



CLAT Gurukul

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By Ready For Exa

RFB GURUKUL

Class-12 PCM Daily Sheet

RFB-XII-A-DPS · 2026-05-30 · 60 min · no-negative

1.

Physics: Coulomb's law states that the electrostatic force between two point charges is: [factual_mcq_ncert]

- A. Directly proportional to the distance
- B. Directly proportional to the product of charges and inversely to the square of distance
- C. Independent of the charges
- D. Inversely proportional to the product of charges

2.

Physics: The SI unit of capacitance is the: [factual_mcq_ncert]

- A. Henry
- B. Tesla
- C. Farad
- D. Weber

3.

Physics: According to Faraday's law, the induced EMF in a coil is proportional to the rate of change of: [factual_mcq_ncert]

- A. Electric charge
- B. Resistance
- C. Capacitance
- D. Magnetic flux

4.

Physics: For a convex lens, the power is positive and measured in: [factual_mcq_ncert]

- A. Dioptres
- B. Newtons
- C. Joules
- D. Watts

NAME: _____

ROLL NO: _____

BATCH: _____

5. Physics: In the photoelectric effect, electrons are emitted only when the incident light's frequency exceeds the: [factual_mcq_ncert]

- A. Resonant frequency
- B. Threshold frequency
- C. Mean frequency
- D. Carrier frequency

6. Physics: A p-n junction diode conducts current significantly only when it is: [factual_mcq_ncert]

- A. Reverse biased
- B. Unbiased
- C. Forward biased
- D. At absolute zero

7. Physics: The phenomenon of splitting of white light into its constituent colours by a prism is called: [factual_mcq_ncert]

- A. Reflection
- B. Polarisation
- C. Diffraction
- D. Dispersion

8. Physics: The de Broglie wavelength of a particle is inversely proportional to its: [factual_mcq_ncert]

- A. Momentum
- B. Charge
- C. Temperature
- D. Volume

9. Chemistry: A unit cell of a face-centred cubic (FCC) lattice contains how many atoms? [factual_mcq_ncert]

- A. 2
- B. 4
- C. 1
- D. 8

10. Chemistry: According to the Nernst equation, electrode potential depends on the: [factual_mcq_ncert]

- A. Colour of the solution
- B. Volume of the beaker
- C. Concentration of ions
- D. Atmospheric pressure only

11. Chemistry: For a first-order reaction, the half-life is: [factual_mcq_ncert]

- A. Directly proportional to initial concentration
- B. Inversely proportional to the rate constant squared
- C. Equal to the rate constant
- D. Independent of the initial concentration

12. Chemistry: The coordination number of the central metal ion in $[\text{Co}(\text{NH}_3)_6]^{3+}$ is: [factual_mcq_ncert]

- A. 6
- B. 3
- C. 4
- D. 2

13. Chemistry: The reaction of a haloalkane with aqueous KOH gives mainly: [factual_mcq_ncert]

- A. An alkene
- B. An alcohol
- C. An ether
- D. A carboxylic acid

14. Chemistry: Aldehydes and ketones contain which functional group? [factual_mcq_ncert]

- A. Hydroxyl (-OH)
- B. Carboxyl (-COOH)
- C. Carbonyl (>C=O)
- D. Amino (-NH₂)

15. Chemistry: Glucose and fructose are examples of: [factual_mcq_ncert]

- A. Polysaccharides
- B. Proteins
- C. Lipids
- D. Monosaccharides

16. Chemistry: Among the halogens, the most electronegative element is: [factual_mcq_ncert]

- A. Fluorine
- B. Chlorine
- C. Bromine
- D. Iodine

17. Maths: The derivative of e^x with respect to x is: [factual_mcq_ncert]

- A. $x \cdot e^{(x-1)}$
- B. e^x
- C. $1/x$
- D. $e^x \cdot \ln x$

18. Maths: The value of $\int (1/x) dx$ is: [factual_mcq_ncert]

- A. $x^2 + C$
- B. $-1/x^2 + C$
- C. $\ln|x| + C$
- D. $1 + C$

19. Maths: If A is a 3×3 matrix and $\det(A) = 0$, then A is: [factual_mcq_ncert]

- A. Always invertible
- B. An identity matrix
- C. A zero matrix
- D. Singular (non-invertible)

20. Maths: The probability of an impossible event is: [factual_mcq_ncert]

- A. 0
- B. 1
- C. $1/2$
- D. Undefined

21. Maths: The dot product of two perpendicular non-zero vectors is: [factual_mcq_ncert]

- A. 1
- B. 0
- C. Equal to their magnitudes' product
- D. Undefined

22. Maths: The order of the differential equation $d^2y/dx^2 + 3(dy/dx) + y = 0$ is: [factual_mcq_ncert]

- A. 1
- B. 3
- C. 2
- D. 0

23.

Maths: The principal value of $\sin^{-1}(1)$ is: [factual_mcq_ncert]

- A. 0
- B. π
- C. $\pi/4$
- D. $\pi/2$

24.

Maths: A function $f(x)$ is continuous at $x = a$ if: [factual_mcq_ncert]

- A. $\lim_{x \rightarrow a} f(x) = f(a)$
- B. $f(a) = 0$
- C. $f'(a)$ exists only
- D. $f(x)$ is a polynomial only

25.

Maths: The derivative of $\sin x$ is $\cos x$; hence the derivative of $\cos x$ is: [factual_mcq_ncert]

- A. $\sin x$
- B. $-\sin x$
- C. $-\cos x$
- D. $\tan x$

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