

FOR CLASS 11TH (ASPIRE)
SAMPLE TEST

Time: 1 Hr

Max Marks : 200

The Test Consists of Four Sections : (TOTAL 50 QUESTIONS)

Section	No. of Questions	Section D : Syllabus
Section A : Calculation	10 Q.	Physics – Light, Electricity and Magnetism Chemistry – Acids, Bases & Salts, Metals & Non Metals, Chemical Reactions Biology – Life Processes, Control and Coordination Maths – Real Numbers, Polynomials, Linear Equations, Triangles, Trigonometry, Quadratic Equations
Section B : Reasoning	10 Q.	
Section C : Comprehension	5 Q.	
Section D : Scholastic Aptitude	25 Q.	

INSTRUCTIONS TO CANDIDATE

- Each subject in this paper consists of multiple choice questions with only one correct answer. **+4 marks** will be awarded for correct answer and **-1 mark** for wrong answer.
- Please read the instructions given for each question carefully and fill the correct answer against the question numbers on the answer sheet in the respective subject.
- Use blue or black ball point pen to darken the appropriate circle & mark should completely fill the circle.
- The Question paper contains blank spaces for your rough work. No additional sheet will be provided for rough work.
- Blank papers, Clipboards, Log Tables, Slide rule, Calculators, Cellular phones, Pagers and Electronic gadgets in any form are not allowed.
- Write your Name, Student ID in the block at the top of the Answer Sheet. Also write your Name & Student ID in the space provided on this cover page of question paper.
- **This test paper is just an indicative of the actual test. Total number and type of questions in actual test may vary.**

Name: _____ Student ID _____

Dear student, this sample test is an indicative of the actual test, in which you would be tested on various skills required to crack any competitive exam in the future.

After the actual test, you would be given a report indicating your strengths and weaknesses in each of the sections. This would be very useful to analyze your performance.

SECTION - A
CALCULATION

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1. If $(19)^4$ is subtracted from the square of a number, the answer so obtained is 723. What is the number ?
(A) 131 (B) 362
(C) 144 (D) 364
2. 35% of 411 – $\%?$ of 272 = 84.01
(A) 42 (B) 36
(C) 18 (D) 22
3. $48096 \div \sqrt{?} = 167 \times 9$
(A) 1646 (B) 1432
(C) 1024 (D) 1208
4. 75% of 480 + $\%?$ of 540 = 603
(A) 35 (B) 65
(C) 45 (D) 55
5. $\frac{1287}{1645} \times \frac{235}{572} \div 3\frac{15}{16} = ?$
(A) $\frac{4}{49}$ (B) $\frac{1}{28}$
(C) $\frac{4}{7}$ (D) $\frac{1}{7}$
6. $3\frac{5}{8} \times 2\frac{4}{5} + 17\frac{1}{8} = ?$
- (A) $27\frac{11}{40}$ (B) $27\frac{11}{20}$
(C) $25\frac{11}{40}$ (D) $25\frac{11}{20}$
7. $13\frac{3}{7} + 18\frac{1}{14} + 8\frac{3}{4} = ?$
(A) $39\frac{1}{2}$ (B) $39\frac{3}{4}$
(C) $40\frac{1}{7}$ (D) $40\frac{1}{4}$
8. $\frac{896 \div 56 \times 8 + 12}{5^3 - (6^2 + 19)} = ?$
(A) 130 (B) 140
(C) 6 (D) None of these
9. $3724 - 19^2 - 320 + 6^3 = ?$
(A) 3295 (B) 3259
(C) 3225 (D) 3279
10. $3\frac{3}{8} \times 4\frac{4}{9} \div 3\frac{4}{7} - 3\frac{3}{5} = ?$
(A) $\frac{3}{5}$ (B) $4\frac{1}{5}$
(C) $5\frac{1}{5}$ (D) $\frac{2}{5}$

SECTION - B
REASONING

11. A block of wood in the form of a cuboid $3'' \times 7'' \times 11''$ has all its six faces painted pink. If the wooden block is cut into 231 cubes of $1'' \times 1'' \times 1''$, how many of these would have pink paint on them?

- (A) 178 (B) 182
(C) 186 (D) 190

12. It was vacation time, and so I decided to visit my cousin's home. What a grand time we had! In the mornings, we both would go for a jog. The evenings were spent on the tennis court. Tiring as these activities were, we could manage only one per day, i.e., either we went for a jog or played tennis each day. There were days when we felt lazy and stayed home all day long.

Now, there were 12 mornings when we did nothing, 11 evenings when we stayed at home, and a total of 11 days when we jogged or played tennis. For how many days did I stay at my cousin's place?

- (A) 14 (B) 16
(C) 17 (D) 20

13. There is a clock that has a special way of telling the time. It does not have any hands or numbers on it, but it has a chimer.

If the time is 1 o'clock, it chimes once. If the time is 2 o'clock, it chimes twice, and so forth. The time gap between any two chimes is 4 seconds.

How many seconds would it take you to know the time, after the first chime is heard, if it is 5 o'clock?

- (A) 16 (B) 20
(C) 25 (D) 18

14. Divide \$537 (in whole \$ increments) into a number of bags so that I can ask for any amount between \$1 and \$537, and you can give me the proper amount by giving me a certain number of these bags without opening them. What is the minimum number of bags you will require?

- (A) 10 (B) 20
(C) 30 (D) 40

15. If you were to construct a 6×6 checkered square (i.e., a 6×6 chess board), how many squares would there be in total?

- (A) 36 (B) 84
(C) 91 (D) 100

Directions (Q. 16, 17) – Following are the names of six batches of iQuest from class 7th to class 12th in the coded form not necessarily in the ascending order. The letters in the code are also not in order. Decode

this and answer the questions that follow (name of batches can be taken from our website)

1. rznbelb 2. ngzihb 3. ahggvyu

4. lbqbr 5. xbnog 6. yzsoobv

16. code for word "CAREER" is –

- (A) hbzbzq (B) lizbbz
(C) bzbzir (D) zbzbiz

17. code for word "PASSION" is –

- (A) hinlghv (B) hinghev
(C) ghznhye (D) hhglvzn

18. Three piles of chips—pile I consists of one chip, pile II consists of two chips, and pile III consists of three chips—are to be used in game played by Anita and Brinda. The game requires:

- (a) That each player in turn take only one chip or all chips from just one pile.
(b) That the player who has to take the last chip loses.
(c) That Anita now have her turn

From which pile should Anita draw in order to win?

- (A) 1st
(B) 2nd
(C) 3rd
(D) can't be determined

19. If $A + D > C + E$, $C + D = 2B$ and $B + E > C + D$, it necessarily follows that

- (A) $A + B > 2D$ (B) $B + D > C + E$
(C) $A + D > B + E$ (D) $A + D > B + C$

Directions : (Q. 20) : In the question below are given two statements followed by two conclusions numbered I and II. You have to take the two given statements to be true even if they seem to be at variance from commonly known facts and decide which of the given conclusion(s) logically follow(s) from the two given statements, disregarding commonly known facts.

Given your answer as

- (A) if only conclusion I follows
(B) if only conclusion II follows
(C) if either I or II follows
(D) if neither I nor II follows

20. Statements : 1 All plants are trees.

2. No tree is green

Conclusions : I. Some plants are green.

II. Those plants which

are not trees are green.

SECTION - C
COMPREHENSION

Passage

Motivations for ruralism in under developed countries are understandably different from those in developed countries. There, it is a sheer physical necessity for the very act of man's survival. In the Third World countries, which are *predominantly* rural, the only *lever* that can lift human life above its present subhuman level, is rural development. Rural life in such countries has been stagnating for centuries on end. Nothing worthwhile has been done to *ameliorate* the conditions of the rural population which is only slightly different from that of their quadruped counterparts. Ignorance, ill health and poverty have become synonyms of rural life in the undeveloped and underdeveloped countries. But the worst tragedy is that the concerned human populations have taken this state of affairs for granted, as something unalterable, something for which there is no remedy. Every ray of hope has gone out of their lives. In such countries, Rural Development is the inevitable condition of any material or non-material advancement. As such, *enlightened sections* of all such countries have been taking ever growing interest in the question of Rural Development.

This was also part of the legacy of their freedom struggle. In countries like India, it is well-known that attempts at Rural Development were an inseparable part of the Independence movement. Leaders like Gandhiji realised quite well that Real India lived in her stagnating villages. Cities, which were mostly the products of Western colonialism, were just artificial showpieces. Even there, there were two worlds. The posh areas, where the affluent few, mostly the products and custodians of imperial interest lived, were little islands *engulfed* by the vast ocean of dirt, represented by the vast majority of people.

Cities were by no means unknown to India, but in ancient India, they were integral parts, organically related to the rest of the country and society. But, modern cities are exotic centres of commercial and industrial exploitation. Cities in ancient India were the flowers of cultural and artistic excellence of the nation, modern cities are just parasites, preying on and *debilitating* the country.

Hence, Gandhiji started the 'Go to Village Movement' which alone, according to him, could bring freedom to

India and sustain it. Rural Development had the pride of place in his strategy for the nation's freedom. Thus, it had its origin in the freedom struggle.

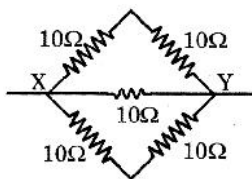
21. People are taking growing interest in Rural Development because
 - (A) nothing worthwhile can be done in the near future.
 - (B) they have now become optimistic about it.
 - (C) they have realised the indispensability of it.
 - (D) they have been suffering from severe health problems.
22. Which of the following is the 'lever' according to the passage?
 - (A) Upliftment of the rural masses
 - (B) Enlightenment of certain sections of the society
 - (C) Non-material advancement
 - (D) Stagnation of rural life
23. Which of the following is the worst tragedy according to the author?
 - (A) Lack of realisation of the importance of rural development
 - (B) Exploitation of the rural people by the city-dwellers
 - (C) The subhuman condition of the people
 - (D) The pessimism of the rural people about their own conditions.
24. Which of the following statements is not true in the context of the passage?
 - (A) Most of the rich people dwelling in modern cities are genuinely concerned about rural development.
 - (B) Rural development is a pre-requisite of any other advancement and progress.
 - (C) The rural folk in the Third World countries feel that their subhuman condition cannot be improved.
 - (D) Only rural development can raise the standard of living of people in the Third World countries.
25. Rural Development was considered as a part of India's freedom movement because
 - (A) Gandhiji was against the Western colonialism.
 - (B) real India was then under the British rule.
 - (C) imperial interest lived only in villages.
 - (D) the country comprised of mainly villages.

SECTION - D
SCHOLASTIC APTITUDE

26. The electrostatic force between two point charges q_1 and q_2 at separation 'r' is given by

$$F = \frac{Kq_1q_2}{r^2}. \text{ The constant K}$$

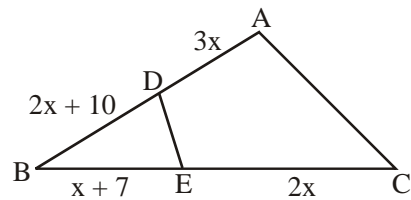
- (A) depends on the system of units only.
 (B) depends on the medium between the charges only.
 (C) depends on both the system of units and the medium between the charges.
 (D) is independent of both the system of units and the medium between the charges.
27. When the value of each resistor is 10Ω , the equivalent resistance between the terminals X and Y of the circuit is :



- (A) 1Ω (B) 3Ω
 (C) 5Ω (D) 8Ω
28. In a circuit two or more cells of the same e.m.f are connected in parallel in order to:
- (A) increase the P.D across a resistance in the circuit
 (B) decrease the P.D across a resistance in the circuit
 (C) facilitate drawing more current from the battery system
 (D) change the e.m.f. across the system of batteries
29. Two electrical bulbs have tungsten filament of same length. If one of them gives 60 watts and other 100 watts, then
- (A) 100 watts bulb has thicker filament
 (B) 60 watt bulb has thicker filament
 (C) both filaments are of same thickness
 (D) it is impossible to get different wattage unless lengths are different
30. An electric current passes through a long straight wire. At a distance 5 cm from wire, the magnetic field is B. The field at 20 cm from the wire would be:
- (A) 2B (B) B/4
 (C) B/2 (D) B

31. An electric charge in uniform motion produces:
- (A) an electric field only
 (B) a magnetic field only
 (C) both electric and magnetic fields
 (D) no such field at all
32. The following reaction is an example of a
 $4\text{NH}_3(\text{g}) + 5\text{O}_2(\text{g}) \rightarrow 4\text{NO}(\text{g}) + 6\text{H}_2\text{O}(\text{g})$
- (i) displacement reaction (ii) combination reaction
 (iii) redox reaction (iv) neutralisation reaction
- (A) (i) and (iv) (B) (ii) and (iii)
 (C) (i) and (iii) (D) (iii) and (iv)
33. Which of the following are exothermic processes?
- (i) Reaction of water with quick lime
 (ii) Dilution of an acid
 (iii) Evaporation of water
 (iv) Sublimation of camphor (crystals)
- (A) (i) and (ii) (B) (ii) and (iii)
 (C) (i) and (iv) (D) (iii) and (iv)
34. What happens when a solution of an acid is mixed with a solution of a base in a test tube?
- (i) The temperature of the solution increases
 (ii) The temperature of the solution decreases
 (iii) The temperature of the solution remains the same
 (iv) Salt formation takes place
- (A) (i) only (B) (i) and (iii)
 (C) (ii) and (iii) (D) (i) and (iv)
35. During the preparation of hydrogen chloride gas on a humid day, the gas is usually passed through the guard tube containing calcium chloride. The role of calcium chloride taken in the guard tube is to
- (A) absorb the evolved gas
 (B) moisten the gas
 (C) absorb moisture from the gas
 (D) remove Cl^- ions from the evolved gas
36. Aluminium is used for making cooking utensils. Which of the following properties of aluminium are responsible for the same?
- (i) Good thermal conductivity
 (ii) Good electrical conductivity
 (iii) Ductility
 (iv) High melting point
- (A) (i) and (ii) (B) (i) and (iii)
 (C) (ii) and (iii) (D) (i) and (iv)

37. What happens when calcium is treated with water?
- It does not react with water
 - It reacts violently with water
 - It reacts less violently with water
 - Bubbles of hydrogen gas formed stick to the surface of calcium
- (A) (i) and (iv) (B) (ii) and (iii)
(C) (i) and (ii) (D) (iii) and (iv)
38. In which of the following groups of organisms, food material is broken down outside the body and absorbed?
- Mushroom, green plants, *Amoeba*
 - Yeast, mushroom, bread mould
 - Paramecium*, *Amoeba*, *Cuscuta*
 - Cuscuta*, lice, tapeworm
39. Select the correct statement
- Heterotrophs do not synthesise their own food
 - Heterotrophs utilise solar energy for photosynthesis
 - Heterotrophs synthesise their own food
 - Heterotrophs are capable of converting carbon dioxide and water into carbohydrates
40. Which is the correct sequence of parts in human alimentary canal?
- Mouth → stomach → small intestine → oesophagus → large intestine
 - Mouth → oesophagus → stomach → large intestine → small intestine
 - Mouth → stomach → oesophagus → small intestine → large intestine
 - Mouth → oesophagus → stomach → small intestine → large intestine
41. Which of the following statements is correct about receptors?
- Gustatory receptors detect taste while olfactory receptors detect smell
 - Both gustatory and olfactory receptors detect smell
 - Auditory receptors detect smell and olfactory receptors detect taste
 - Olfactory receptors detect taste and gustatory receptors smell
42. Electrical impulse travels in a neuron from
- Dendrite → axon → axonal end → cell body
 - Cell body → dendrite → axon → axonal end
 - Dendrite → cell body → axon → axonal end
 - Axonal end → axon → cell body → dendrite
43. In a synapse, chemical signal is transmitted from
- dendritic end of one neuron to axonal end of another neuron
 - axon to cell body of the same neuron
 - cell body to axonal end of the same neuron
 - axonal end of one neuron to dendritic end of another neuron
44. Three bells, toll at intervals of 36 sec, 40 sec and 48 sec respectively. They start ringing toll at particular time. They next toll together after -
- 18 minutes (B) 12 minutes
 - 6 minutes (D) 24 minutes
45. Find the remainder obtained when x^{2007} is divisible by $x^2 - 1$.
- x^2 (B) x
 - $x + 1$ (D) $-x$
46. The fare of 3 full tickets and 2 half tickets is Rs 204 and the fare of 2 full tickets and 2 half tickets is Rs. 186. Find the fare of a full ticket and a half ticket.
- Rs 94 (B) Rs 93
 - Rs 86 (D) Rs 62
47. Quadratic equation whose one of the roots is $4 + \sqrt{5}$ is :
- $x^2 + 8x - 1 = 0$ (B) $x^2 + 8x + 18 = 0$
 - $x^2 - 8x + 1 = 0$ (D) $x^2 - 8x + 11 = 0$
48. If $\sin^2 \theta + \cos^4 \theta = 1$ then $\cos^2 \theta + \cos^4 \theta =$
- 1 (B) $\frac{\sin \theta}{\cos^2 \theta}$
 - $\frac{\cos^2 \theta}{\sin \theta}$ (D) one
49. The area of a rhombus is 2016 cm² and its side is 65 cm. The lengths of the diagonals (in cm) respectively are :
- 125, 35 (B) 126, 32
 - 132, 26 (D) 135, 25
50. In the given figure, $\overline{DE} \parallel \overline{AC}$. Find the value of x.



- 1 (B) 2
- 3 (D) 4

ANSWER KEY

SECTION - A CALCULATION

1. (B) 2. (D) 3. (C) 4. (C) 5. (A) 6. (A)
7. (D) 8. (D) 9. (B) 10. (A)

SECTION - B REASONING

11. (C) 12. (C) 13. (B) 14. (A) 15. (C) 16. (D)
17. (B) 18. (B) 19. (D) 20. (D)

SECTION - C COMPREHENSION

21. (C) 22. (A) 23. (D) 24. (A) 25. (D)

SECTION - D SCHOLASTIC APTITUDE

26. (C) 27. (C) 28. (C) 29. (A) 30. (B) 31. (C)
32. (C) 33. (A) 34. (D) 35. (C) 36. (B) 37. (D)
38. (B) 39. (A) 40. (D) 41. (A) 42. (C) 43. (D)
44. (C) 45. (B) 46. (B) 47. (D) 48. (A) 49. (B)
50. (A)