ADHYYAN DEFENCE ACADEMY

Global Campus, Dindori road, Nashik , Maharashtra, Pin - 422004

ADHYYAN 100% SCHOLARSHIP TEST

Course : NDA | **Full Marks : 100**

Date : 23/03/2025 | **Duration : 75 Min.**

A

INSTRUCTIONS

1. This test booklet contains **50** questions. Each question comprises four responses (answer). You will 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 questions.
2. You have to mark all your responses ONLY on the separate Answer Sheet provided see directions in the Answer Sheet.
3. **All** questions carry **02** marks.
4. Before you proceed to mark in the Answer Sheet the response to various question in the test Booklet, you have to fill in some particulars in the Answer Sheet as per instructions sent to you with your Admission Certificate.
5. After you have completed filling in all your responses on the Answer Sheet and the examination has concluded, you should hand over to the invigilator only the Answer Sheet. You are permitted to take away with you the Test Booklet.
6. **Penalty for wrong answers:**
   THERE WILL BE PENALTY FOR WRONG ANSWERS MARKED BY THE CANDIDATE IN THE OBJECTIVE TYPE QUESTION PEPERS.
   (i) There are four alternative for the answer to every question. For each question for which a wrong answer has been given by the candidate, **one-third** of the marks assigned to that question will be deducted as penalty.
   (ii) If a candidate gives more than one answer, it will be treated as a **wrong answer** even if one of the given answers happens to be correct and there will be same penalty as above to that question.
   (iii) If a question is left blank, i.e., no answer is given by the candidate, there will be **no penalty** for that question.

DECLARATION BY STUDENT

I hereby read and understood that I have reviewed the instruction and guidelines for the exam paper. By accepting this, I agree to abide by the rules and regulations set for by the institution.

Student Name & Signature

1. The French Revolution began in which year?
   (a) 1776
   (b) 1789
   (c) 1799
   (d) 1804
2. Who invented the Spinning Jenny?
   (a) James Watt
   (b) Richard Arkwright
   (c) James Hargreaves
   (d) Samuel Crompton
3. Which of the following is the longest river in India?
   (a) Ganga
   (b) Yamuna
   (c) Brahmaputra
   (d) Godavari
4. The Tropic of Cancer does not pass through which of the following states ?
   (a) Rajasthan
   (b) Odisha
   (c) Gujarat
   (d) West Bengal
5. Which of the following is not a feature of democracy?
   (a) Free and fair elections
   (b) One-party rule
   (c) Rule of law
   (d) Protection of rights
6. The term "universal adult franchise" means:
   (a) Right to vote for all adults
   (b) Right to education for all
   (c) Right to work for all
   (d) Right to property for all
7. Which sector is known as the primary sector?
   (a) Agriculture
   (b) Manufacturing
   (c) Services
   (d) Information Technology
8. Which of the following is a renewable resource?
   (a) Coal
   (b) Petroleum
   (c) Solar energy
   (d) Natural gas
9. Who was the leader of the Bolshevik Party during the Russian Revolution?
   (a) Joseph Stalin
   (b) Vladimir Lenin
   (c) Leon Trotsky
   (d) Nicholas II
10. The Civil Disobedience Movement was launched by Mahatma Gandhi in which year?
   (a) 1920
   (b) 1930
   (c) 1942
   (d) 1947

Direction : Each item in this section consists of a sentence with an underlined word followed by four options. Select the option that is nearest in meaning to the underlined word.

11. The scientist was reluctant to share his findings before completing the research.
   (a) Willing
   (b) Hesitant.
   (c) Eager
   (d) Enthusiastic
12. The detective's astute observations helped solve the case.
   (a) Dull
   (b) Sharp
   (c) Clumsy
   (d) Slow
13. The old mansion had a mystical charm that fascinated visitors.
   (a) Ordinary
   (b) mysterious
   (c) Boring
   (d) Common

Part B: Antonyms (3 Questions)

Each item in this section consists of a sentence with an underlined word followed by four options. Select the option that is opposite in meaning to the underlined word.

14. The judge's decision was quite unbiased and fair.
   (a) Partial
   (b) Impartial
   (c) Neutral
   (d) Free
15. The diligent worker received a promotion.
   (a) Lazy
   (b) Hardworking
   (c) Sincere
   (d) Dedicated
16. The explanation given by the speaker was ambiguous.
   (a) Vague
   (b) Confusing
   (c) Clear
   (d) Uncertain

Part C: Spotting Errors (2 Questions)
Each sentence is divided into three parts. One part of the sentence contains a grammatical error. Identify the part that has the error. If there is no error, choose (d).

17. She prefers (a) / tea than (b) / coffee in the morning. (c) / No error (d)
18. The students (a) / has completed (b) / their assignments. (c) / No error (d)

Part D: Cloze Test (2 Questions)
Read the passage and fill in the blanks with the most appropriate word from the options given below each blank.
Passage:
Good communication skills are essential in every aspect of life. They help individuals express their thoughts clearly and ensure effective (9)............... between people. Clear communication (10).............. misunderstandings and strengthens relationships.

19. (a) connection
 (b) interaction
 (c) confusion
 (d) hesitation
20. (a) reduces
 (b) increases
 (c) complicates
 (d) encourages
21. If $\sqrt{2} = 1.414, \sqrt{3} = 1.732$, and $\sqrt{5} = 2.236$, then the value of $\left(\sqrt{2}+\sqrt{3}+\sqrt{5}\right)^2$ is:
 (a) 22
 (b) 20
 (c) 24
 (d) 28
22. The point which divides the line segment joining the points $(7-6)$ and $(3,4)$ in the ratio 2:3 internally is :
 (a) $(5.5,-2)$
 (b) $(5,-2)$
 (c) $(4.5,-2)$
 (d) $(4,-2)$
23. In a right-angled triangle, if one leg is doubled and the other leg is halved, then the hypotenuse :
 (a) Remains the same
 (b) Is doubled
 (c) Is halved
 (d) Changes but not in a simple proportion
24. If the area of a triangle with vertices $(0,0), (4,0)$ and $(0,k)$ is 12 square units, then the value of k is :
 (a) 3
 (b) 6
 (c) 8
 (d) 12
25. The diagonal of a cube measures $6\sqrt{3}$ cm. The volume of the cube is :
 (a) $36\ cm^3$
 (b) $216\ cm^3$
 (c) $108\ cm^3$
 (d) $72\ cm^3$
26. If one zero of the polynomial $3x^2 - kx - 2$ is 2, then the other zero is :
 (a) $-1/3$
 (b) $1/3$
 (c) $-2/3$
 (d) $2/3$
27. The system of equations $2x + 3y = 7$ and $4x + ky = 14$ will have infinitely many solutions if k equals :
 (a) 6
 (b) 4
 (c) 8
 (d) 12
28. The sum of all natural numbers between 250 and 1000 which are divisible by 9 is :
 (a) 55935
 (b) 52965
 (c) 59535
 (d) 62505
29. If the diagonals of a quadrilateral bisect each other at right angles, then the quadrilateral is a:
 (a) Rhombus
 (b) Rectangle
 (c) Square
 (d) Kite
30. If $\tan A = 1/\sqrt{3}$, then the value of $(\sin A + \cos A)$ is :
 (a) 1
 (b) $\sqrt{2}$
 (c) $2/\sqrt{3}$
 (d) $\sqrt{6}/2$
31. If the angle of elevation of a cloud from a point 200 m above a lake is 30° and the angle of depression of its reflection in the lake from the same point is 60°, then the height of the cloud above the lake is :

(a) $200\sqrt{3}$
(b) $300\ m$
(c) $200\ m$
(d) $400\ m$

32. To construct a triangle similar to a given triangle with its sides 2/3 of the corresponding sides of the given triangle, we need to :
(a) Divide each side of the given triangle internally in the ratio 2:3
(b) Divide each side of the given triangle externally in the ratio 2:3
(c) Multiply each side of the given triangle by 2/3
(d) Divide each side of the given triangle by 3/2

33. A solid sphere of radius 3 cm is melted and recast into solid cones of radius 3 cm and height 4 cm. The number of cones that can be made is:
(a) 3
(b) 4
(c) 9
(d) 12

34. The remainder when 2^{100} is divided by 7 is:
(a) 1
(b) 2
(c) 4
(d) 5

35. If $\tan A = 3/4$ then $\sin A$ is:
(a) 3/5
(b) 4/5
(c) 5/4
(d) 3/4

36. In a food chain, the third trophic level is always occupied by
(a) Carnivores
(b) Herbivores
(c) Producers
(d) Decomposers

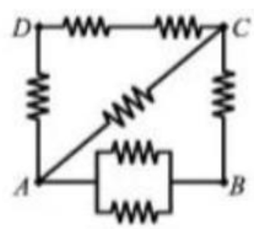
37. The cleaners of nature are
(a) Producers
(b) Consumers
(c) Herbivores
(d) Decomposers

38. Environment includes
(a) Land, air, water
(b) Light, temperature, rainfall
(c) Plants, animals, microbes
(d) All of these

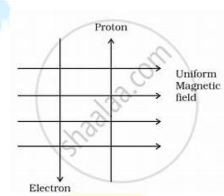
39. If a 3 cm tall object placed perpendicular to principal axis of a convex lens of focal length 15 cm produces a real inverted image of height 15 cm, then its object distance (u) is _______ and image distance (v) is ______
(a) $u = -18\ m, v = +90\ m$
(b) $u = +18\ cm, v = -90\ cm$
(c) $u = -18\ cm, v = +90\ cm$
(d) $u = +18\ cm, v = +90\ cm$

40. Select the correct sequence of light entering the different parts of human eye
(a) Cornea, lens, iris, pupil, retina
(b) Pupil, cornea, iris, lens, retina
(c) Cornea, pupil, iris, lens, retina
(d) Cornea, iris, pupil, lens, retina

41. Seven identical resistors of resistance R each are connected as shown in the given figure. If R_1, R_2 and R_3 are equivalent resistances between terminals A and B, between terminals C and D, and between terminals A and C respectively, then
(a) $R_1 = R_2 > R_3$
(b) $R_1 = R_2 < R_3$
(c) $R_1 < R_2 > R_3$
(d) $R_1 > R_2 < R_3$



42. A uniform magnetic field exists in the plane of paper point from left to right as shown in figure. In the field, an electron and a proton move as shown. The electron and the proton experience forces.



(a) Both pointing into the plane of paper.
(b) Both pointing out of the plane of paper
(c) Pointing into the plane of paper and out of the plane of paper, respectively.
(d) Pointing opposite and along the direction of the uniform magnetic field respectively.

43. An auto travelling along a straight road increases its speed from $30.0\ ms^{-1}$ to $50.0\ ms^{-1}$ in a distance of 180 m. If the acceleration is constant, how much time elapses while the auto moves this distance?
(a) 6.0 s
(b) 4.5 s
(c) 3.6 s
(d) 7.0 s

44. A particle is moving in a circular path of radius r. The displacement after half a circle would be
(a) Zero
(b) πr
(c) $2r$
(d) πr

45. Match the column I with column II.

Column I		Column II	
(A)	Uniform speed	(p)	Unequal distance in equal time
(B)	Uniform acceleration	(q)	Unequal velocity in equal time change
(C)	Non-uniform acceleration	(r)	Equal distance in equal time
(D)	Non-uniform speed	(s)	Equal velocity change in equal time

(a) (A) – (r), (B) – (q), (C) – (s), (D) – (p)
(b) (A) – (s), (B) – (r), (C) – (q), (D) – (p)
(c) (A) – (r), (B) – (s), (C) – (p), (D) – (q)
(d) (A) – (r), (B) – (s), (C) – (q), (D) – (p)

46. Which of the following is a redox reaction?
(a) $CaCO_3 \longrightarrow CaO + CO_2$
(b) $H_2 + Cl_2 \longrightarrow 2HCl$
(c) $CaO + 2HCl \longrightarrow CaCl_2 + H_2O$
(d) $NaOH + HCl \longrightarrow NaCl + H_2O$

47. P is an aqueous solution of acid and Q is an aqueous solution of base. When these two are diluted separately, then
(a) pH of P increases while that of Q decreases till neutralization.
(b) pH of P decreases while that of Q increases till neutralization.
(c) pH of both P and Q decreases.
(d) pH of both P and Q increases.

48. A metal X is placed AI and above Pb, in activity series. The extraction of metal is done by reacting carbon with its oxide. Metal oxide is used to join cracks of machine parts and rail lines by reacting it with Al. The metal is
(a) Zn
(b) Cu
(c) Fe
(d) Mg

49. Which of the following statements is not correct?
(a) A common functional group is present in different members of a homologous series.
(b) Two consecutive members of a homologous series differ by a $-CH_3$ group.
(c) The members of a homologous series can be represented by one general formula.
(d) Different members of a homologous series have similar chemical properties.

50. From the given set of metals and non-metals identify the non-metals. S, Mg, Al, P, N, Na, K.
(a) S, P, K
(b) Mg, Al, Na
(c) S, P, N
(d) S, Al, K