

FIITJEE - JEE (Main)

PHYSICS, CHEMISTRY & MATHEMATICS

BATCHES: NWCMSA122A1-PT1

PHASE TEST – I

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 : _____

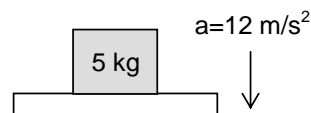
Physics

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.

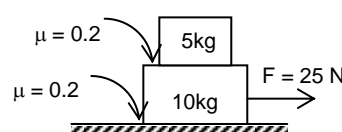
1. A block 5 kg is kept on the floor of an elevator at rest. As the elevator starts descending with an acceleration of 12 m/s^2 , (Taking $g = 10 \text{ m/s}^2$) the displacement of the block during the first 0.2 sec.



- (A) 0.04 meter (B) 0.24 meter
(C) 0.2 meter (D) 0.02 meter

1. **C**

2. Two blocks of masses 10 kg and 5 kg are placed one over the other on a horizontal plane as shown in the figure. If co-efficient of friction is $\mu = 0.2$, and an external force $F = 25 \text{ N}$ is applied horizontally on the lower blocks, then, the force of friction between the two blocks is



- (A) 30 N (B) 25 N
(C) zero (D) 20 N

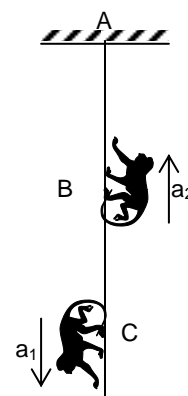
2. **C**

3. Power applied to a particle varies with time as $P = 3t^2 - 2t + 1$ watt, where t is in second. Find the change in its kinetic energy between $t = 2$ sec and $t = 4$ sec.

- (A) 32 J (B) 46 J
(C) 61 J (D) 100 J

3. **B**

4. Two monkeys each of mass m move with acceleration $a_1 = a_2 = \frac{g}{2}$ relative to the light inextensible string as shown in the figure. The ratio of tensions in the portions AB and BC of the string is



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

4. **C**

5. When a spring is stretched by a distance x , it exerts a force, given by $F = - 5x + 16x^3 \text{ N}$. The work done, when the spring is stretched from 0.1 m to 0.2 m is

- (A) $8.1 \times 10^{-2} \text{ J}$ (B) $12.2 \times 10^{-2} \text{ J}$
(C) $8.1 \times 10^{-1} \text{ J}$ (D) $12.2 \times 10^{-1} \text{ J}$

5. **A**

6. Two identical thin rings, each of radius R , are coaxially placed a distance R apart. If Q_1 and Q_2 are respectively the charges uniformly spread on the two rings, the work done in moving a charge q from the centre of one ring to that of the other is

- (A) zero (B) $q(Q_1 - Q_2)(\sqrt{2} - 1) / (4\sqrt{2}\pi\epsilon_0 R)$

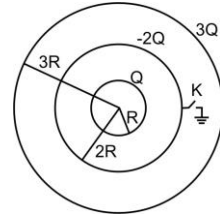
(C) $q\sqrt{2}(Q_1 + Q_2) / 4\pi\epsilon_0 R$

(D) $q(Q_1 / Q_2)(\sqrt{2} + 1)(4\sqrt{2}\pi\epsilon_0 R)$

6. **B**

7. Find charge flown from earth when K is switch on.

- (A) $-Q$
- (B) Q
- (C) $2Q$
- (D) $-3Q$



7. **A**

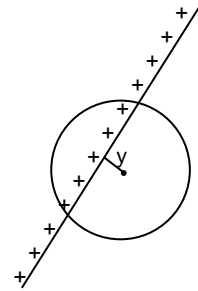
8. A uniformly charge and infinitely long line having a linear charge density ' λ ' is paced at a normal distance y from a point O. Consider a sphere of radius R with O as centre and $R > y$. Electric flux through the surface of the sphere is

(A) zero

(B) $\frac{2\lambda R}{\epsilon_0}$

(C) $\frac{2\lambda\sqrt{R^2 - y^2}}{\epsilon_0}$

(D) $\frac{\lambda\sqrt{R^2 + y^2}}{\epsilon_0}$



8. **C**

9. Which of the following is a unit vector

(A) $\hat{i} + \hat{j}$

(B) $\cos\theta \hat{i} - \sin\theta \hat{j}$

(C) $\sin\theta \hat{i} + 2\cos\theta \hat{j}$

(D) $\frac{1}{\sqrt{3}}(\hat{i} + \hat{j})$

9. **B**

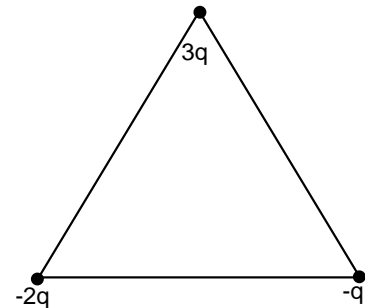
10. 3 points charges are kept on the vertices of an equilateral triangle of side l as shown in figure find out equivalent dipole moment of this charge system.

(A) $\sqrt{5}ql$

(B) $\sqrt{7}ql$

(C) $3ql$

(D) $\sqrt{19}ql$



10. **B**

11. A uniform electric field pointing in positive x-direction exists in a region. Let A be the origin, B be the point on the x-axis at $x = +1$ cm and C be the point on the y-axis at $y = +1$ cm. Then the potentials at the points A, B and C satisfy

(A) $V_A < V_B$

(B) $V_A > V_B$

(C) $V_A < V_C$

(D) $V_A > V_C$

11. **B**

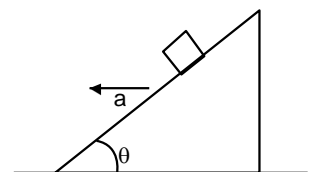
12. A block of mass 1 kg is at rest relative to a smooth wedge moving leftwards with constant acceleration $a = 5$ m/sec². Let N be the normal reaction between the block and the wedge. Then ($g = 10$ m/sec²)

(A) $N = 15$ N

(B) $\tan\theta = \frac{1}{2}$

(C) $\tan\theta = 2$

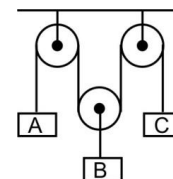
(D) $N = \frac{5}{\sqrt{5}}$ N



12. **B**

13. The pulleys shown in figure are smooth and light. The acceleration of A is a upwards and the acceleration of C is b downwards, then the acceleration of B is

- (A) $\frac{1}{2}(a - b)$ up (B) $\frac{1}{2}(a + b)$ up
 (C) $\frac{1}{2}(a + b)$ down (D) $\frac{1}{2}(b - a)$ up



13. **D**

14. An insect crawls up a hemispherical surface very slowly. The coefficient of friction between the insect and the surface is $1/3$. If the line joining the centre of the hemispherical surface to the insect makes an angle α with the vertical, the maximum value of α is given by

- (A) $\cot \alpha = 3$ (B) $\tan \alpha = 3$
 (C) $\sec \alpha = 3$ (D) $\operatorname{cosec} \alpha = 3$

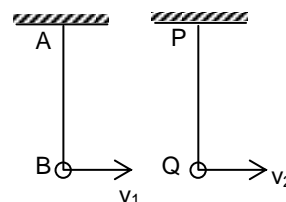
14. **A**

15. A particle moves towards east with velocity 5 m/s . After 10 seconds its direction changes towards north with same velocity. The average acceleration of the particle is

- (A) $\frac{1}{\sqrt{2}} \text{ m/s}^2$ N - W (B) $\frac{1}{\sqrt{2}} \text{ m/s}^2$ N - E
 (C) $\frac{1}{\sqrt{2}} \text{ m/s}^2$ S - W (D) Zero

15. **A**

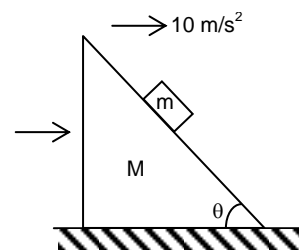
16. In the figure shown there are two pendulums free to move in a vertical circle about one pivoted end. The length of each is ℓ and mass of each bob is m . But AB is a light string while PQ is a light rigid rod. The ratio of minimum velocities v_1 and v_2 given to both (as shown) to complete the full vertical circle is



- (A) 1 (B) $\frac{\sqrt{5}}{2}$ (C) $\frac{\sqrt{5}}{\sqrt{3}}$ (D) $\frac{\sqrt{3}}{2}$

16. **B**

17. In the figure shown all the surfaces are frictionless, and mass of the block, $m = 1 \text{ kg}$. The block and wedge are held initially at rest. Now wedge is given a horizontal acceleration of 10 m/s^2 by applying a force on the wedge so that the block does not slip on the wedge. Then work done by the normal force in ground frame on the block in $\sqrt{3}$ seconds is ($g = 10 \text{ m/s}^2$)



- (A) 30 J (B) 60 J
 (C) 150 J (D) $100\sqrt{3} \text{ J}$

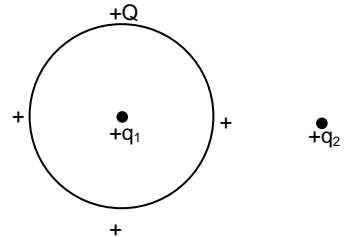
17. **C**

18. A bird flies for 6 sec with a velocity of $|t - 4| \text{ m/sec}$ in a straight line. Where t is in sec. It covers a distance of

- (A) 16 m (B) 10 m
 (C) 8 m (D) 6 m

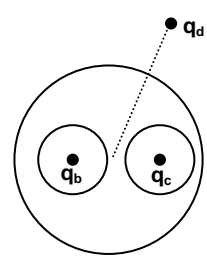
18. **B**

19. A thin metallic spherical shell contains a charge Q on its surface. A point charge q_1 is placed at the centre of the shell and another charge q_2 is placed outside the shell. All the three charges are positive. Then, the force on charge q_1 is
 (A) towards right (B) towards left
 (C) zero (D) Data Insufficient



19. **C**

20. A spherical conductor A contains two spherical cavities. The total charge on the conductor itself is zero. However, there is a point charge q_b at the centre of one cavity and q_c at the centre of the other. A considerable distance r away from the centre of the spherical conductor, there is another charge q_d . Force acting on q_b , q_c and q_d are:
 F_1 , F_2 and F_3 respectively. [Assume all charges are positive]



- (A) $F_1 < F_2 < F_3$ (B) $F_1 = F_2 < F_3$
 (C) $F_1 = F_2 > F_3$ (D) $F_1 > F_2 > F_3$

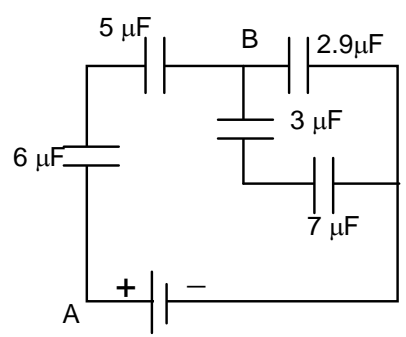
20. **B**

PART-B
Numerical Type

1. A train passes an observer standing on a platform. The first carriage of the train passes the observer in time $t_1 = 1$ s and the second carriage in $t_2 = 1.5$ s. Find its acceleration assuming it to be constant. The length of each carriage is : $l = 12$ m.

1. **- 3.20**
 Range: -3.10 to -3.30

2. In the circuit shown if in steady state the potential difference between points A and B is 11V, find potential difference across $7 \mu F$ capacitor.

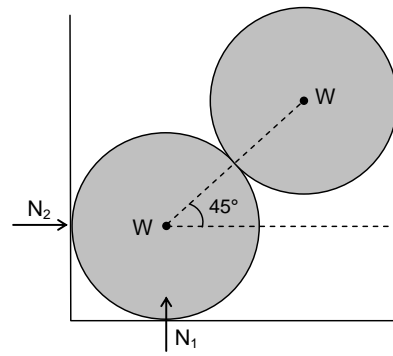


2. **1.80**
 Range: 1.70 to 1.90

3. A person walking at the rate of 3km/hour, the rain appears to fall vertically. When he increase his speed to km/hr it appears to meet him at angle of 45° with vertical. The speed of rain in Km/hr is (use $\sqrt{2} = 1.41$)

3. **4.23**
 Range: 4.20 to 4.28

4. Two identical, uniform, frictionless spheres, each of weight W , rest in a rigid rectangular container as shown in figure. Ratio of normal reaction on left sphere $\frac{N_2}{N_1}$ is



4. **0.50**
5. A particle is thrown at angle 60° from horizontal surface with speed 10 m/sec . What will be radius of curvature in meter at the highest point of the trajectory (consider $g = 10 \text{ m/sec}^2$)
5. **2.50**

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.

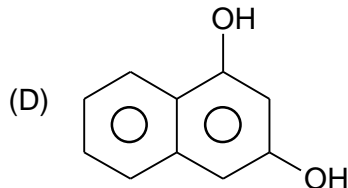
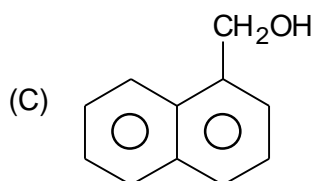
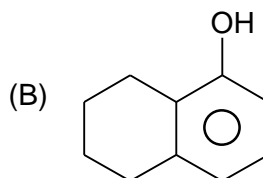
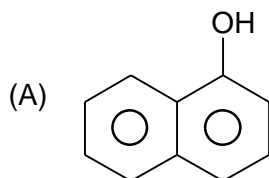
1. Which isomer of n-butyl alcohol is prepared by Williamson's synthesis?
 (A) Chain isomer (B) Position isomer
 (C) Functional isomer (D) Optical isomer

1. **C**

2. Which of the following has the highest value of dipole moment?
 (A) CH_3F (B) CH_3Cl
 (C) CH_3Br (D) CH_3I

2. **B**

3. Which of the following compound does not give the test of phenol?



3. **C**

4. Which of the following compound forms a secondary (or 2°) alcohol when treated with CH_3MgBr followed by acidic hydrolysis?
 (A) HCHO (B) CH_3CHO
 (C) CH_3COCH_3 (D) CH_3COOH

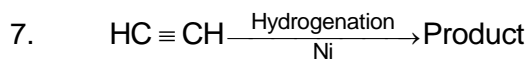
4. **B**

5. $\text{CH}_3\text{CH}_2\text{CH}_2\text{Br}$
 Which of the following electronic effect is observed in the above molecule?
 (A) Inductive effect (B) Mesomeric effect
 (C) Hyperconjugation (D) Electromeric effect

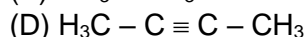
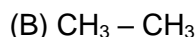
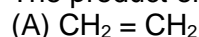
5. **A**

6. The molecular formula of an alkyl chloride is $\text{C}_5\text{H}_{11}\text{Cl}$. Which of the following isomerism is not displayed by the chloride?
 (A) Chain isomerism (B) Position isomerism
 (C) Functional isomerism (D) Optical isomerism

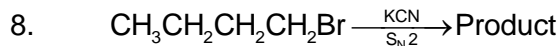
6. **C**



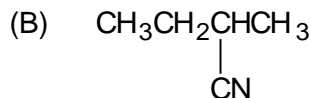
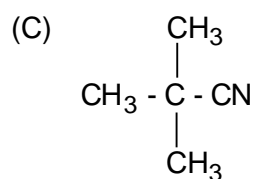
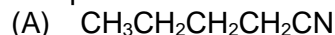
The product of above reaction is:



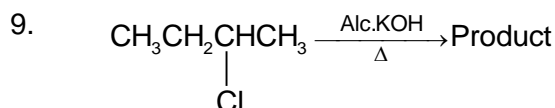
7. **B**



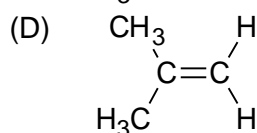
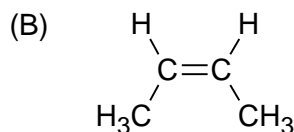
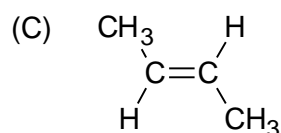
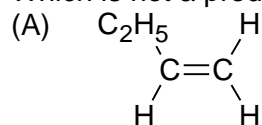
The product of above reaction is:



8. **A**

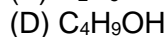
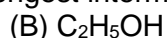
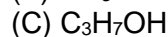
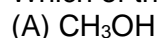


Which is not a product of above reaction?



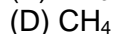
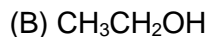
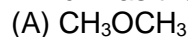
9. **D**

10. Which of the following alcohol forms the strongest intermolecular hydrogen bond?



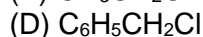
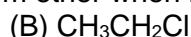
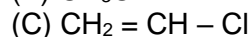
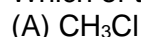
10. **A**

11. Which has the highest value of boiling point?

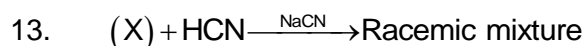


11. **B**

12. Which of the following compound cannot form ether when reacts with CH_3ONa ?



12. **C**



In the above reaction(X) should be

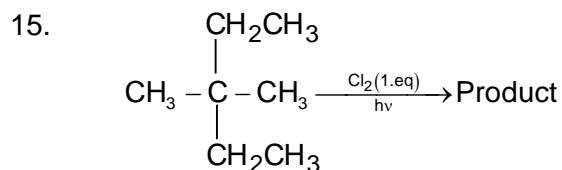
- (A) HCHO (B) CH₃CHO
(C) CH₃COCH₃ (D) C₂H₅COC₂H₅

13. **B**

14. Which of the following substance does not give iodoform test?

- (A) CH₃CHO (B) CH₃COC₂H₅
(C) C₂H₅OH (D) HCHO

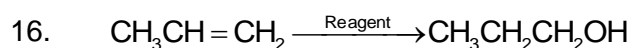
14. **D**



How many maximum number of monochloro products can be formed in the above reaction?
(Consider optical isomers)

- (A) 6 (B) 4
(C) 3 (D) 5

15. **B**

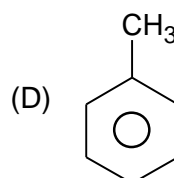
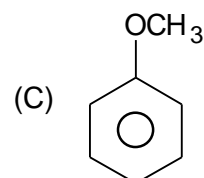
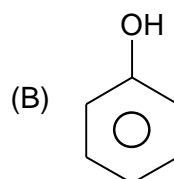
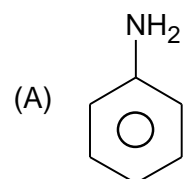


Which reagent can perform the above reaction?

- (A) H₂O/H⁺ (B) $\frac{\text{Hg}(\text{OCOCH}_3)_2, \text{H}_2\text{O}}{\text{NaBH}_4}$
(C) $\frac{\text{B}_2\text{H}_6 / \text{THF}}{\text{H}_2\text{O}_2, \text{OH}^-}$ (D) NaBH₄/ether

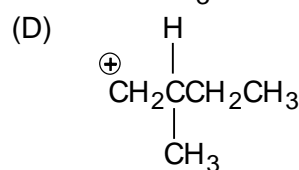
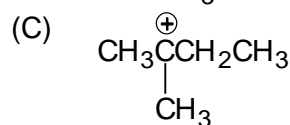
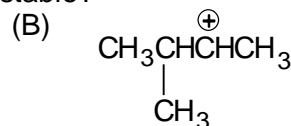
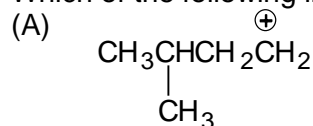
16. **C**

17. The most acidic compound out of the following is:



17. **B**

18. Which of the following intermediate is most stable?



18. **C**

19. Which order is correct between nitrogen and oxygen?

(A) $\text{N} > \text{O}$ (electronegativity)

(B) $\text{O} > \text{N}$ (Second ionization energy)

(C) $\text{N} > \text{O}$ (electron affinity)

(D) $\text{O} > \text{N}$ (first ionization energy)

19. **B**

20. In which compound does carbon show maximum electronegativity?

(A) CH_2Cl_2

(B) CF_4

(C) CCl_4

(D) CF_2Cl_2

20. **B**

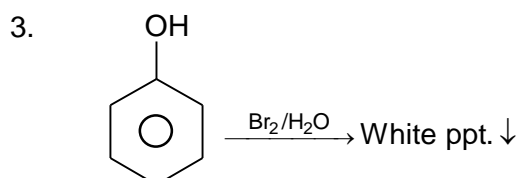
PART-B Numerical Type

1. The molecular formula of an amine is $\text{C}_4\text{H}_{11}\text{N}$. How many CH_3 group(s) is/are directly bonded to nitrogen atom in it's most basic isomer in gaseous state?

1. **2**

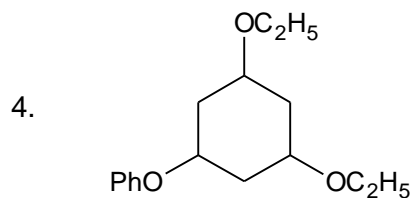
2. The molecular formula of each of the three aliphatic and acyclic isomers (P), (Q) and (R) is $\text{C}_6\text{H}_{11}\text{Cl}$. Each isomer exhibits geometrical as well as optical isomerism. If (P) and (Q) form CH_3CHO as one of the products of ozonolysis reaction. How many carbon atom(s) is/are present in the ozonolysis product of (R).

2. **3**



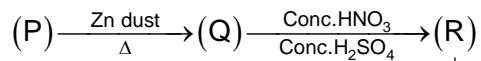
How many bromine atom(s) is/are present in one molecule of the white ppt. in the above reaction?

3. **3**

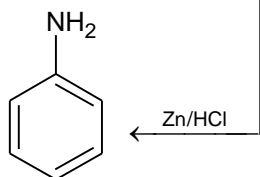


How many maximum no. of moles of HI can be absorbed by one mole of the above compound?

4. **5**



5.



What is the molar mass of (P) in g mol^{-1} unit if it contains one oxygen atom?

5. **94**

Space For Rough Work

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. Let $f: \mathbb{R} \rightarrow \mathbb{R}$ be a differentiable function and $f(1) = 4$. Then the value of $\lim_{x \rightarrow 1} \int_4^{f(x)} \frac{2t}{x-1} dt$ is
- (A) $8f'(1)$ (B) $6f'(1)$
 (C) $4f'(1)$ (D) $2f'(1)$

1. **A**

2. Let a function $f(x)$ be defined by $f(x) = \frac{x - |x-1|}{x}$, then which of the following is not true
- (A) discontinuous at $x=0$ (B) discontinuous at $x=1$
 (C) not differentiable at $x=0$ (D) not differentiable at $x=1$

2. **B**

3. $\lim_{x \rightarrow \infty} \left(\frac{x+3}{x-1} \right)^{x+3}$ equals
- (A) 1 (B) e^3
 (C) e (D) e^4

3. **D**

4. The range of $f(x) = [\sin x + |\cos x|]$, where $[.]$ denotes the greatest integer function, is
- (A) $\{0\}$ (B) $\{0, 1\}$
 (C) $\{1\}$ (D) none of these

4. **C**

5. Domain of the function $f(x) = \sqrt{x^2 - 1} + \sin^{-1} x$ is
- (A) $[-1, 1]$ (B) $[-1, 1)$
 (C) $\{-1, 1\}$ (D) $(-1, 1]$

5. **C**

6. Let g is the inverse function of f & $f'(x) = \frac{x^{10}}{(1+x^2)}$. If $g(2) = a$ then $g'(2)$ is equal to
- (A) $\frac{5}{2^{10}}$ (B) $\frac{1+a^2}{a^{10}}$
 (C) $\frac{a^{10}}{1+a^2}$ (D) $\frac{1+a^{10}}{a^2}$

6. **B**

7. The function $f(x) = \sin\left(\log\left(x + \sqrt{1+x^2}\right)\right)$ is
 (A) even function (B) odd function
 (C) neither even nor odd (D) periodic function
7. **B**
8. $f(x)$ is a function such that $f''(x) = -f(x)$ and $f'(x) = g(x)$ and $h(x)$ is a function such that $h(x) = (f(x))^2 + (g(x))^2$ and $h(5) = 11$, then the value of the $h(10)$ is –
 (A) 0 (B) 1
 (C) 10 (D) 11
8. **D**
9. If $f(x) = \begin{cases} \cos \frac{\pi x}{2015}, & x > 0 \\ 2x + a, & x \leq 0 \end{cases}$, the values of a if $x = 0$ is a point of local maxima of $f(x)$.
 (A) $a \geq 0$ (B) $a \leq 0$
 (C) $a \geq 1$ (D) $a \leq 1$
9. **C**
10. $f(x) = \max\{\tan x, \cot x\}$ is not differentiable at
 (A) $\left\{x \mid x = \frac{n\pi}{4}, n \in \mathbb{I}\right\}$ (B) $\left\{x \mid x = \frac{n\pi}{3}, n \in \mathbb{I}\right\}$
 (C) $\left\{x \mid x = \frac{n\pi}{8}, n \in \mathbb{I}\right\}$ (D) None of these
10. **A**
11. The values of k for which the function $f(x) = kx^3 + 9x^2 + 9x + 3$ is an increasing for all real x , will be
 (A) $k > 3$ (B) $k > 1$
 (C) $k \geq 2$ (D) $k \geq 1$
11. **A**
12. If $f(x) = x^3 \operatorname{sgn} x$, where $\operatorname{sgn} x = \begin{cases} 1, & x > 0 \\ 0, & x = 0 \\ -1, & x < 0 \end{cases}$. then
 (A) L.H.D. at $x=0$ is 1 (B) f is continuous but not derivable at $x=0$
 (C) f is derivable at $x=0$ (D) R.H.D. at $x=0$ is 1
12. **C**
13. Let $f: \mathbb{R} \rightarrow \mathbb{R}$ be defined as $f(x) = 2x + \sin x$. Then f is
 (A) One -one and onto (B) One-one but not onto
 (C) Onto but not one-one (D) Neither one-one nor onto

13. **A**

14. Let f be a function defined as follows :

$$f(x) = \begin{cases} x^3 + x^2 - 10x, & -1 \leq x < 0 \\ \cos x, & 0 \leq x < \frac{\pi}{2} \\ 1 + \sin x, & \frac{\pi}{2} \leq x \leq \pi \end{cases}$$

The $f(x)$ has

- (A) a local minimum at $x = \frac{\pi}{2}$ (B) a local maximum at $x = \frac{\pi}{2}$
 (C) an absolute minimum at $x = -1$ (D) an absolute maximum at $x = \pi$

14. **B**

15. $f(x) = |x| + |x - 1|$, then which of following is not correct

- (A) $f(x)$ is continuous at $x = 0$ as well as at $x = 1$
 (B) $f(x)$ is continuous at $x = 0$ but not differentiable at $x = 1$
 (C) $f(x)$ is continuous at $x = 1$ but not differentiable at $x = 0$
 (D) $f(x)$ is continuous at well as differentiable at $x = 1$

15. **D**

16. Which of the following is NOT a reason of discontinuity of a function $f(x)$ at $x = a$?

- (A) $f(a)$ does not exist
 (B) $\lim_{x \rightarrow a^+} f(x)$ does not exist
 (C) $\lim_{x \rightarrow a} f(x)$ does not exist
 (D) $f(a) = \lim_{x \rightarrow a} f(x) = \text{finite}$

16. **D**

17. If $f : \mathbb{R} - \{3\} \rightarrow \mathbb{R} - \{1\}$, $f(x) = \frac{x-2}{x-3}$ then function $f(x)$ is

- (A) Only one-one (B) one-one into
 (C) Many one onto (D) one-one onto

17. **D**

18. The domain of the function $f(x) = \sin^{-1}\left(\log_2 \frac{x^2}{2}\right)$ is

- (A) $[-2, 2] - (-1, 1)$ (B) $[-1, 2] - \{0\}$
 (C) $[1, 2]$ (D) $[-2, 2] - \{0\}$

18. **A**

19. If $f'(x) = (x-1)^3(x-2)^4$, then $f(x)$ has
 (A) local maximum at $x = 1$ (B) local maximum at $x = 2$
 (C) local minimum at $x = 1$ (D) local minimum at $x = 2$

19. **C**

20. $f: \left(0, \frac{\pi}{2}\right) \rightarrow (0, \infty)$ $f(x) = \ln(\sec x + \tan x)$, then $f^{-1}(x)$ is equal to

- (A) $\cos^{-1}\left(\frac{e^x + e^{-x}}{2}\right)$ (B) $\sec^{-1}(e^x + e^{-x})$
 (C) $\tan^{-1}\left(\frac{e^x - e^{-x}}{2}\right)$ (D) $\cot^{-1}(e^x + e^{-x})$

20. **C**

PART-B
Numerical Type

1. The period of the function $f(x) = \sin((x+3) - [x+3])$ when $[x]$ G.I.F is = _____.

1. **1**

2. Let $f(x) = \begin{cases} \frac{(x^3 + x^2 - 16x + 20)}{(x-2)^2} & \text{if } x \neq 2 \\ k & \text{if } x = 2 \end{cases}$. If f is continuous for all x , then k is equal to

2. **7**

3. Let $f(x) = e^x g(x)$, $g(0) = 4$, $g'(0) = 2$, then $f'(0)$ is

3. **6**

4. The number of points, where the function $f(x) = \max(|\tan x|, |\cos x|)$ is non-differentiable in the interval $(-\pi, \pi)$ is

4. **4**

5. A function $f(x)$ satisfies the relation $f(x+y) = f(x) + f(y) + xy(x+y) \forall x, y \in \mathbb{R}$. If $f'(0) = -1$, then $f'(3)$ is equal to _____

5. **8**

Space For Rough Work

FIITJEE INTERNAL TEST

BATCHES:

PHYSICS, CHEMISTRY & MATHEMATICS

JEE MAIN-PHASE-I

ANSWER KEY

Paper Code

SECTION – I

(PHYSICS)

PART – A

PART – B

JEEM

(CHEMISTRY)

PART – A

PART – B

SECTION – III
(MATHEMATICS)

PART – A

PART – B