal                              b) unequal                              c) supplementary                              d) complementary

\* **Read the below given unseen passage.**

The choices we make on a daily basis—wearing a seatbelt, lifting heavy objects correctly or purposely staying out of any dangerous situation—can either ensure our safety or bring about potentially harmful circumstances.

You and I need to make a decision that we are going to get our lives in order. Exercising self-control, self-discipline and establishing boundaries and borders in our lives are some of the most important things we can do. A life without discipline is one that's filled with carelessness.

We can think it's kind of exciting to live life on the edge. We like the image of "Yeah! That's me! Living on the edge! Woo-hoo!" It's become a popular way to look at life. But if you see, even highways have lines, which provide margins for our safety while we're driving. If we go over one side, we'll go into the ditch. If we cross over the line in the middle, we could get killed. And we like those lines because they help to keep us safe. Sometimes we don't even realize how lines help to keep us safe. I'm not proud of this, but for the first 20 years of my life at work, I ignored my limits. I felt horrible, physically, most of the time. I used to tell myself "I know I have limits and that I've reached them, but I'm going to ignore them and see if or how long I can get by with it." I ran to doctors, trying to make myself feel better through pills, vitamins, natural stuff and anything I could get my hands on. Some of the doctors would tell me, "It's just stress." That just made me mad. I thought stress meant you don't like what you do or can't handle life, and I love what I do. But I kept pushing myself, traveling, doing speaking engagements and so on— simply exhausting myself.

Finally, I understood I was living an unsustainable life and needed to make some changes in my outlook and lifestyle.

You and I don't have to be like everyone else or keep up with anyone else. Each of us needs to be exactly the way we are, and we don't have to apologize for it. We're not all alike and we need to find a comfort zone in which we can enjoy our lives instead of making ourselves sick with an overload of stress and pressure.

On the basis of understanding of the passage, answer the questions.

46. The phrase "potentially harmful circumstances" refers to circumstances that can  
 a) certainly be dangerous                              b) be fairly dangerous  
 c) be possibly dangerous                              d) seldom be dangerous.
47. Choose the option that correctly states the two meanings of 'outlook', as used in the passage.  
 a) A person's evaluation of life                              b) A person's experiences in life  
 c) A person's point of view towards life                              d) A person's regrets in life

\* **Read the poem and choose the correct option given below each question.**

Ring out, wild bells, to the wild sky,  
The flying cloud, the frosty light:  
The year is dying in the night;  
Ring out, wild bells, and let him die.  
Ring out the old, ring in the new,  
Ring, happy bells, across the snow:  
The year is going, let him go;  
Ring out the false, ring in the true.

Ring out the grief that saps the mind,  
For those that here we see no more;  
Ring out the feud of rich and poor,  
Ring in redress to all mankind.  
Ring out a slowly dying cause,  
And ancient forms of party strife;  
Ring in the nobler modes of life,  
With sweeter manners, purer laws

48. "Redress" in the poem means \_\_\_\_\_.  
a) to get dressed again, to change clothes      b) clothing worn by an older person  
c) making up for a wrong or injustice      d) playing holiday music
49. The word which means the opposite of "modern" is \_\_\_\_\_.  
a) happy      b) noble      c) strife      d) ancient

\* **Identify the parts of speech of the underlined words.**

50. I left my shoes under the kitchen table.  
a) adjective      b) preposition      c) pronoun      d) Noun
51. If we finish our work quickly we can go to the movies.  
a) adverb      b) conjunction      c) verb      d) Noun
52. He goes to Spain often not only for the sun but also for the food.  
A) Conjunction      b) Adverb      c) Preposition      d) Noun
53. The baby crawled under the bed.  
a) Preposition      b) Conjunction      c) Adverb      d) Adjective

\* **Choose the correct option given below each question.**

54. The correctly spelt word is –  
a) yeld      b) yield      c) yiald      d) yeald
55. The correctly spelt word is –  
a) mineat      b) meanit      c) minit      d) minute

\* **Do as directed.**

56. Transitive verbs have a direct object  
a) True      b) False      c) Unknown
57. Intransitive verbs have no direct object.  
a) True      b) False      c) Unknown
58. I have \_\_\_\_ my holidays in Kolkata. Here the appropriate verb to fill this blank is –  
a) spent      b) spend      c) Spends
59. She has \_\_\_\_ the highest marks in Mathematics. Here the appropriate verb to fill this blank is –  
a) score      b) scored      c) scoring      d) none of the above

\* **Choose the word which conveys the OPPOSITE meaning for the word:**

60. WISTFUL  
a) Conversant      b) Esoteric      c) Forlorn      d) Blithe
61. Pale  
a) Radiant      b) Bleached      c) Waxen      d) Feeble

\* **Choose the word which conveys the Synonyms meaning for the word:**

62. Find the synonym of the following word Implied

- a) open                      b) latent                      c) explicated                      d) stated

63. Find the synonym of the following word Autonomy

- a) dependent                      b) freedom                      c) trapped                      d) surrendered

\* **Spot the error**

64. My grandfather used (A) to go / (B) for a walk / (C) every morning/ (D) No error

- a) to go                      b) for a walk                      c) every morning                      d) No error

65. If tomorrow is (A) declared a holiday / (B) we shall go / (C) to a picnic / (D) No error

- a) declared a holiday                      b) we shall go                      c) to a picnic                      d) No error

66. 28, 14, 14, 28, 112?

- a) 716                      b) 356                      c) 246                      d) 896

67. 11, 16, 23, 34, 47?

- a) 64                      b) 50                      c) 51                      d) 58

68. Find the odd man out.

- a) PSRQ                      b) CGEF                      c) JMLK                      d) VYXW

69. Four out of the five pairs of numbers have the same relationship. Find the odd man out.

- a) 4:63                      b) 5:124                      c) 2:15                      d) 3:26

70. Find the odd man out.

- a) Artery                      b) Ventricle                      c) Pharynx                      d) Aorta

71. Water Day is celebrated on :

- a) 22 March                      b) 21 March                      c) 26 June                      d) 5 June

72. Water can be found in :

- a) three forms                      b) two forms                      c) one forms                      d) four forms

73. The water on the Earth has been maintained for millions of years by various processes which makes the.....

- a) Rainwater harvesting                      b) Water cycle                      c) Oxygen cycle                      d) Hydrogen cycle

74. The process of seeping of water into the ground is called as .....

- a) Infiltration                      b) Acquirer                      c) Hand pump                      d) Precipitation

75. The process of conversion of heavy clouds into rainfall is known as :

- a) Evaporation                      b) Condensation                      c) Precipitation                      d) all of these

76. The groundwater is stored between layers of hard rock below the water table this is known as an.....

- a) Infiltration                      b) Aquifer                      c) Groundwater                      d) Water table

77. The disease that are caused by air pollution includes .....

- a) lung cancer                      b) skin diseases                      c) respiratory illness                      d) all of the above

78. Highest percentage of air consists of :

- a) oxygen                      b) carbon dioxide                      c) nitrogen                      d) Argon

79. Most polluted river in the world is .....

- a) Yamuna                      b) Kaveri                      c) Chenab                      d) Ganga

80. The Taj Mahal is being affected by :

- a) noise pollution                      b) air pollution                      c) water pollution                      d) None of these

81. Chief Minister's Health Check-up Scheme launched by whom in Haryana

- a) Narendra Modi                      b) Draupadi Murmu                      c) Amit Shah                      d) Rajnath Singh

82. Who took oath as the next Governor of West Bengal on November 23rd?  
a) Dr. CV Ananda Bose b) C. Rajgopalachari c) Dharma Vira d) Jagdeep Dhankar
83. 2022 'National Legal Services Day' is observed on which date  
a) November 9 b) November 8 c) November 10 d) November 11
84. When did India won its 1st ICC Cricket World Cup?  
a) 1987 b) 1983 c) 1992 d) 2011
85. Yogeshwar Dutt is associated with which sport  
a) Wrestling b) Shooting c) Archery d) Athletics
86. First female foreign minister of India  
a) Indira Gandhi b) Meira Kumar c) Kiran Bedi d) Sushma Swaraj
87. First woman speaker of Lok Sabha  
a) Punita Arora b) Pratibha Patil c) Meira Kumar d) Sushmita Sen
88. Storting is the name of which country's parliament.  
a) Germany b) Norway c) Israel d) New Zealand
89. Which of the following is the wonder of modern world.  
a) Colosseum of Rome b) Pharos of Alexandria  
c) Petra, Jordan d) Leaning Tower of Pisa
90. World's longest Trans – Siberian Railway Line is in  
a) USA b) Russia c) Ukraine d) China
91. The idea of widow remarriage was advocated by .....  
a) Dayanand Saraswati b) Jyotirao Phule  
c) Ishwarchandra Vidyasagar d) Pandita Ramabai
92. The Satyashodhak Samaj association was founded by .....  
a) Jyotirao Phule b) Periyar  
c) Dr. Babasaheb Ambedkar d) Pandita Ramabai
93. Lala Lajpat Rai was a nationalist from .....  
a) Bengal b) Bihar c) Punjab d) Maharashtra
94. Gandhiji broke salt Act at .....  
a) Dandi b) Peshwar c) Sabarmati d) Champaran
95. .... is celebrated as "Mahatwada Mukti Din".  
a) 13 September b) 19 December c) 2 August d) 17 September
96. As per ....., India got independence.  
a) Mountbatten Plan b) Wavell Plan  
c) Indian independence Act d) Cabinet Mission
97. Rubber plantation is famous in .....  
a) Sri Lanka b) Brazil c) Malaysia d) USA
98. Which of these have utility?  
a) Water b) Electricity c) Vegetables d) All of these
99. Which is the earth consisting of solid portion?  
a) The Atmosphere b) Hydrosphere c) The Lithosphere d) All of these
100. .... state of India has the highest sex ratio.  
a) Maharashtra b) Kerala c) Punjab d) Haryana

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