

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



DCA ENTRANCE EXAMINATION -VIII

DEFENCE CAREER ACADEMY,
AURANGABAD.

As an ISO 9001 : 2008 - Certified

ENT : 2020-2021

TIME : 2.00 Hrs.

MATH & GAT

Sr. No.

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. Use only Black / Blue ball pen.
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). Question No. 1 to 100 (MCQ) carry 1 mark each. 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.
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 THE SUPERVISOR.
9. Ask for a separate paper for rough work.

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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 150 counts, each subdivided in four { (1) (2) (3) (4)} 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 a 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

C

A

PART - I MATHS

- The quotient when 0.00639 is divided by 0.213 is -----
1) 0.3 2) 0.03 3) 0.003 4) 3
- Tom studies for $5\frac{1}{4}$ hours daily. He devotes $2\frac{3}{4}$ hours of his time for English and Mathematics. How much does he devote for other subjects ?
1) $2\frac{1}{2}$ hrs 2) 8 hrs 3) $\frac{1}{2}$ hrs 4) 1 hr
- How many pieces of equal size can be cut from a rope of 120 m long, each measuring 15 m ?
1) 8 2) 10 3) 6 4) 12
- Express the value of $9\frac{1}{3} - 5\frac{1}{12}$ in its simplest form.
1) $5\frac{4}{7}$ 2) $9\frac{1}{12}$ 3) $6\frac{2}{5}$ 4) $4\frac{3}{12}$
- The sum of 4 consecutive integers is 70. Then the greatest among them is -----
1) 19 2) 23 3) 17 4) 16
- A man divides Rs.8600 among 5 sons, 4 daughters and 2 nephews. If each daughter receives four times as much as each nephew, and each son receives five times as much as each nephew, how much does each daughter receive ?
1) Rs.600 2) Rs. 1000 3) Rs. 800 4) Rs. 750
- If two supplementary angles differ by 44° then one of the angles is -----
1) 102° 2) 65° 3) 112° 4) 72°
- The ages of A and B are in the ratio 5 : 3. After 6 years, their ages will be in the ratio 7 : 5. The sum of their present ages is -----
1) 9 years 2) 10 years 3) 15 years 4) 24 years
- The average of 11, 12, 13, 14, and \times is 13. The value of \times is-----
1) 17 2) 21 3) 15 4) 20
- The sum of Rs. 750 is distributed among, A, B, C and D in such a manner that A gets as much as B and C together, B gets Rs. 125 more than C, D gets as much as C. What is A's share?
1) Rs. 100 2) Rs. 225 3) Rs. 275 4) Rs. 325
- In family, the father took $\frac{1}{3}$ of the cake and he had 3 times as much as each of the other members had. The total number of family members is -----
1) 3 2) 7 3) 10 4) 12

12. The present age of A is twice to that of B. 30 years from now, age of A will be $1\frac{1}{2}$ times that of B. the present ages of A and B (in years) respectively, are -----
- 1) 60, 30 2) 30, 60 3) 40, 50 4) 50, 40
13. The number of independent measurements required to construct a triangle is -----
- 1) 3 2) 4 3) 2 4) 5
14. Two supplementary angles are in the ratio 7 : 11, then the angles are -----
- 1) 70° , 120° 2) 60° , 120° 3) 70° , 110° 4) 50° , 130°
15. A right- angled triangle has hypotenuse 13 cm, one side is 12 cm, then the third side is -----
- 1) 5 cm 2) 6 cm` 3) 7 cm 4) 4 cm
16. An angle is 45° less than two times of its supplement, then the greater angle is -----
- 1) 75° 2) 100° 3) 120° 4) 105°
17. If P : The total measure of the three angles of a triangle is 180° and Q : sum of the length of any two sides of a ltriangle is less than the length of the third side, then which of the following options hold?
- 1) both P and Q are true 2) P is true and Q is false
3) P is false and Q is true 4) both P and Q are false
18. Two angles ae complementary and congruent, lthen measure of each of the angles is -----
- 1) 90° 2) 45° 3) 180° 4) 135°
19. The angle between two hands of a clock at 4 : 30 p.m is -----
- 1) 45° 2) 90° 3) 180° 4) 60°
20. The supplement of an l acute angle is a/an----- angle.
- 1) acute 2) obtuse 3) right 4) straight
21. If a, b and c are the sides of a triangle, then -----
- 1) $a - b > c$ 2) $c > a + b$ 3) $c = a + b$ 4) $b < c + a$
22. A triangle whose lengths of sides are 5 cm, 12 cm and 13 cm. The triangle is -----
- 1) obtuse-angled triangle 2) acute-angled triangle
3) right-angled triangel 4) triangle is not formed
23. If two sides of an isosceles triangle are 3 cm and 8cm, then the length of the third side is -----
- 1) 2 cm 2) 8 cmf 3) 3 cm 4) 1 cm
24. The three angles of a triangle are in the ratio 1 : 2 : 1, then the greatest angle is -----
- 1) 45° 2) 90° 3) 60° 4) 120°
25. In a ΔPQR , $PQ = PR$ and $\angle Q$ is twice that of $\angle P$. Then $\angle Q =$ -----.
- 1) 72° 2) 36° 3) 144° 4) 108°

26. The sides of a ΔABC measure 6 cm, 8 cm and 10 cm. The area of the triangle is -----
 1) 40 cm^2 2) 24 cm^2 3) 30 cm^2 4) 30 cm^2
27. Two Numbers are in the ratio of 1 : 2 . If 7 be added to both, their ratio changes to 3 : 5. The greater number is -----
 1) 28 2) 32 3) 36 4) 25
28. When a number is subtracted by 4, it becomes 80% of itself. Find the number.
 1) 20 2) 30 3) 40 4) 50
29. The CP of 25 articles is equal to the SP of 20 articles. Then gain % is-----
 1) 25% 2) 20% 3) 30% 4) 50%
30. What percent of 1 day is 36 minutes ?
 1) 25% 2) 2.5% 3) 3.6% 4) 0.25%
31. A man buys a radio for Rs. 600 and sells it at a gain of 25%. He sold the radio for -----
 1) Rs. 700 2) Rs. 750 3) Rs. 900 4) Rs. 1000
32. What is 50% of a number whose 200% is 20 ?
 1) 5 2) 10 3) 15 4) 20
33. If $x = 5$ and $y = x + 7$, then value of $\sqrt{x^2 + y^2} =$
 1) 65 2) 26 3) 17 4) 13
34. If the value of $2x^3 - 2x^2 + x - a$ equals to 5, when $x = 2$, then the value of 'a' is -----
 1) 4 2) 5 3) 3 4) 6
35. Degree of zero is -----
 1) 0 2) 1 3) 2 4) not defined
36. A room is 13 m long and 9 m broad, then the cost of carpeting the room at the rate of Rs. 6.40 per sq. metre is -----
 1) Rs. 900.00 2) Rs. 1000.00 3) Rs. 748.8 4) Rs. 998.40
37. The difference between the length and breadth of a rectangle is 23 m. If the perimeter is 206 m, then the area is -----
 1) 1520 m^2 2) 2520 m^2 3) 2420 m^2 4) 2500 m^2
38. The area of two circles are in the ratio 25 : 36. Then the ratio of their circumference is -----
 1) 6 : 5 2) 3 : 4 3) 4 : 3 4) 5 : 6
39. Mean of first six prime numbers is -----
 1) 4.83 2) 6.83 3) 5.83 4) 7.83
40. If the mean of 6, 8, 5, x and 4 is 7, then the value of x is -----
 1) 11 2) 12 3) 13 4) 148
41. A number is divisible by 5 as well as by 3 Hence, the number is definitely divisible by
 1) 6 2) 15 3) 9 4) 21

42. The side of an equilateral triangle is 3.5 cm then its perimeter is
- 1) 7 cm 2) 10.5 cm 3) 7.5 cm 4) 3.5 cm
43. How many faces does the solid cuboid have ?
- 1) 7 2) 4 3) 5 4) 6
44. $8.04 \times 0.07 = ?$
- 1) 0.228 2) 0.508 3) 0.5628 4) 0.056
45. What is the square of 9
- 1) 49 2) 81 3) 64 4) 18
46. Which number, from the numbers 6745, 3147, 8428 and 4624 is a perfect square ?
- 1) 3147 2) 6745 3) 4624 4) 8428
47. $10 \text{ m}^2 = \dots\dots\dots \text{ cm}^2$
- 1) 10 2) 100 3) 1000 4) 10000
48. Find the unlike pair of terms.
- 1) $7x, 12y$ 2) $15x, -21x$ 3) $q^2p, 8pq^2$ 4) $m^2n, -10m^2n$
49. All radii of the same circle are
- 1) unequal 2) equal 3) both (1) & (2) 4) can't say
50. The side of a square is 6cm \therefore Area of the square =
- 1) 12 cm^2 2) 36 cm^2 3) 24 cm^2 4) 36 cm^2

PART - II GAT

* **Direction : Identify the Proper Nouns from the following.**

51. Capital city : _____
- 1) Pune 2) Bhrhmaputra 3) Mumbai 4) Himalayas
52. News paper : _____
- 1) Lokmat Times 2) Dussehra 3) English 4) Marathi
53. River : _____
- 1) Himalaya 2) Ganga 3) Longest 4) Wide

* **Direction : Identify the appropriate verbs from the following.**

54. We are _____ grandma's eightieth birthday today.
- 1) stitching 2) whispering 3) celebrating 4) waitning
55. What did Swati _____ in your ear?
- 1) murmur 2) said 3) talked 4) talking

56. The rabbit _____ into the well.
 1) peeped 2) hopped 3) ran 4) walled
57. Arun is _____ his mother in the kitchen.
 1) working 2) helping 3) playing 4) reading.
58. Hush! The body is _____
 1) crying 2) sleeping 3) slopping 4) repairing

* **Direction : Identify the opposite genders of the following.**

59. Actor : _____
 1) actress 2) widower 3) herce 4) wife
60. God : _____
 1) tigress 2) sister 3) waiter 4) goddess
61. Brother : _____
 1) full 2) goddess 3) shepherd 4) sister
62. Prince : _____
 1) princess 2) widow 3) heroine 4) low
63. shepherdess : _____
 1) widower 2) waitress 3) hera 4) shepherd

* **Direction : Identify the correct prepositions:**

64. We always have a holiday _____ Mahatma Gandhi's Birthday.
 1) at 2) on 3) into 4) in
65. Neeta found her old doll _____ the bed.
 1) under 2) through 3) over 4) upon
66. If in a certain language FASHION is coded as FOIHSAN, how is PROBLEM coded in the code?
 1) ROBLEMP 2) PELBORM 3) PROBELM 4) REBOELM

* **Direction : In each of the following questions, four words have been given, out of which three are alike in some manner and the fourth one is different. Choose the odd one.**

67. 1) Keats 2) Wordsworth 3) Tolstoy 4) Ghalib

* **Direction : In each of the following questions, a number series is given with one term missing. Choose the correct alternative that will continue the same pattern and fill in the blank spaces.**

68. 9, 11, 20, 31, (.....), 82
 1) 41 2) 51 3) 60 4) 71
69. Of the six members of a panel sitting in a row, A is to the left of D, but on the right of E. C is on the right of X, but is on the left of B who is to the left of F. Which two members are sitting right in the middle?
 1) A and C 2) C and B 3) D and B 4) D and C

* **Direction : In each of the following questions, there is a certain relationship between two given words on one side of : : and one word is given on another side of : : while another word is to be found from the given alternatives, having the same relation with this word as the words of the given pair bear. Choose the correct alternative.**

70. Grain : Stock : : Stick : ?
1) Heap 2) Bundle 3) Collection 4) Sting
71. The C.G.S. unit of speed is.
1) Cm/g. 2) m/s 3) m/g 4) cm/s
72. Which of the following is an electrical insulator?
1) Aluminium 2) Gold 3) Rubber 4) None of these
73. What is the main cause of acid rain?
1) Pollution 2) Deforestation 3) A forestation 4) Excessive rains
74. Acid reacts with metal to form:
1) Salt + CO₂ 2) Salt + Water 3) Salt + O₂ 4) Salt + H₂
75. Lichens are :
1) Symbiotic algae and fungi 2) Carnivorous plants
3) animals 4) interdependent algae.
76. Food is absorbed through.
1) Villi 2) blood 3) blood platelets 4) amylase
77. Sea and land breezes are caused because of
1) Convection 2) Cyleones 3) rains 4) conduction
78. Water is a oxide.
1) Acidic 2) Neutral 3) Acid 4) amphoteria
79. Which property of water is used while washing clothes?
1) odour 2) colour 3) solubility 4) None of these
80. Which of the following is a parasitic plants?
1) cactus 2) saliva 3) cuscuta 4) cucumber
81. Which of the following part is modified into pitcher in pitcher plant
1) leaf 2) stem 3) Nodes 4) Roots
82. Which of the following is a carnivores plant?
1) sundew 2) lichen 3) fern 4) mould
83. Which of the following have taste buds
1) Palate 2) Mucous lining 3) Tongue 4) Teeth
84. Silk & woollen clothes are often damaged by
1) flies 2) insects 3) bacteria 4) Animals

85. Lactic acid accumulation leads to
 1) liver fatigue 2) muscle fatigue 3) kidney fatigue 4) All the above
86. The domain of water is referred to
 1) hydrosphere 2) lithosphere 3) atmosphere 4) biosphere
87. Which one of the following animal is called the ship of the desert?
 1) Camel 2) Goat 3) Cow 4) Dogs
88. The upper most layer of the earth's surface is called.
 1) the crust 2) the burst 3) the coads 4) the forest
89. On which scale is the earthquake measured ?
 1) plane scale 2) Richter scale 3) compass 4) Divider
90. What is very hot wind called?
 1) loo 2) cool breeze 3) Monsoon air 4) Trade wind
91. Which water is salty ?
 1) Rivers water 2) Pond's water 3) Rain water 4) Sea water
92. Which is the holy book of Muslims?
 1) Gita 2) Adi-Puran 3) Quran 4) Ramayan
93. Who ruled in Tamil Nadu ?
 1) Cholas 2) Chalukyas 3) Rashtrakutas 4) None of these
94. From which country did Ibn Battuta travel to India?
 1) From Kabul 2) From Sindh 3) From Morocco 4) From Tughluquabad
95. Who was Genghis Khan?
 1) Ruler of Delhi 2) Ruler of Hyderabad
 3) Ruler of Mongal Tribes 4) Ruler of Agra
96. Who had constructed the Quatb Minar?
 1) Shah Jahan 2) Jahangir 3) Quatbuddin Aybak 4) Humayun
97. Who were Nayanars?
 1) Saint devoted to Shiva 2) Saint devoted to Vishnu
 3) Saint devoted to Buddha 4) Saint devoted to Krishna
98. What is NOT element of equality?
 1) Justice 2) Religion 3) Wealth 4) Health
99. When persons are treated unequally what is violated for themselves?
 1) Dignity 2) Religion 3) Caste 4) Practice
100. Where are medicines sold?
 1) Dispensary 2) Medical stores
 3) Government hospital 4) Name of these
