FIITJEE MOCK TEST-1

MOCK TEST–1 (Additional) Code:100382.3

(Additional)

ANSWERS, HINTS & SOLUTIONS

(Mains)

S. No.	PHYSICS	CHEMISTRY	MATHEMATICS
1.	**D**	**A**	**A**
2.	**C**	**C**	**D**
3.	**B**	**D**	**A**
4.	**C**	**C**	**D**
5.	**C**	**A**	**D**
6.	**A**	**D**	**C**
7.	**C**	**A**	**A**
8.	**D**	**C**	**B**
9.	**C**	**B**	**A**
10.	**A**	**C**	**A**
11.	**D**	**D**	**B**
12.	**A**	**D**	**B**
13.	**A**	**D**	**C**
14.	**A**	**D**	**B**
15.	**B**	**D**	**B**
16.	**B**	**C**	**B**
17.	**B**	**A**	**C**
18.	**C**	**A**	**B**
19.	**C**	**C**	**B**
20.	**D**	**C**	**D**
21.	**C**	**B**	**B**
22.	**C**	**A**	**D**
23.	**D**	**D**	**A**
24.	**C**	**C**	**B**
25.	**A**	**D**	**A**
26.	**C**	**C**	**D**
27.	**C**	**D**	**D**
28.	**B**	**D**	**A**
29.	**C**	**C**	**C**
30.	**D**	**D**	**B**

FIITJEE MOCK TEST-1

MOCK TEST–1 (Additional) Code:100382.2

(Additional)

ANSWERS, HINTS & SOLUTIONS

(Mains)

S. No.	PHYSICS	CHEMISTRY	MATHEMATICS
1.	**A**	**D**	**B**
2.	**A**	**D**	**C**
3.	**A**	**D**	**B**
4.	**B**	**D**	**B**
5.	**B**	**C**	**B**
6.	**B**	**A**	**C**
7.	**C**	**A**	**B**
8.	**C**	**C**	**B**
9.	**D**	**C**	**D**
10.	**C**	**B**	**B**
11.	**C**	**A**	**D**
12.	**D**	**D**	**A**
13.	**C**	**C**	**B**
14.	**A**	**D**	**A**
15.	**C**	**C**	**D**
16.	**C**	**D**	**D**
17.	**B**	**D**	**A**
18.	**C**	**C**	**C**
19.	**D**	**D**	**B**
20.	**D**	**A**	**A**
21.	**C**	**C**	**D**
22.	**B**	**D**	**A**
23.	**C**	**C**	**D**
24.	**C**	**A**	**D**
25.	**A**	**D**	**C**
26.	**C**	**A**	**A**
27.	**D**	**C**	**B**
28.	**C**	**B**	**A**
29.	**A**	**C**	**A**
30.	**D**	**D**	**B**

FIITJEE MOCK TEST-1

MOCK TEST–1 (Additional) Code:100382.1

(Additional)

ANSWERS, HINTS & SOLUTIONS

(Mains)

S. No.	PHYSICS	CHEMISTRY	MATHEMATICS
1.	**C**	**A**	**A**
2.	**D**	**C**	**B**
3.	**C**	**B**	**A**
4.	**A**	**C**	**A**
5.	**D**	**D**	**B**
6.	**A**	**D**	**B**
7.	**A**	**D**	**C**
8.	**A**	**D**	**B**
9.	**B**	**D**	**B**
10.	**B**	**C**	**B**
11.	**B**	**A**	**C**
12.	**C**	**A**	**B**
13.	**C**	**C**	**B**
14.	**D**	**C**	**D**
15.	**C**	**B**	**B**
16.	**C**	**A**	**D**
17.	**D**	**D**	**A**
18.	**C**	**C**	**B**
19.	**A**	**D**	**A**
20.	**C**	**C**	**D**
21.	**C**	**D**	**D**
22.	**B**	**D**	**A**
23.	**C**	**C**	**C**
24.	**D**	**D**	**B**
25.	**D**	**A**	**A**
26.	**C**	**C**	**D**
27.	**B**	**D**	**A**
28.	**C**	**C**	**D**
29.	**C**	**A**	**D**
30.	**A**	**D**	**C**

Physics

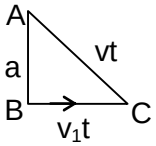
PART – I

SECTION – A

1. Zero after decimal point is also significant.

2. $a^2 + v_1^2t^2 = v^2t^2$

$$t = \frac{a}{\sqrt{v^2 - v_1^2}}$$



3. $600 - T = ma$

$$a_{min} = \frac{600 - 360}{60} = 4 \text{ m/s}^2$$

4. $$\Delta K_{Lost} = \left(\frac{1}{2}mv_0^2\right)\frac{3}{4} = \frac{3}{8}mv_0^2$$

$$P = \frac{3}{8}\frac{mv_0^2}{t_0}$$

5. Friction force on upper block is f = ma
So work done = ma × s

6. Speed will first increase then decrease and then again increase

7. $mu = m(v/2) + mv$

$\Rightarrow$ $v = (2/3)u$

$$-e = \frac{\frac{u}{3} - \frac{2u}{3}}{u}$$

$\Rightarrow$ $e = 1/3$

8. $$T = \frac{2\pi R_2}{\sqrt{\frac{GM}{R_2}}}$$

$$\Rightarrow \quad \frac{GM}{R_2^3} = \frac{4\pi^2}{T^2}$$

$$g = \frac{GM}{R_1^2} = \frac{4\pi^2R_2^3}{T^2R_1^2}$$

9. $F = 6\pi\eta rv$

$$a = \frac{F}{m} = \frac{6\pi\eta rv}{m} = \frac{2}{3}$$

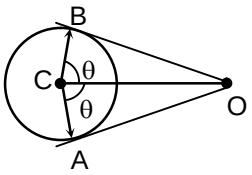
10. $$P_B = \frac{2S}{3R}, P_A = \frac{2S}{3R} + \frac{2S}{R} = \frac{8S}{3R}$$

$$\frac{P_B}{P_B} = \frac{1}{4}$$

11. $2\pi\sqrt{\frac{\ell}{g}} = 2\pi\sqrt{\frac{m}{k}} \Rightarrow m = \frac{k\ell}{g}$

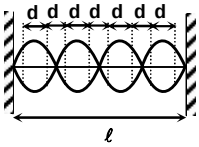
12. $T = 2\pi\sqrt{\frac{\ell}{g_{eff}}}$ where $g_{eff} = \frac{mg - qE}{m} = g - \frac{qE}{m}$

13. Maximum will be corresponding to source position A and minimum to source friction B.



So, time interval = $\frac{2\theta}{\omega} = \frac{2\cos^{-1}\left(\frac{3}{5}\right)}{5}$

14.



15. At 57°C $\lambda = \ell = 36$ cm

$$\ell = \frac{v}{f}$$

At 16°C $\lambda' = \frac{v'}{f}$

$$\frac{\ell}{\ell'} = \frac{v}{v'} = \sqrt{\frac{T}{T'}} \Rightarrow \lambda' = 34 \text{ cm}$$

16. final temperature = T_0
Isochoric process

$$\frac{P_i}{P_f} = \frac{T_i}{T_f} \Rightarrow P_f = \frac{2}{3}P_0$$

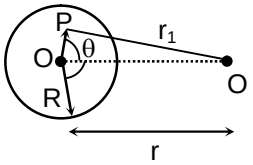
17. $P \propto V$
$V \propto T^2$ (parabola)

$$C = C_V + \frac{R}{1-x}$$

PV^{-1} = constant
$C = 2R$

18. $V_P = V_{pindued} + V_{Pq} = V_0$

$$V_{pinduced} = \frac{kq}{r} - \frac{kq}{r_1}$$

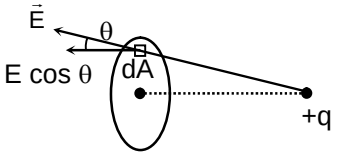


19. $d\phi = \vec{E}\cdot d\vec{A} = E\cos\theta dA$

$d\vec{F} = dq\vec{E} = \sigma dAE\cos\theta$

$dF = \sigma d\phi$

$F = \sigma\phi$



20. $v_i = \frac{1}{2}\frac{6}{5}CV^2$ …(i)

$q_i = \frac{6}{5}CV$ ….(ii)

$q_f = \frac{11}{5}CV$ …(iii)

$U_f = \left(\frac{1}{2}\frac{6}{5}CV^2 + \frac{1}{2}CV^2\right)$

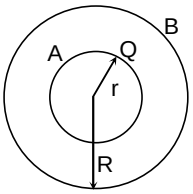
Charge flown from battery = CV

Work done = CV^2

Heat produced $\Delta H = \Delta U + \Delta W$

$= \left[\left(\frac{1}{2}\frac{6}{5}CV^2 + \frac{1}{2}CV^2\right) - \frac{1}{2}\frac{6}{5}CV^2\right] - CV^2 = -\frac{1}{2}CV^2$

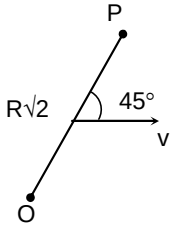
21. As A and B will be at same potential so charge flown equal to Q.



22. $B = \sqrt{B_A^2 + B_B^2} = \frac{\sqrt{2}\mu_0 I_0}{2\pi a\sqrt{2}} = \frac{\mu_0 I_0}{2\pi a}$

23. Using $e = \int \vec{B}\cdot\left(d\vec{\ell}\times\vec{v}\right)$

So, e = BvR



24. $e = \int_{-\ell/2}^{+\ell/2} B(x\omega)dx = 0$

25. $\frac{1}{2}Li_0^2 = \frac{1}{2}(C_1 + C_2)V^2$

26. $i_C = \frac{V_0}{3}\sin\left(\omega t + \frac{\pi}{2}\right)$

$i_R = \frac{V_0}{4}\sin(\omega t)$

$I = I_C + I_R = I_0 \sin\left(\omega t + \tan^{-1}\left(\frac{4}{3}\right)\right)$

27. $\frac{I_{coherent}}{I_{incoherent}} = \frac{4I}{2I} = 2$

28. Initially object is moving with velocity $\vec{u}$ and finally mirror is moving with same velocity so velocity of image is $-\vec{u}$ and $2\vec{u}$ respectively

29. Using Einstein equation
$E = W + eV$
$\frac{12400 \text{ ev}\,\overset{o}{A}}{0.2\times10^4\,\overset{o}{A}} = 4.6 \text{ eV} + eV$
$V = 1.6$ Volts

30. $\phi = \frac{6}{3} = 2$ eV
$\frac{hc}{\lambda} = 2 + 6 = 8eV$
$\frac{hc}{2\lambda} = 2 + K_{max} \Rightarrow K = 2eV$

Chemistry PART – II

SECTION – A

1. For H, $\Delta r_H = r_3 - r_2 = \frac{0.529}{1}\times[9-4]$
For $Li^{+2}, \Delta r_{Li^{+2}} = r_3 - r_2 = \frac{0.529}{3}[9-4]$
$\Rightarrow \frac{\Delta r_H}{\Delta r_{Li^{+2}}} = \frac{3}{1}$

2. $2Cu_2S + 3O_2 \longrightarrow 2Cu_2O + 2SO_2$
$Cu_2O + FeS \longrightarrow FeO + Cu_2S$
$2FeS + 3O_2 \longrightarrow 2FeO + 2SO_2$
$FeO + SiO_2 \longrightarrow FeSiO_3\,(Slag)$

4. This is a 3^o and resonance stabilized carbocation.

5. Cumulated diene is least stable, evolve max heat in the hydrogenation reaction.

11. Number of revolution made by an electron per sec

$$= \frac{v_n}{2\pi r_n} \approx \left(\frac{2\pi Ze^2}{nh \times 2\pi \left(\frac{n^2h^2}{4\pi mZe^2} \right)} \right)$$

$$= \frac{4\pi^2 mZ^2e^4}{n^3h^3} \approx \frac{4\pi^2 me^4}{h^3}\left(\frac{Z^2}{n^3}\right)$$

$$= \frac{Z^2}{n^3} \times 6.66 \times 10^{15} \approx \frac{1}{8} \times 6.66 \times 10^{15}$$

$= 8.3 \times 10^{14}$

13. Vapour pressure depends on temperature not on size of container.

14. There is no intermolecular forces of attraction in ideal gases.

16. $3A + B \longrightarrow 2C$

$$r = \frac{1}{3}\frac{d[A]}{dt} = -\frac{d[B]}{dt} = \frac{1}{2}\frac{d[C]}{dt} = K'[A][B]$$

$$-\frac{d[A]}{dt} = 3K'[A][B] = K[A][B]$$

i.e. $K = 3K'$

So that $\frac{d[C]}{dt} = 2K'[A][B] = \frac{2}{3}K[A][B]$

17. $K_P = P_{CO_2}$, which will depends temperature of the system only.

18. Water will be neutral as $[H^+] = [OH^-]$

20. Zinc is more electropositive than silver therefore, it displaces less electropositive silver.

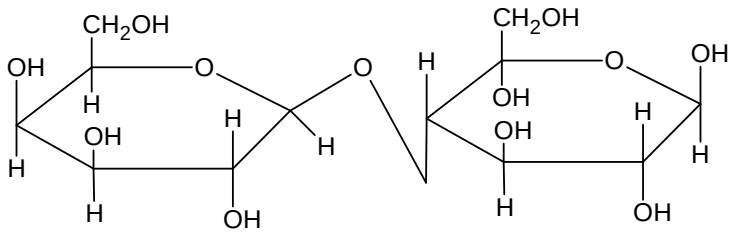
21. Carnalite is a double salt $KCl.MgCl_2.6H_2O$ which give test of K^+, Mg^{+2} and Cl^-.

22. $2Cu^{+2} + 2CN^- \longrightarrow 2Cu^+ + (CN)_2$

$Cu^+ + CN^- \longrightarrow CuCN \xrightarrow{3KCN} K_3[Cu(CN)_4]$

23. Mass number change only by α-particles and atomic number reduces by 2 unit by each α-particle and increase by 1 unit by β-particle.

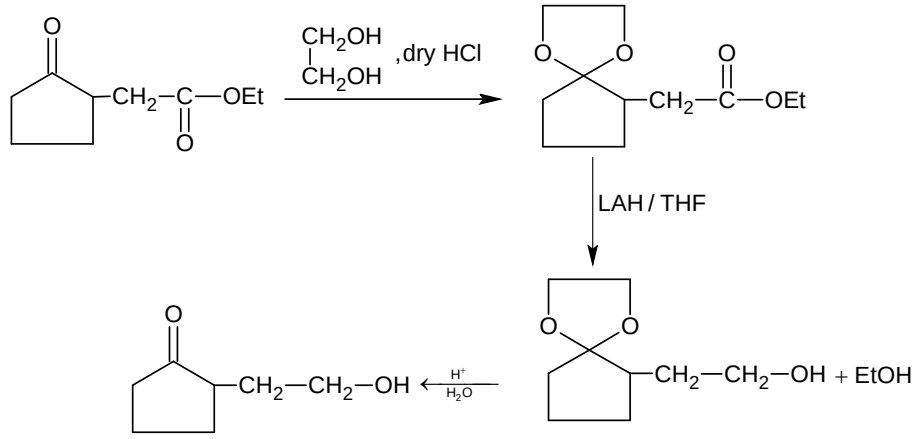
27.



Galactose unit Glucose unit

28. The 1st step is electrophilic addition i.e. rate determining step, more stable will be the intermediate better will be the rate of reactions.

29.



Mathematics

PART – III

SECTION – A

1. $(HHH),(RR),\underbrace{(I,I),(P,P),AYU}_{x} = {}^{12}C_7 \cdot \frac{7!}{2!2!} \cdot 1 = (198)7!$

2. $|(a+b)(a-b)| = |a-b|^2 \Rightarrow |a+b| = |a-b|$

$\Rightarrow \left|\frac{a}{b}+1\right| = \left|\frac{a}{b}-1\right|$

$\Rightarrow \frac{a}{b}$ is perpendicular bisector of (–1, 0) and (1, 0)

$\therefore \frac{a}{b}$ is purely imaginary

3. $\frac{dV(t)}{dt} = -K(T-t)$

$\Rightarrow V(t) = \frac{K(T-t)^2}{2} + C$

At t = 0, V = I $\Rightarrow C = I - \frac{KT^2}{2}$

$\therefore$ Scrap value V(T) $\Rightarrow$ V(t = T) = C = $I - \frac{KT^2}{2}$

4. $2(\tan^{-1}x)^2 - \pi(\tan^{-1}x) - \frac{3\pi^2}{8} = 0$

$\Rightarrow \tan^{-1}(x) = -\frac{\pi}{4}$

$\therefore$ x = –1

5. $\lim\limits_{t\to\infty} \dfrac{(t^2-2)}{t^2\left(\sqrt{2-\frac{1}{t}-\frac{1}{t^2}}+\sqrt{1-\frac{1}{t}+\frac{1}{t^2}}\right)(\sqrt{2}-1)} = 1$

Now $||x-1|-6| = k$ has four distinct solutions if $k \in (0, 6)$
$\therefore$ Number of integral values of k is 5

6. Put x = 0
f (2) = 2 f (0) – f (1) = 1
f (3) = 5, f (4) = –3, f (5) = 13.

7. **Case–I:** when $\dfrac{p-2}{2} \le 2 \Rightarrow p \le 6$ and f(2) = 8

$\therefore$ P = 2

Case–II: when $\dfrac{p-2}{2} > 2 \Rightarrow p > 6$

$-\dfrac{D}{4a} = 8$ Ĝ $-\dfrac{(p-2)^2-4(3p-2)}{4} = 8$

$\Rightarrow P = 8+2\sqrt{5}$

$\therefore\ p = 8+2\sqrt{5}$ and $p = 8-2\sqrt{5}$ (rejected)

$\therefore$ Sum of values of p is $2+8+2\sqrt{5} = 10+2\sqrt{5} = 10+\sqrt{20}$

$\therefore$ m + n = 30

8. We have $(x-y)^2 + (y-3)^2 = 0$
$\therefore$ x = y = 3

9. We have $f(x) > f(2)\ \forall\ x < 2$
$\Rightarrow \lim\limits_{x\to 2^-} f(x) \ge f(2) = 1$
$\Rightarrow a^2 - 9a - 9 \ge 1$
$\Rightarrow a^2 - 9a - 10 \ge 0$
$\Rightarrow a \le -1$ or $a \ge 10$
But a is positive. Hence $a \ge 10$. That is $a \in [10, \infty[$
Note that when a = 10

$$f(x) = \begin{cases} 3-x, & x < 2 \\ 2x-3, & x \ge 2 \end{cases}$$

So that f is continuous at 2, $f'(2)$ does not exist and $f'(x) \ne 0\ \forall\ x \in R$. Therefore, x = 2 is a critical point and $f'(x)$ changes sign from negative to positive at x = 2

10. Let the G.P be a, ar, ar^2, …..

sum upto infinity = $\dfrac{a}{1-r} = 2 \Rightarrow a = 2(1-r)$ ……(1)

Series with the cubes of the terms is
a^3, a^3r^3, a^3r^6……

sum upto infinity = $\dfrac{a^3}{1-r^3} = 24$

$a^3 = 24(1-r^3)$ ……(2)

From (1) and (2)
$[2(1-r)]^3 = 24[1-r^3]$

$2r^2 + 5r + 2 = 0$
$(2r + 1)(r + 2) = 0$
$r = -\frac{1}{2}, r = -2$
Now for the sum of an infinite GP to exists $|r| < 1$
$\therefore r = -\frac{1}{2}$
$a = 2(1 - r) = 3$
$\therefore$ GP is $3, -\frac{3}{2}, \frac{3}{4}, \ldots\ldots$

11. Probability that calculator of brand r is selected and is defective
$= \sum_{1}^{6}(kr)\left(\frac{7-r}{21}\right) = \frac{k}{21}\sum_{r=1}^{6}(7r - r^2) = \frac{8k}{3}$ ..... (1)
$\Rightarrow$ Let E_r denote the event that calculator of brand r is selected $P(E_r) = kr$
Since $E_r(r = 1, 2, \ldots, 6)$ are mutually exclusive and exhaustive events we must have
$\sum_{r=1}^{6}P(E_r) = 1 \Rightarrow \sum_{r=1}^{6}kr = 1 \Rightarrow k = \frac{1}{21}$
$\therefore$ required probability $= \frac{8k}{3} = \frac{8}{63} = \frac{p}{q}$
$\therefore (p + q) = 71$

12. $P(r) = (2r + 1)^2$
$\sum_{r=1}^{n-1}\sqrt{P(r)} = \sum_{r=1}^{n-1}(2r + 1) = n^2 - 1$
$\therefore \frac{1}{2} = \lim_{n\to\infty}\frac{n^2 - 1}{an^3 + bn^2 + c}$
$\Rightarrow a = 0, b = 2$
So, $(a + b) = 2$

13. Let $\tan^{-1} x = \alpha$ and $\tan^{-1} y = \beta$ then $a \tan\alpha + b \sec\alpha = c$ and $a \tan\beta + b \sec\beta = c$
Obviously $a \tan\theta + b \sec\theta = c$ has roots $\tan\alpha$ and $\tan\beta$
$\Rightarrow (a^2 - b^2)\tan^2\theta - 2ac \tan\theta + c^2 - b^2 = 0$
$\therefore \tan\alpha + \tan\beta = \frac{2ac}{a^2 - b^2}$ and $\tan\alpha\tan\beta = \frac{c^2 - b^2}{a^2 - b^2}$
So $\frac{x + y}{1 - xy} = \frac{2ac}{a^2 - b^2}$

14. $\lim_{n\to\infty}\left(3^n + 4^n + 5^n + 6^n\right)^{\frac{1}{n}} = \lim_{n\to\infty}\left(6^n\right)^{\frac{1}{n}}\left(\left(\frac{3}{6}\right)^n + \left(\frac{4}{6}\right)^n + \left(\frac{5}{6}\right)^n + 1\right)^{\frac{1}{n}} = 6$

15. $\left(\frac{1 - 3\tan^2 1^o}{3 - \tan^2 1^o}\right)\frac{\cot 1^o}{\cot 3^o} = \left(\frac{1 - 3\tan^2 1^o}{3\tan 1^o - \tan^3 1^o}\right)\frac{1}{\cot 3^o} = \frac{1}{\tan 3^o \cot 3^o} = 1$

16. $\lim_{x\to 0}\frac{(1 + \sin 2x)^{1/x}}{1} = e^2$

17. $f(x) = x^2 + 3x - 2$

$\therefore \int f(x)\,dx = \frac{x^3}{3} + \frac{3x^2}{2} - 2x + c$

18. $f(x) = (x-1)^4 (x-2)^3 (x-3)^2 (x-4)$

$f'''(1) = f''(2) = f'(3) = 0$

$f'(x) = (x-1)^4 (x-2)^3 (x-3)^2 \cdot 1 + (x-1)^4 (x-2)^3 \cdot 2(x-3)(x-4)$

$+ (x-1)^4 3(x-2)^2 (x-3)^2 (x-4) + 4(x-1)^3 (x-2)^3 (x-3)^2 (x-4)$

$\therefore f'(4) = 3(6^3)$

19. $a + ar = 12$ ..... (1)

$ar^2 + ar^3 = 48$ ..... (2)

$\therefore r^2 = 4 \Rightarrow r = -2, \because r \neq -1, 2$

20. $P\left(\frac{3k+2}{k+1}, \frac{5k+3}{k+1}, \frac{6k+4}{k+1}\right)$

$\therefore$ Hence $\frac{3k+2}{k+1} = \frac{13}{5} \Rightarrow k = \frac{3}{2}$

21. $\Delta = \begin{vmatrix} 1 & 2a & a^2 \\ 1 & 2b & b^2 \\ 1 & 2c & c^2 \end{vmatrix} \cdot \begin{vmatrix} 1 & p & p^2 \\ 1 & q & q^2 \\ 1 & r & r^2 \end{vmatrix} = 2 \cdot 2\Delta_1 \cdot 2\Delta_2 = 8\Delta_1\Delta_2 = 8 \cdot \frac{1}{2} \cdot 4 = 16$

22. $(a + b\lambda)x + (2b - 2a\lambda)y + (3b - 3\lambda a) = 0$

$\because a + b\lambda = 0 \Rightarrow \lambda = -\frac{a}{b}$

$\therefore y = -\frac{3}{2}$

23. $\frac{\left(\frac{x-y+1}{\sqrt{2}}\right)^2}{10} + \frac{\left(\frac{x+y-3}{\sqrt{2}}\right)^2}{5/2} = 1$

Here $a^2 = 10$ and $b^2 = 5/2$ and centre is (1, 2)

$\because$ Locus of feet of perpendicular lie on auxiliary circle of ellipse

$\therefore$ Equation of circle is $(x-1)^2 + (y-2)^2 = 10$

24. $f(x) = \begin{cases} 4; & 0 < x < \frac{\pi}{2} \\ -2 & \frac{\pi}{2} < x < \pi \\ 0; & \pi < x < \frac{3n}{2} \\ -2 & \frac{3\pi}{2} < x < 2\pi \end{cases}$

$\therefore$ Range of function = {0, –2, 4}

25. $\sum \tan^2\left(\frac{\theta}{2}\right) = \sum \frac{1-\cos\theta}{1+\cos\theta} = \sum \left(\frac{1-\frac{a}{b+c}}{1+\frac{a}{b+c}}\right)$

$= \sum \left(\frac{b+c-a}{a+b+c}\right) = \frac{a+b+c}{a+b+c} = 1$

26. $3^4 = 81$

27. We have, $\cos^2 x - (c-1)\cos x + 2c - 6 \geq 0 \ \forall \ x \in R$
$\Rightarrow (\cos x - 2)(\cos x - (c-3)) \geq 0$
$\therefore \cos x \leq c - 3$
$\Rightarrow c - 3 \geq 1 \Rightarrow c \geq 4$

28. $px^2 + qx + r = 0$
$rx^2 + qx + p = 0$ (on subtract)
$\therefore x = -1$
So common root is -1
$\therefore p - q + r = 0$

29. $[\{x\}] = 0$

$f(x) = (3 - x^7)^{\frac{1}{7}}$

$f(f(x)) = \left(\left(3 - (3 - x^7)^{\frac{1}{7}}\right)^7\right)^{\frac{1}{7}} = x$

$f(f(x)) = x \Rightarrow f^{-1}(x) = f(x)$
$\therefore f^{-1}(50) = f(50)$ and $f(f(100)) = 100$
$\therefore f^{-1}(50) - f(50) + f(f(100)) = 100$

30. Put $a = 2R \sin A$, $b = 2R \sin B$
$2R \sin B (\sin^2 A + \cos^2 A) = \sqrt{2}a$
$\therefore 2R \sin B = \sqrt{2}a$
$\Rightarrow \left(\frac{b}{a}\right) = \sqrt{2}$

FIITJEE MOCK TEST-1

MOCK TEST–1 (Additional) Code:100382.4

(Additional)

ANSWERS, HINTS & SOLUTIONS

(Mains)

S. No.	PHYSICS	CHEMISTRY	MATHEMATICS
1.	**C**	**A**	**D**
2.	**D**	**D**	**A**
3.	**C**	**C**	**B**
4.	**A**	**D**	**A**
5.	**C**	**C**	**D**
6.	**C**	**D**	**D**
7.	**B**	**D**	**A**
8.	**C**	**C**	**C**
9.	**D**	**D**	**B**
10.	**D**	**A**	**A**
11.	**C**	**C**	**D**
12.	**C**	**A**	**A**
13.	**D**	**C**	**B**
14.	**C**	**B**	**A**
15.	**A**	**C**	**A**
16.	**D**	**D**	**B**
17.	**A**	**D**	**B**
18.	**A**	**D**	**C**
19.	**A**	**D**	**B**
20.	**B**	**D**	**B**
21.	**B**	**C**	**B**
22.	**B**	**A**	**C**
23.	**C**	**A**	**B**
24.	**C**	**C**	**B**
25.	**D**	**C**	**D**
26.	**C**	**B**	**B**
27.	**B**	**D**	**A**
28.	**C**	**C**	**D**
29.	**C**	**A**	**D**
30.	**A**	**D**	**C**