



**NARAYAN
FUTURE DOCTORS ACADEMY**

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SHRI NFDA

Scholarship Cum Admission

Test

2025

Sample Paper

Medical

(Class XII Studying, Moving to Class XII - Passed)

Physics, Chemistry, Biology, Logical Reasoning & General Ability

INSTRUCTIONS FOR CANDIDATE

1. Duration of the test 1 hr
2. The paper consists of four sections: - Physics, Chemistry, Biology and Mental Ability.
3. The Test Booklet consists of **25** questions. The maximum marks are **100**. There is **no negative marking** for wrong answer.
4. There is only one correct answer hence mark one choice only. Darken your choice in OMR Sheet with Blue/Black Ball Point Pen. Return the OMR Sheet & Question Paper to the invigilator at the end of the exam.

Shri NFDA Scholarship cum Admission Test

Sample Paper

(Class XII Studying, Moving to Class XII - Passed)

(The questions given in sample paper are indicative of the level and pattern of questions that will be asked in SN-SAT - 2025)

Time: 1hr

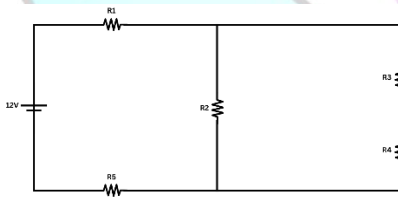
MM: 100

Section: I (Physics)

This section contains 6 multiple choice questions. Each question has 4 choices (1), (2), (3) and (4) out of which **ONLY ONE** choice is correct.

- Kirchhoff's loop rule is based on
 - Law of conservation of energy
 - Law of conservation of charge
 - Law of conservation of momentum
 - Wheatstone bridge
- The magnetic field lines inside a bar magnet are
 - From south pole to north pole
 - From north pole to south pole
 - Perpendicular to the length of magnet
 - No field lines exists inside the magnet

- Consider the following circuit:



What is the total equivalent resistance of the circuit?

- $R1 = 5\Omega$.
 - .
- Choose the correct answer.

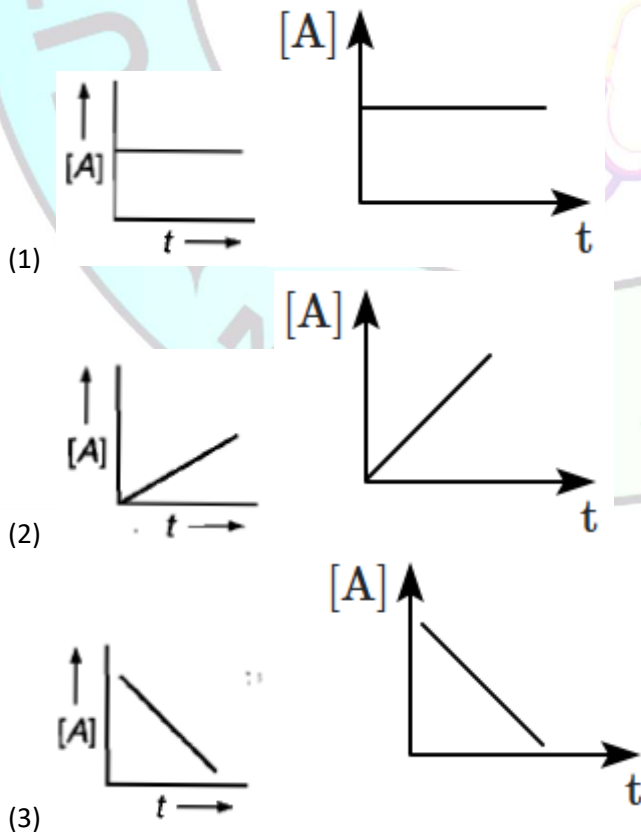
$$\rightarrow F = \frac{k.(q_1 * q_2)}{r^2}$$
 This is given by which law?
 - Faraday' law
 - Newton's law

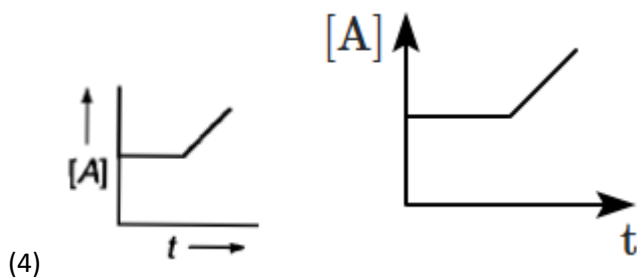
- (3) Coulomb's law
(4) Fleming's law
5. If the sizes of charged bodies are very small compared to the distances between them, we treat them as _____
(1) Zero charges
(2) Point charges
(3) Single charge
(4) No charge
6. The force per unit charge is known as
(1) Electric Current
(2) Electric potential
(3) Electric field
(4) Electric space

Section: II (Chemistry)

This section contains 6 multiple choice questions. Each question has 4 choices (1), (2), (3) and (4) out of which **ONLY ONE** choice is correct.

7. Which curve represents zero order reaction?





8. The time for half-life of a first order reaction is 1 hr. What is the time taken for 87.5% completion of the reaction?
- (1) 1 hour
 - (2) 2 hour
 - (3) 3 hour
 - (4) 4 hour
9. Metals have conductivity of the order of ($\text{ohm}^{-1}\text{m}^{-1}$): -
- (1) 10^{12}
 - (2) 10^8
 - (3) 10^2
 - (4) 10^{-6}
10. Metal protected by a layer of its own oxide is:
- (1) Al
 - (2) Ag
 - (3) Au
 - (4) Cu
11. The correct order of decreasing hardness of the following compounds is:
- (1) Diamond > Borazon > Carborundum > Corundum
 - (2) Borazon > Diamond > Carborundum > Corundum
 - (3) Corundum > Carborundum > Borazon > Diamond
 - (4) None of the above
12. Lanthanoid contraction is caused due to:
- (1) the appreciable shielding on outer electrons by 4f electrons from the nuclear charge
 - (2) the appreciable shielding on outer electrons by 5d electrons from the nuclear charge
 - (3) the same effective nuclear charge from Ce to Lu
 - (4) the imperfect shielding on outer electrons by 4f electrons from the nuclear charge

Section: III (Biology)

This section contains 6 multiple choice questions. Each question has 4 choices (1), (2), (3) and (4) out of which **ONLY ONE** choice is correct.

13. During microsporogenesis, meiosis occurs in:
- (1) Endothecium
 - (2) Microspore mother cells
 - (3) Microspore tetrads
 - (4) Pollen grains
14. Spot the odd one out from the following structures with reference to the male reproductive system:
- (1) Rete testis
 - (2) Epididymis
 - (3) Vasa efferentia
 - (4) Isthmus
15. Persons having different genotypes show the blood groups as A, B, AB & O. This is because of:
- (1) Pleiotropy
 - (2) Co-dominance
 - (3) Segregation
 - (4) Incomplete dominance
16. The organisms which cause diseases in plants and animals are called:
- (1) Pathogens
 - (2) Vectors
 - (3) Insects
 - (4) Worms
17. Which of the following bacteria is used a source of enzyme in PCR (Polymerase Chain Reaction)?
- (1) Haemophilus influenzae
 - (2) Escherichia coli
 - (3) Thermus aquaticus
 - (4) Entamoeba coli
18. Decomposers like fungi and bacteria are:
- (1) Photo-autotrophs
 - (2) Chemo-autotrophs

- (3) Saprotrophs
- (4) All of the above

Section: IV (Logical Reasoning & Aptitude)

This section contains 6 multiple choice questions. Each question has 4 choices (1), (2), (3) and (4) out of which **ONLY ONE** choice is correct.

19. Find the missing element in the series given below:

ABD EFH IJL MNP QRT ?

- (1) XYZ
- (2) VWY
- (3) WXZ
- (4) UVX

20. From the given options, choose the odd one out.

- (1) Bangladesh: Taka
- (2) Brazil: Real
- (3) Cyprus: Dollar
- (4) Iran: Rial

21. Pointing to a photograph of a boy Mr. Ram said, "He is the son of the only son of my mother."
How is Mr Ram related to that boy?

- (1) Brother
- (2) Uncle
- (3) Cousin
- (4) Father

22. Mr Deepak Mohan walks 5 km towards the south and then turns to the right. After walking 3 km he turns to the left and walks 5 km. What direction is he facing right now?

- (1) West
- (2) South
- (3) North-East
- (4) South-West

✚ The data given below represents a coded language for different colours, analyse it and answer the questions following it:

"black orange yellow purple blue" is written as "set jet let get bet"

"grey green red purple" is written as "get pet wet vet"

"purple blue red silver" is written as "vet set get tet"

“grey orange pink” is written as “ bet ret pet”

23. Based on the information given above, what is the code for red?

- (1) Vet
- (2) Pet
- (3) Ret
- (4) Wet

24. What will be the code for “Orange is Red”?

- (1) bet ret vet
- (2) bet vet zet
- (3) Wet get jet
- (4) Jet let vet

25. Which colour has been coded as “set”?

- (1) Yellow
- (2) Black
- (3) Green
- (4) Grey

