

# FIITJEE - JEE (Main)

PHYSICS, CHEMISTRY & MATHEMATICS

BATCHES: NWCM2022E1R+E1W\_PT4

PHASE TEST – IV

Q.P. CODE:

Time Allotted: 3 Hours

Maximum Marks: 300

- Do not open this Test Booklet until you are asked to do so.
- Please read the instructions carefully. You are allotted 5 minutes specifically for this purpose.

## Important Instructions

**Caution: Question Paper CODE as given above MUST be correctly marked in the answer OMR sheet before attempting the paper. Wrong CODE or no CODE will give wrong results.**

### A. General Instructions

1. Attempt ALL the questions. Answers have to be marked on the OMR sheets.
2. This question paper contains **Three Sections**.
3. **Section-I** is Physics, **Section-II** is Chemistry and **Section-III** is Mathematics.
4. Each **Section** is further divided into **Two Parts: Part-A & C** in the OMR. Part-B of OMR to be left unused
5. Rough spaces are provided for rough work inside the question paper. No additional sheets will be provided for rough work.
6. No candidate is allowed to carry any textual material, printed or written, bits of papers, clip boards, log tables, slide rule, calculator, cellular phones, pagers and electronic devices ext. except the Admit Card inside the examination hall / room.

### B. Filling of OMR Sheet:

1. Ensure matching of OMR sheet with the Question paper before you start marking your answers on OMR sheet.
2. On the OMR sheet, darken the appropriate bubble with **Blue/Black Ball Point Pen** for each character of your Enrolment No. and write in ink your Name, Test Centre and other details at the designated places.
3. OMR sheet contains alphabets, numerals & special characters for marking answers.
4. **Do not fold or make any stray marks on the Answer Sheet.**

### C. Marking Scheme for All Two Parts:

- (i) **Part-A (01-20)** – Contains Twenty (20) multiple choice objective questions which have four (4) options each and only one correct option. Each question carries **+4 marks** which will be awarded for every correct answer and **-1 mark** will be deducted for every incorrect answer.
- (ii) **Part-B (01-05)** contains five (05) Numerical based questions, the answer of which maybe positive or negative numbers or decimals (e.g. 6.25, 7.00, -0.33, -30, 30.27, -127.30) and each question carries **+4 marks** for correct answer and **there will be no negative marking**.

Name of the Candidate : \_\_\_\_\_

Batch : \_\_\_\_\_ Date of Examination : \_\_\_\_\_

Enrolment Number : \_\_\_\_\_

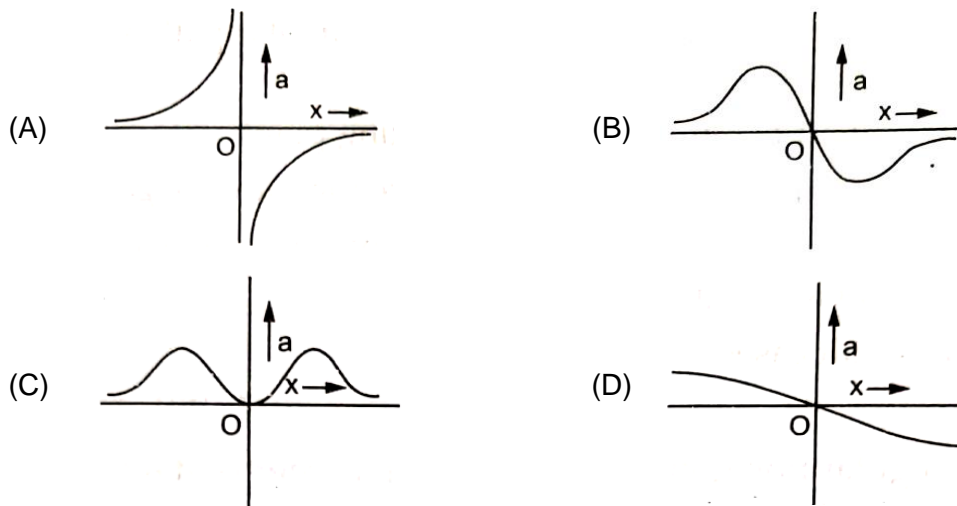
# Physics

## PART – A

### Straight Objective Type

This part contains **20 multiple choice questions**. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.

1. Two identical positive charges are fixed on the y-axis, at equal distances from the origin O. A particle with a negative charge starts on the x-axis at a large distance from O, moves along the x-axis, passes through O and moves far away from O. Its acceleration  $a$  is taken as positive along its direction of motion. The particle's acceleration  $a$  is plotted against its x-coordinate. Which of the following best represents the plot?



1. **B**
2. Two identical metal balls with charges  $+2Q$  and  $-Q$  are separated by some distance, and exert a force  $F$  on each other. They are joined by a conducting wire, which is then removed. The force between them will now be

(A)  $F$                       (B)  $\frac{F}{2}$                       (C)  $\frac{F}{4}$                       (D)  $\frac{F}{8}$

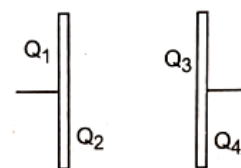
2. **D**
3. The electric potential  $V$  at any point having co-ordinates  $(x, y, z)$  (all in metres) in space is given by  $V = 4x^2$  volts. The electric field (in V/m) at the point  $(1 \text{ m}, 0, 2 \text{ m})$  is
- (A)  $-8\hat{i}$                       (B)  $8\hat{i}$                       (C)  $-16$                       (D)  $8\sqrt{5}$

3. **A**
4. A solid sphere of radius  $R$  is charged uniformly. At what distance from its surface is the electrostatic potential half of the potential at the centre?

(A)  $R$                       (B)  $\frac{R}{2}$                       (C)  $\frac{R}{3}$                       (D)  $2R$

4. **C**
5. In an isolated parallel-plate capacitor of capacitance  $C$ , the four surfaces have charges  $Q_1, Q_2, Q_3$  and  $Q_4$  as shown. The potential difference between the plates is

(A)  $\frac{Q_1 + Q_2 + Q_3 + Q_4}{2C}$                       (B)  $\frac{Q_2 + Q_3}{2C}$   
 (C)  $\frac{Q_2 - Q_3}{2C}$                       (D)  $\frac{Q_1 + Q_4}{2C}$



5. **C**

6. In a parallel-plate capacitor of capacitance  $C$ , a metal sheet is inserted between the plates, parallel to them. The thickness of the sheet is half of the separation between the plates. The capacitance now becomes

- (A)  $4C$  (B)  $2C$   
 (C)  $\frac{C}{2}$  (D)  $\frac{C}{4}$

6. **B**

7. A and B are two points on a uniform ring of resistance  $R$ . The  $\angle ACB = \theta$ , where C is the centre of the ring. The equivalent resistance between A and B is

- (A)  $\frac{R}{4\pi^2} (2\pi - \theta)\theta$  (B)  $R \left(1 - \frac{\theta}{2\pi}\right)$  (C)  $R \frac{\theta}{2\pi}$  (D)  $R \frac{2\pi - \theta}{4\pi}$

7. **A**

8.  $n$  identical cells, each of emf  $\epsilon$  and internal resistance  $r$ , are joined in series to form a closed circuit. One cell (A) is joined with reversed polarity. The potential difference across each cell, except A, is

- (A)  $\frac{2\epsilon}{n}$  (B)  $\frac{n-1}{n}\epsilon$  (C)  $\frac{n-2}{n}\epsilon$  (D)  $\frac{2n}{n-2}\epsilon$

8. **A**

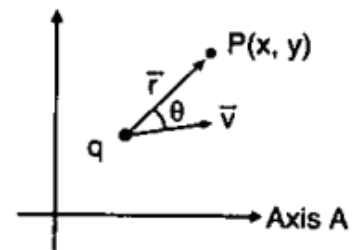
9. Ammeter of range 10 mA has a coil of resistance  $1 \Omega$ . To use it as an ammeter of range 1 A, the required shunt must have a resistance of

- (A)  $\frac{1}{101}\Omega$  (B)  $\frac{1}{100}\Omega$  (C)  $\frac{1}{99}\Omega$  (D)  $\frac{1}{9}\Omega$

9. **C**

10. A point charge  $q$  is in motion with velocity  $\vec{v}$  relative to an internal axis "A". The instantaneous location of  $q$  with respect to a fixed observation point P is shown.  $\vec{B}$ , the magnetic field at point P is given by

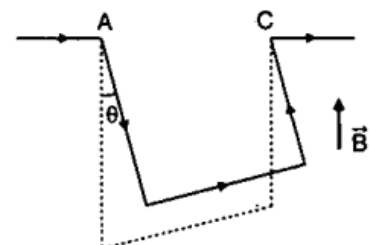
- (A)  $\vec{B} = \frac{\mu_0 q (\vec{r} \times \vec{v})}{4\pi r^3}$  (B)  $\vec{B} = \frac{\mu_0 q (\vec{v} \times \vec{r})}{2\pi r^3}$   
 (C)  $\vec{B} = \frac{\mu_0 q (\vec{v} \times \vec{r})}{4\pi r^3}$  (D) ZERO



10. **C**

11. A three sided frame pivoted at AC hangs vertically. All sides are of same length and have linear mass density  $\lambda$ . A current  $I$  flows in the frame and frame lies in a uniform field  $B$  directed upwards.  $\theta$  is the angle through which the frame is deflected.

- (A)  $\tan \theta = \frac{BI}{\lambda g}$  (B)  $\tan \theta = \frac{2BI}{\lambda g}$   
 (C)  $\tan \theta = \frac{\lambda g}{BI}$  (D)  $\tan \theta = \frac{BI}{2\lambda g}$

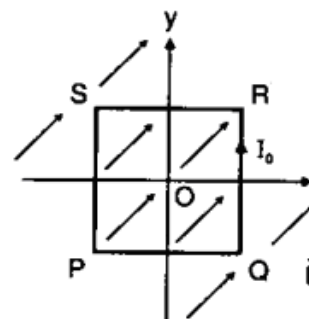


11. **D**

12. A proton and an  $\alpha$ -particle are projected with the same kinetic energy at right angles to the uniform magnetic fields.
- (A) The  $\alpha$ -particle will be bent in the circular path of smaller radius than that of the proton.  
 (B) The  $\alpha$ -particle will be bent in the circular path of larger radius than that of the proton.  
 (C) The  $\alpha$ -particle and the proton will be bent in the circular paths of identical radii.  
 (D) The  $\alpha$ -particle and the proton pass through the field undeviated.

12. **C**

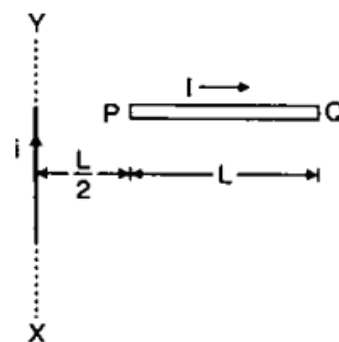
13. A uniform magnetic field  $\vec{B}$  is directed at an angle of  $45^\circ$  to the x-axis in the xy plane. PQRS is a rigid, square wire frame carrying a steady current  $I_0$ , with its centre at the origin O. At time  $t = 0$ , the frame is at rest in the position as shown in figure, with its sides parallel to x and y axes. Each side of the frame is of mass M and length L. The magnetic field exerts a torque  $\tau$  (about O) on the frame.



- (A)  $\tau = 0$  (B)  $\tau = \frac{1}{2}BL^2I_0$   
 (C)  $\tau = BL^2I_0$  (D)  $\tau = \frac{1}{4}BL^2I_0$

13. **C**

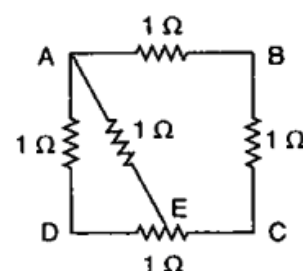
14. A conductor PQ of length L, carries a current I. PQ is placed perpendicular to a long straight conductor XY carrying a current i as shown. The force acting on PQ is F.



- (A)  $F = \frac{\mu_0 I i}{2\pi} \ln 2$  ; upwards  
 (B)  $F = \frac{\mu_0 I i}{2\pi} \ln 2$  ; downwards  
 (C)  $F = \frac{\mu_0 I i}{2\pi} \ln 3$  ; upwards  
 (D)  $F = \frac{\mu_0 I i}{2\pi} \ln 3$  ; downwards

14. **C**

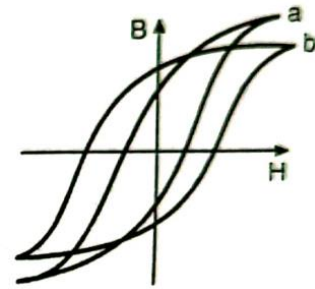
15. ABCD is a square where each side is a uniform wire of resistance  $1\Omega$ . A point E lies on CD such that if a uniform wire of resistance  $1\Omega$  is connected across AE and constant potential difference is applied across A and C then B and E are equipotential.



- (A)  $\frac{CE}{ED} = 1$  (B)  $\frac{CE}{ED} = 2$   
 (C)  $\frac{CE}{ED} = \frac{1}{\sqrt{2}}$  (D)  $\frac{CE}{ED} = \sqrt{2}$

15. **D**

16. The B-H curves (a) and (b) drawn below are associated with:  
 (A) A diamagnetic and a ferromagnetic substance respectively.  
 (B) A paramagnetic and a ferromagnetic substance respectively.  
 (C) Soft iron and steel respectively.  
 (D) Steel and soft iron respectively.

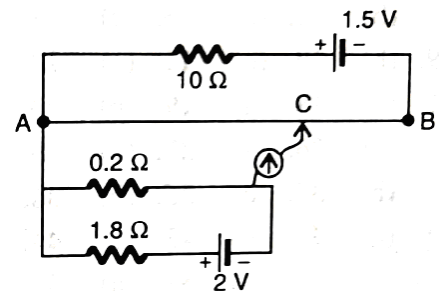


16. **C**
17. A dip needle in a plane perpendicular to magnetic meridian will be  
 (A) Vertical (B) Horizontal  
 (C) At an angle of  $45^\circ$  to the horizontal (D) At an angle of dip to the horizontal

17. **A**

18. In given figure, AB is a wire of length 100 cm whose resistance is  $5 \Omega$ . If galvanometer reads zero, the current flowing in the wire AB is:

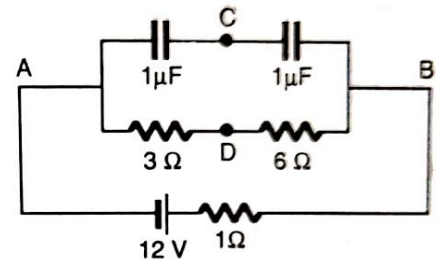
- (A) 0.1 A (B) 0.5 A  
 (C) 1 A (D) 1.4 A



18. **A**

19. Find out the P.D. between the points C and D in given figure.

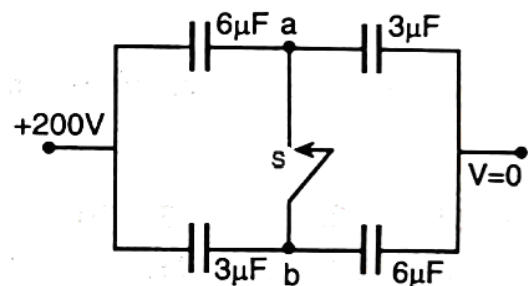
- (A) 3.6 V (B) 1.8 V  
 (C) 4.2 V (D) 1 V



19. **B**

20. In the arrangement of capacitors shown in given figure, the capacitors are initially uncharged and now are connected with switch S open. Find the potential of point b and the amount of charge flowing through the switch, when it is closed:

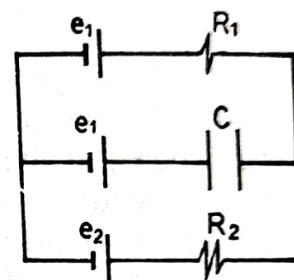
- (A) 66.7 V,  $300 \mu\text{C}$   
 (B) 66.7 V,  $400 \mu\text{C}$   
 (C) 100 V,  $300 \mu\text{C}$   
 (D) 133.3 V,  $400 \mu\text{C}$



20. **C**

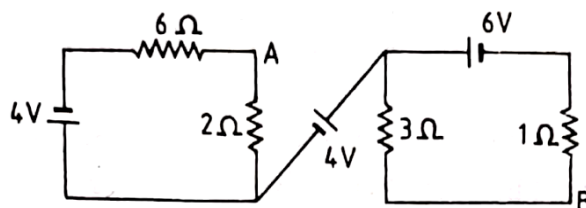
**PART-B**  
**Numerical Type**

21. In the figure the sources have emfs  $e_1 = 1\text{ V}$ ,  $e_2 = 2.5\text{ V}$  and the resistances have the values  $R_1 = 10\Omega$  and  $R_2 = 20\Omega$ . The internal resistances of the sources are negligible. Find the magnitude of potential difference between the plates of capacitor.



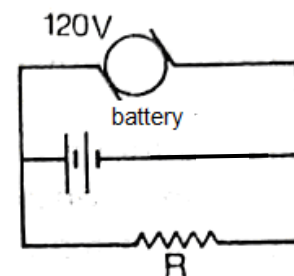
21. **0.50**

22. In the network shown in the figure below, calculate the magnitude of potential difference between A and B.



22. **0.50**

23. A d. c. generator of emf  $120\text{ V}$  and an internal resistance  $0.5\Omega$  and a storage battery of emf  $110\text{ V}$  are connected as shown in the figure to an external resistance  $R$ . For what value of  $R$ , will no current pass through the storage battery.

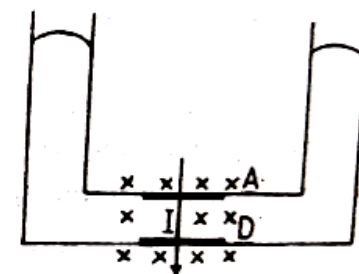


23. **5.5**

24. A current  $I = 10\text{ A}$  flows in a ring of radius  $r_0 = 15\text{ cm}$  made of a very thin wire. The tensile strength of the wire is equal to  $T = 2.7\text{ N}$ . The ring is placed in a magnetic field, which is perpendicular to the plane of the ring so that the forces tend to break the ring. Find  $B$  (in T) at which the ring is broken.

24. **1.80**

25. Mercury is contained in a U-tube of uniform square cross-sectional side  $a = 4\text{ mm}$ . Electrodes A and D are sealed inside as shown in the figure. When an electric current  $i = 13.6\text{ A}$  passes between the electrodes from A to D and a magnetic field  $B = 0.5\text{ Wb m}^{-2}$  is applied across the horizontal arm perpendicular into the plane of the figure. If density of mercury  $= 13.6 \times 10^3\text{ kg m}^{-3}$  and  $g = 10\text{ ms}^{-2}$  calculate the difference in mercury levels. (in centimeter)



25. **1.25**

*Space For Rough Work*

# Chemistry

## PART – A

### Straight Objective Type

This part contains **20 multiple choice questions**. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.

1. Which of the following reaction produces 2-bromopropane?

- (A)  $\text{CH}_3\text{CH}=\text{CH}_2 \xrightarrow{\text{Br}_2/\text{H}_2\text{O}}$  (B)  $\text{CH}_3\text{CH}=\text{CH}_2 \xrightarrow[\text{Peroxide}]{\text{HBr}}$   
 (C)  $\text{CH}_3\text{C}\equiv\text{CH} \xrightarrow{\text{Br}_2/\text{CCl}_4}$  (D)  $\text{CH}_3\text{CH}=\text{CH}_2 \xrightarrow{\text{HBr}}$

1. **D**

2. The most acidic substituted phenol out of the following is:

- (A) (B)   
 (C) (D)

2. **C**

3. Which of the following compound does not react with  $\text{NaBH}_4$ ?

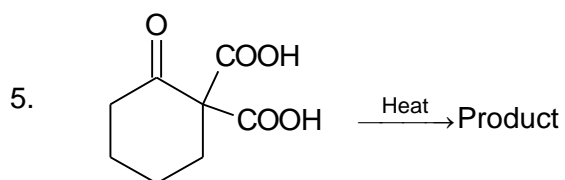
- (A) (B)   
 (C) (D)

3. **C**

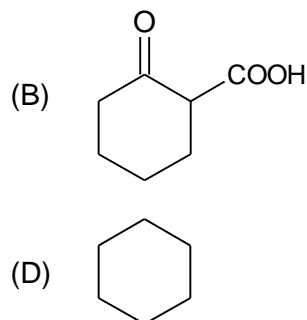
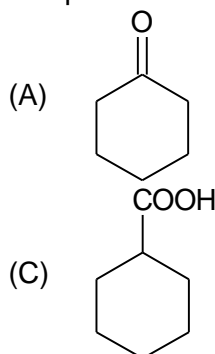
4. Which is most basic in gaseous state?

- (A) (B)   
 (C) (D)

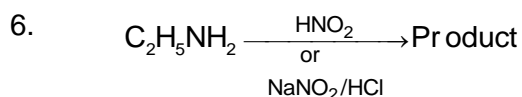
4. **B**



The product of above reaction is:



5. **A**

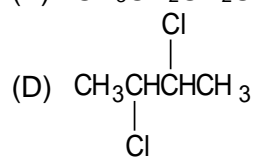
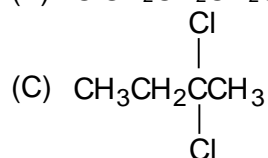
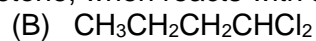
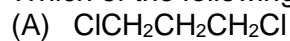


Which of the following is one of the properties of above product?

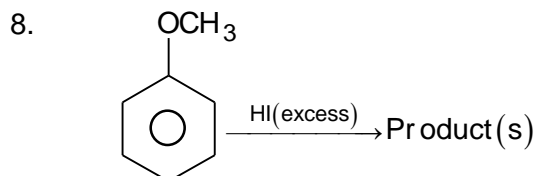
- (A) It undergoes addition reactions  
 (B) When treated with  $\text{Cl}_2$  in presence of light it forms  $\text{C}_2\text{H}_5\text{Cl}$   
 (C) It undergoes dehydration to form an alkene  
 (D) It is oxidised to methanoic acid when treated with acidified permanganate solution

6. **C**

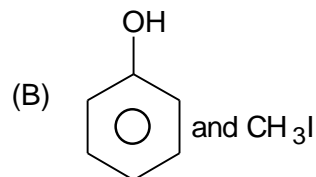
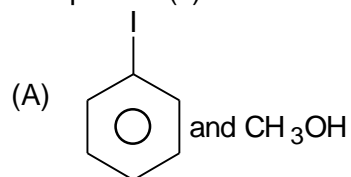
7. Which of the following compound forms a ketone, when reacts with aq. KOH?



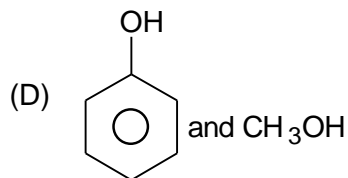
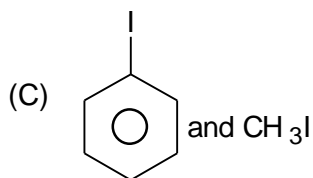
7. **C**



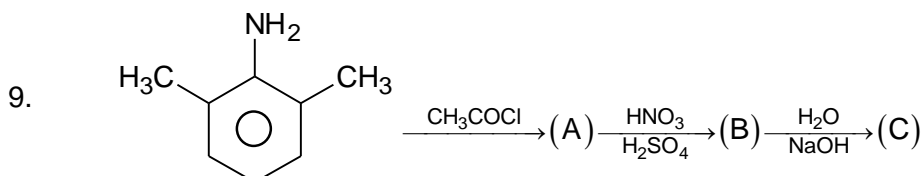
The product(s) of above reaction is/are



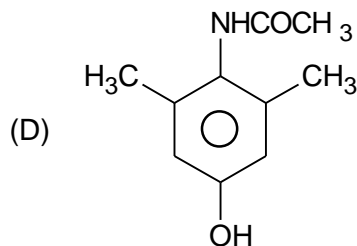
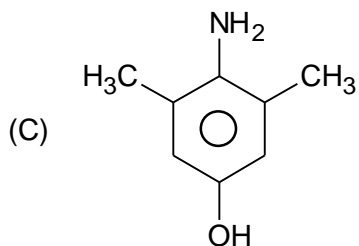
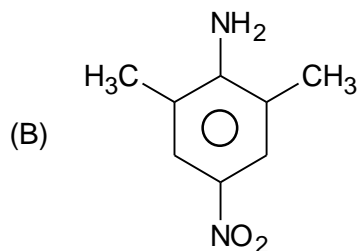
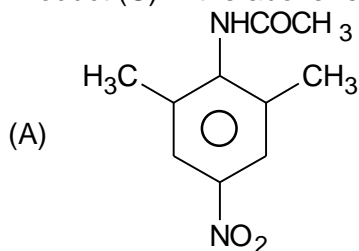




8. **B**

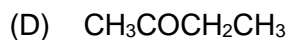
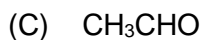
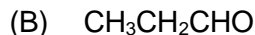
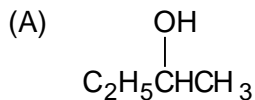


Product (C) in the above reaction is:



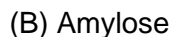
9. **B**

10. Which of the following does not give iodoform reaction?



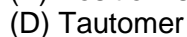
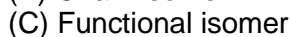
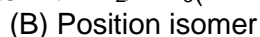
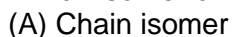
10. **B**

11. Which one of the following polymers of glucose is stored by animals?



11. **D**

12. Which isomer of  $\text{CH}_3\text{CH}_2\text{CH}_2\text{COOCH}_3$  reacts with  $\text{Br}_2/\text{PBr}_3$  (H.V.Z reaction)?



12. **C**



19.  $\text{CH}_3\text{CH}_2\text{CH}_2\text{COOH} \xrightarrow{\text{Reagent}} \text{CH}_3\text{CH}_2\text{CH}_2\text{COCl}$   
 Which reagent cannot perform the above change?  
 (A)  $\text{SOCl}_2$  (B)  $\text{PCl}_3$   
 (C)  $\text{PCl}_5$  (D)  $\text{Cl}_2/\Delta$

19. **D**

20. Glucose is converted to a black colour product when treated with?  
 (A) Conc.  $\text{HNO}_3$  (B) Conc.  $\text{H}_2\text{SO}_4$   
 (C) Conc.  $\text{HCl}$  (D) Conc.  $\text{HI}$

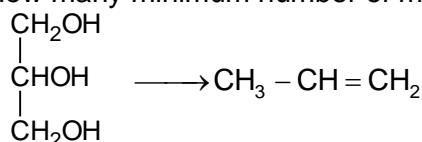
20. **B**

**PART-B**  
**Numerical Type**

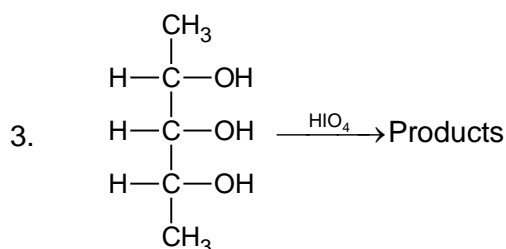
1.  $\text{CH}_3\text{Cl}, \text{C}_2\text{H}_5\text{Br}, \text{C}_2\text{H}_5\text{F}, \text{CH}_3\text{I}, \text{C}_2\text{H}_5\text{I}, \text{CH}_3\underset{\text{Cl}}{\text{C}}\text{HCH}_3$  and  $\text{CH}_3\text{Br}$   
 How many of the above molecule(s) is/are more reactive than  $\text{C}_2\text{H}_5\text{Cl}$  towards  $\text{S}_{\text{N}}2$  reaction?

1. **5**

2. How many minimum number of moles of  $\text{HI}$  is needed for the following change?



2. **4**

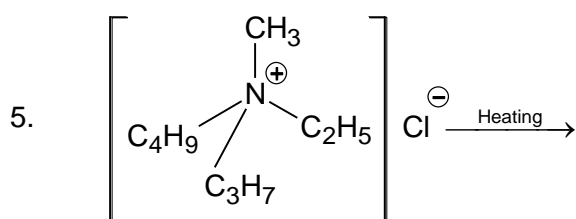


How many moles of carboxylic acid(s) is/are formed in the above reaction?

3. **1**

4.  $\text{CH}_3\text{CH}_2\text{NH}_2 \xrightarrow[\text{KOH}]{\text{CHCl}_3} (\text{P}) \xrightarrow{\text{LiAlH}_4} (\text{Q})$   
 How many hydrogen atom(s) is/are present in the organic product(Q)?

4. **9**



What is the molar mass of the major product of above reaction?

5. **28**

# Mathematics

## PART – A

### Straight Objective Type

This part contains **20 multiple choice questions**. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.

1. If  $\sin^{-1} x + \sin^{-1} y = \frac{2\pi}{3}$ , then  $\cos^{-1} x + \cos^{-1} y$  is equal to
 

(A) $\frac{2\pi}{3}$	(B) $\frac{\pi}{3}$
(C) $\frac{\pi}{6}$	(D) $\pi$
  
1. B
  
2. If  $\tan^{-1} x = \frac{\pi}{12}$ , then  $\cot^{-1} x$  is equal to
 

(A) $11\pi/12$	(B) $3\pi/12$
(C) $7\pi/12$	(D) $5\pi/12$
  
2. D
  
3. The domain of  $f(x) = \sqrt{\frac{2-x}{x+1}}$  is
 

(A) $(-1, 2)$	(B) $\mathbb{R} - (-1, 2]$
(C) $\mathbb{R} - [-1, 2)$	(D) $(-1, 2]$
  
3. C
  
4.  $f(x) = (x^2 - 1)|x|$  is
 

(A) even	(B) odd
(C) neither even nor odd	(D) none
  
4. A
  
5. Find the period of  $f(x) = \sin^4 x + \cos^3 x$ .
 

(A) $2\pi$	(B) $\pi$
(C) $\frac{\pi}{2}$	(D) None
  
5. A
  
6.  $\lim_{x \rightarrow \frac{\pi}{3}} \frac{\sin\left(\frac{\pi}{3} - x\right)}{2\cos x - 1}$  is equal to
 

(A) $\frac{1}{2}$	(B) $\frac{1}{\sqrt{3}}$
(C) $\sqrt{3}$	(D) $\frac{2}{\sqrt{3}}$
  
6. B

7.  $\int \frac{e^{6/nx} - e^{5/nx}}{e^{4/nx} - e^{3/nx}} dx$  equal to

- (A) 0 (B)  $\frac{x^3}{3} + c$   
 (C)  $\frac{1}{x} + c$  (D) None

7. B

8. If  $x \neq 1$  and  $f(x) = \frac{x+1}{x-1}$  is a real function, then  $f(f(f(2)))$  is equal to

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

8. C

9. The roots of  $(x-41)^{49} + (x-49)^{41} + (x-2009)^{2009} = 0$  are

- (A) all necessarily real  
 (B) non – real except one positive real roots  
 (C) non – real except three positive real roots  
 (D) non – real except for three real roots of which exactly one is positive

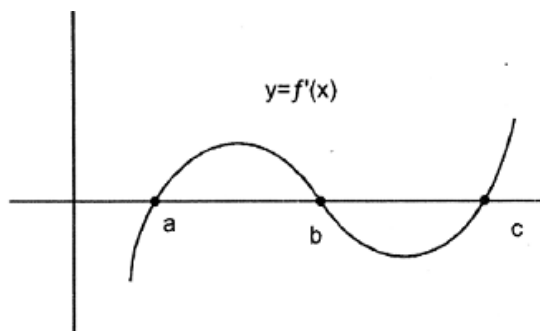
9. C

10.  $\lim_{x \rightarrow \infty} \left( \frac{2+x}{1+x} \right)^{2x+1}$  is equal to  $e^k$ , then  $k =$

- (A) 1 (B) 2  
 (C) 5 (D) None of these

10. B

11. The figure shown below is the graph of the derivative of some function  $y = f(x)$



- (A)  $f$  has local minima at  $x = a, b$  and a local maximum at  $x = c$   
 (B)  $f$  has local minima at  $x = b, c$  and a local maximum at  $x = a$   
 (C)  $f$  has local minima at  $x = c, a$  and a local maximum at  $x = b$   
 (D) the given figure is insufficient to conclude any thing about the local minima and local maxima of  $f$

11. C

12. Let  $f(2) = 4$  and  $f'(2) = 4$ . Then  $\lim_{x \rightarrow 2} \frac{xf(2) - 2f(x)}{x - 2}$  is given by:  
 (A) 2 (B) -2  
 (C) -4 (D) 3
12. C
13. If  $y = \ln(x^4 + x^3 + x^2 + x + 1)$  then  $\frac{dy}{dx}$  at  $x = 1$  is  
 (A) 0 (B) 1  
 (C) 2 (D) 3
13. C
14. The function  $f(x) = x^3 - 6x^2 + ax + b$  satisfy the conditions of Rolle's theorem on  $[1, 3]$ . Which of these are correct?  
 (A)  $a = 11, b \in \mathbb{R}$  (B)  $a = 11, b = -6$   
 (C)  $a = -11, b = 6$  (D)  $a = -11, b \in \mathbb{R}$
14. A
15. If  $f'(x) = x^4(x+1)^3(x-2)^2(x+3)(x-5)$  then the Point of local maxima of  $f(x)$ .  
 (A) -1 (B) 0  
 (C) 2 (D) None of these
15. A
16. The function  $f(x) = a \cos x + b \tan x + x$  has extreme value at  $x = 0$  and  $x = \frac{\pi}{6}$ , then  
 (A)  $a = -2/3, b = -1$  (C)  $a = 2/3, b = -1$   
 (C)  $a = -2/3, b = 1$  (D) none
16. C
17.  $\int \frac{dx}{\sin^2 x \cos^2 x} =$   
 (A)  $\cot x - \tan x + c$  (B)  $\cot x + \tan x + c$   
 (C)  $\tan x - \cot x + c$  (D) none of these
17. C
18. Let  $f'(x) = \sin(x^2)$  and  $y = f(x^2 + 1)$  then  $\frac{dy}{dx}$  at  $x = 1$  is:  
 (A)  $2 \sin 2$  (B)  $2 \cos 2$   
 (C)  $2 \sin 4$  (D)  $\cos 2$
18. C
19. Let  $f(x) = 1 + \frac{x}{1!} + \frac{x^2}{2!} + \frac{x^3}{3!} + \frac{x^4}{4!}$ . The number of real roots of  $f(x) = 0$  is  
 (A) 0 (B) 1  
 (C) 2 (D) 4
19. A

20. Number of onto function  $f : A \rightarrow B$ , that can be defined if  $A = \{1, 2, 3, 4, 5\}$  and  $B = \{a, b, c\}$  is
- (A) 243 (B) 153  
(C) 150 (D) 147

20. C

**PART-B**  
**Numerical Type**

1.  $\tan(2\sin^{-1}(4/5))$  is equal to  $\frac{-24}{k}$  then k is equal to

1. 7

2. Let  $f$  be the function such that  $f\left(\frac{16}{\sqrt{1+\sqrt{x}}}\right) = x^2 + x + 1; \forall x \geq 0$ . Then  $f(8)$  equals

2. 91

3. If  $2f(x) + 3f\left(\frac{1}{x}\right) = x + 2$ , find  $f(3)$

3. -0.6

4. Suppose the tangent to the parabola  $y = x^2 + px + q$  at  $(0, 3)$  has slope  $-1$ . Then  $p + q$  equals

4. 2

5. Let  $f$  be a real valued invertible function such that  $f\left(\frac{3x-5}{x+2}\right) = 100x + 15, x \neq 2$  and the value of  $f^{-1}(2015) =$

5. 2.5

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Space For Rough Work

# FIITJEE INTERNAL TEST

BATCHES:

PHYSICS, CHEMISTRY & MATHEMATICS

JEE MAIN-PHASE-IV

ANSWER KEY

Paper Code

SECTION – I

(PHYSICS)

PART – A

PART – B

SECTION – II

(CHEMISTRY)

PART – A

PART – B

SECTION – III  
(MATHEMATICS)

PART – A

PART – B