



the best of creative minds

Margdarshan
for JEE (Main & Advanced), NTSE, KVPY, Olympiad
A Division of SHYAM SAI CLASSES PVT. LTD.



HINDUSTAN MARGDARSHAN SCHOLARSHIP TEST-2017-18
SAMPLE PAPER
FOR
CLASS 10th

INSTRUCTIONS

Please read the instructions carefully. You are allotted 5 minutes specifically for this purpose.
You are not allowed to leave the examination hall before the end of the test.

[A] General :

1. Attempt ALL the questions. Answer have to be marked on the **OMR** sheets
2. This question paper contains **90 questions**.
3. The question paper consists of **THREE Parts Physics, Chemistry & Mathematics**
4. Blank spaces are provided at the bottom of each page for rough work. No additional sheets will be provided for rough work.
5. Blank paper, clipboard, log tapes, slide rules, calculators, cellular phones, pagers and electronic gadgets in any form are **NOT** allowed.
6. Do not Tamper / mutilate the **OMR sheet** or this booklet.
7. Do not break the seals of the question-paper booklet before instructed to do so by the invigilator.
8. **SUBMIT** the OMR sheet to the invigilator after completing the test & take away the test paper with you.

[B] Filling of OMR Sheet :

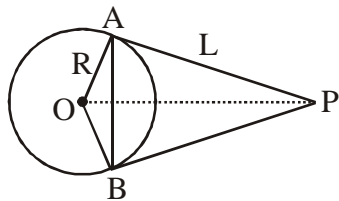
9. In all the parts, each question will have 4 choices out of which **only one choice is correct**
10. Use only Black/Blue ball point pen for filling the OMR sheet.
11. On the OMR sheet, darken the appropriate bubble for each character of your name, Registration No., Phone No. etc.

[C] Marking Scheme :

12. For each right answer you will be **awarded 3 marks** if you darken the bubble corresponding to the correct answer and **zero marks** if no bubble is darkened. In case of bubbling of incorrect answer, **minus one (-1)** mark will be awarded.

MATHEMATICS

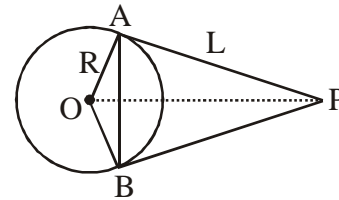
- If $2^a > 4^c$ and $3^b > 9^a$ and a,b,c all positive, then
 (A) $b < c < a$ (B) $c < a < b$
 (C) $c < b < a$ (D) $a < b < c$
- The value of $\tan 1^\circ \tan 2^\circ \tan 3^\circ \dots \tan 89^\circ$ is
 (A) 1 (B) 0
 (C) ∞ (D) $\frac{1}{2}$
- Both roots of the quadratic equation $x^2 - 63x + k = 0$ are prime numbers. The number of possible values of k is
 (A) 0 (B) 1
 (C) 2 (D) 3
- As shown in the figure. PA and PB are tangents to a circle with centre at 'O'. If R is the radius of the circle and L is the length of the tangent then the area of the ΔPAB is equal to



- | | |
|--------------------------------|-------------------------------|
| (A) $\frac{LR^3}{R^2 + L^2}$ | (B) $\frac{RL^3}{R^2 + L^2}$ |
| (C) $\frac{R^2L^2}{R^2 + L^2}$ | (D) $\frac{2RL^2}{R^2 + L^2}$ |

- The value of $\sqrt{8+2\sqrt{8+2\sqrt{8+2\sqrt{8+\dots}}}}$ is :
 (A) 4 (B) 6
 (C) 8 (D) 10

- If $2^a > 4^c$ and $3^b > 9^a$ and a,b,c all positive, then
 (A) $b < c < a$ (B) $c < a < b$
 (C) $c < b < a$ (D) $a < b < c$
- The value of $\tan 1^\circ \tan 2^\circ \tan 3^\circ \dots \tan 89^\circ$ is
 (A) 1 (B) 0
 (C) ∞ (D) $\frac{1}{2}$
- Both roots of the quadratic equation $x^2 - 63x + k = 0$ are prime numbers. The number of possible values of k is
 (A) 0 (B) 1
 (C) 2 (D) 3
- As shown in the figure. PA and PB are tangents to a circle with centre at 'O'. If R is the radius of the circle and L is the length of the tangent then the area of the ΔPAB is equal to

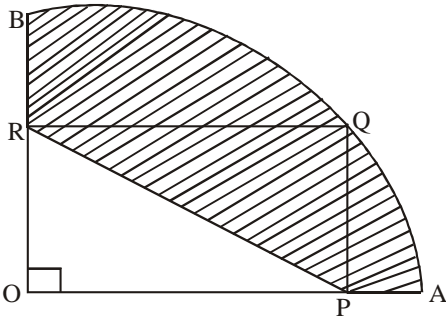


- | | |
|--------------------------------|-------------------------------|
| (A) $\frac{LR^3}{R^2 + L^2}$ | (B) $\frac{RL^3}{R^2 + L^2}$ |
| (C) $\frac{R^2L^2}{R^2 + L^2}$ | (D) $\frac{2RL^2}{R^2 + L^2}$ |

- The value of $\sqrt{8+2\sqrt{8+2\sqrt{8+2\sqrt{8+\dots}}}}$ is :
 (A) 4 (B) 6
 (C) 8 (D) 10

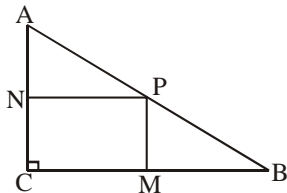
Space for Rough Work

6. In this figure, AOB is a quarter circle of radius 10cm and PQRO is a rectangle of perimeter 26cm. The perimeter of the shaded region is:



- (A) $13+5\pi$ (B) $7+5\pi$
 (C) $7+10\pi$ (D) $17+5\pi$

7. In the diagram $\triangle ABC$ is right angled at C. Also M, N and P are the mid points of sides BC, AC and AB respectively. If the area of $\triangle APN$ is 2 sq. cm then the area of $\triangle ABC$ in sq. cm is:

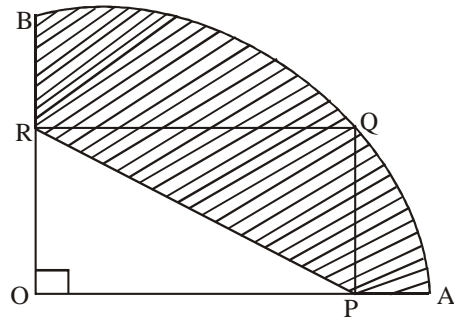


- (A) 16 (B) 12
 (C) 8 (D) 4

8. In right triangle ABC ($\angle B = 90^\circ$) have lengths $AB = \sqrt{3}$ and $BC = 2$. If $\angle C = \alpha$ then the value of $\sin \alpha$ is:

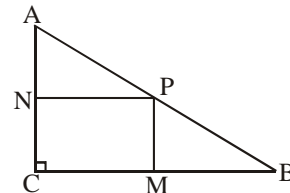
- (A) $\sqrt{\frac{3}{7}}$ (B) $\sqrt{\frac{4}{7}}$
 (C) $\sqrt{\frac{3}{5}}$ (D) $\frac{\sqrt{3}}{7}$

6. In this figure, AOB is a quarter circle of radius 10 cm and PQRO is a rectangle of perimeter 26 cm. The perimeter of the shaded region is:



- (A) $13+5\pi$ (B) $7+5\pi$
 (C) $7+10\pi$ (D) $17+5\pi$

7. In the diagram $\triangle ABC$ is right angled at C. Also M, N and P are the mid points of sides BC, AC and AB respectively. If the area of $\triangle APN$ is 2 sq. cm then the area of $\triangle ABC$ in sq. cm is:



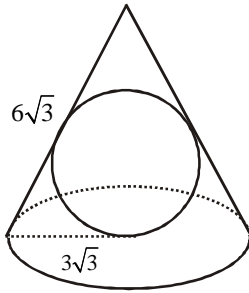
- (A) 16 (B) 12
 (C) 8 (D) 4

8. In right triangle ABC ($\angle B = 90^\circ$) have lengths $AB = \sqrt{3}$ and $BC = 2$. If $\angle C = \alpha$ then the value of $\sin \alpha$ is:

- (A) $\sqrt{\frac{3}{7}}$ (B) $\sqrt{\frac{4}{7}}$
 (C) $\sqrt{\frac{3}{5}}$ (D) $\frac{\sqrt{3}}{7}$

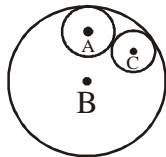
Space for Rough Work

9. A sphere is inscribed in a cone of radius $3\sqrt{3}$ and slant height $6\sqrt{3}$. The radius of the sphere is



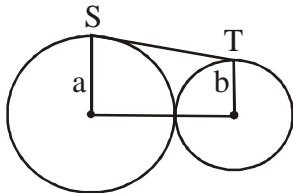
- (A) $\frac{3\sqrt{3}}{2}$ (B) $3\sqrt{3}$
 (C) $6\sqrt{3}$ (D) 3

10. The three circles in the figure centred at A, B and C are tangent to one another and have radii 7, 21 and 6 respectively. The area of the triangle ABC is



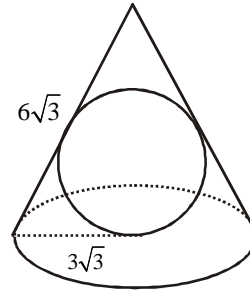
- (A) 74 (B) 64
 (C) 84 (D) 54

11. Two circles of radii a and b ($a > b$) touch each other externally. ST is a common tangent touching the circles at S and T respectively, then ST^2 is equal to -



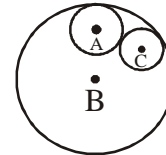
- (A) $a + b$ (B) $4ab$
 (C) $2ab$ (D) ab

9. A sphere is inscribed in a cone of radius $3\sqrt{3}$ and slant height $6\sqrt{3}$. The radius of the sphere is



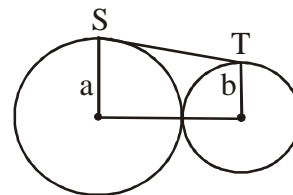
- (A) $\frac{3\sqrt{3}}{2}$ (B) $3\sqrt{3}$
 (C) $6\sqrt{3}$ (D) 3

10. The three circles in the figure centred at A, B and C are tangent to one another and have radii 7, 21 and 6 respectively. The area of the triangle ABC is



- (A) 74 (B) 64
 (C) 84 (D) 54

11. Two circles of radii a and b ($a > b$) touch each other externally. ST is a common tangent touching the circles at S and T respectively, then ST^2 is equal to -



- (A) $a + b$ (B) $4ab$
 (C) $2ab$ (D) ab

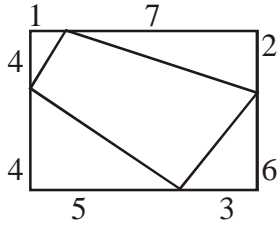
Space for Rough Work

12. If the numbers a, b, c, d, e form an A.P. then the value of $a - 4b + 6c - 4d + e$ is :
- (A) 0 (B) 1
(C) 2 (D) 3
13. If one root of a quadratic equation with rational coefficient is $\left(\frac{3\sqrt{5}}{\sqrt{10} + \sqrt{20} + \sqrt{40} - \sqrt{5} - \sqrt{80}}\right)$ then quadratic equation is :
- (A) $x^2 + 2x - 1 = 0$ (B) $x^2 + 2x - 3 = 0$
(C) $x^2 - 2\sqrt{2}x + 1 = 0$ (D) $x^2 - 2x - 1 = 0$
14. $1, -2, 3, -4, 5, -6, \dots, n(-1)^{n+1}$ consider the sequence. What is the average of the first 300 terms of the sequence -
- (A) -0.5 (B) 0.5
(C) 0 (D) -1
15. The value of k for which $x + k$ is a factor of $x^3 + kx^2 - 2x + k + 4$ is :
- (A) -5 (B) $-\frac{4}{3}$
(C) 2 (D) $\frac{6}{7}$
16. If $a + b + c = 0$, then $\frac{(a+b)^2}{ab} + \frac{(b+c)^2}{bc} + \frac{(c+a)^2}{ca}$ is equal to
- (A) $3\left(\frac{1}{a} + \frac{1}{b} + \frac{1}{c}\right)$ (B) $3abc$
(C) $3(a+b+c)$ (D) 3

12. ; fn l a, b, c, d, e l ekdj Jsh es gsrks $a - 4b + 6c - 4d + e$ dkeku gsrks
- (A) 0 (B) 1
(C) 2 (D) 3
13. ; fn i je; xdk l ekdj kdk, d ey $\left(\frac{3\sqrt{5}}{\sqrt{10} + \sqrt{20} + \sqrt{40} - \sqrt{5} - \sqrt{80}}\right)$ gsrks l ekdj kdk
- (A) $x^2 + 2x - 1 = 0$ (B) $x^2 + 2x - 3 = 0$
(C) $x^2 - 2\sqrt{2}x + 1 = 0$ (D) $x^2 - 2x - 1 = 0$
14. v u d e $1, -2, 3, -4, 5, -6, \dots, n(-1)^{n+1}$ dsi e 300 i n d k v k s r D k g s r k s
- (A) -0.5 (B) 0.5
(C) 0 (D) -1
15. 'k' dsfdl ek dsfy, $x^3 + kx^2 - 2x + k + 4$ dk , d xdu km x + k gsrks
- (A) -5 (B) $-\frac{4}{3}$
(C) 2 (D) $\frac{6}{7}$
16. ; fn $a + b + c = 0$ rks $\frac{(a+b)^2}{ab} + \frac{(b+c)^2}{bc} + \frac{(c+a)^2}{ca}$ dkeku gsrks
- (A) $3\left(\frac{1}{a} + \frac{1}{b} + \frac{1}{c}\right)$ (B) $3abc$
(C) $3(a+b+c)$ (D) 3

Space for Rough Work

17. The sides of an 8×8 square are cut by certain points into pieces of length 1 and 7, 2 and 6, 3 and 5 and 4 and 4 as shown in figure. The area of the quadrilateral determined by these four points are:



- (A) 28 (B) 8
(C) 48 (D) 36

18. If the mean of x and $1/x$ is M , then the mean of x^2 and $1/x^2$ is -

- (A) $2M^2 - 1$ (B) $\frac{M^2}{4}$
(C) M^2 (D) $2M^2 + 1$

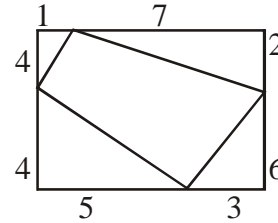
19. If $2 \times (\sqrt{2})^5 \times (\sqrt{2})^{-2/3} = (\sqrt{2})^{x+1}$, then the value of x is :

- (A) $\frac{2}{3}$ (B) $5\frac{1}{3}$
(C) $4\frac{1}{3}$ (D) $1\frac{1}{3}$

20. If a bicycle wheel has 48 spokes the angle between the adjacent pair spokes is :

- (A) $\left(7\frac{1}{2}\right)^\circ$ (B) $\left(7\frac{1}{3}\right)^\circ$
(C) $\left(6\frac{1}{2}\right)^\circ$ (D) $\left(6\frac{2}{3}\right)^\circ$

17. The sides of an 8×8 square are cut by certain points into pieces of length 1 and 7, 2 and 6, 3 and 5 and 4 and 4 as shown in figure. The area of the quadrilateral determined by these four points are:



- (A) 28 (B) 8
(C) 48 (D) 36

18. If the mean of x and $1/x$ is M , then the mean of x^2 and $1/x^2$ is -

- (A) $2M^2 - 1$ (B) $\frac{M^2}{4}$
(C) M^2 (D) $2M^2 + 1$

19. If $2 \times (\sqrt{2})^5 \times (\sqrt{2})^{-2/3} = (\sqrt{2})^{x+1}$, then the value of x is :

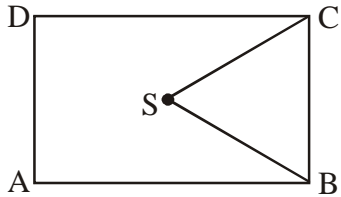
- (A) $\frac{2}{3}$ (B) $5\frac{1}{3}$
(C) $4\frac{1}{3}$ (D) $1\frac{1}{3}$

20. If a bicycle wheel has 48 spokes the angle between the adjacent pair spokes is :

- (A) $\left(7\frac{1}{2}\right)^\circ$ (B) $\left(7\frac{1}{3}\right)^\circ$
(C) $\left(6\frac{1}{2}\right)^\circ$ (D) $\left(6\frac{2}{3}\right)^\circ$

Space for Rough Work

21. If ABCD is a parallelogram, CS and BS are the bisectors of $\angle C$ and $\angle B$ respectively, then the measure of $\angle S$ will be:



- (A) 85° (B) 60°
 (C) 90° (D) 45°

22. If $x = \frac{\sqrt{b^2 + ab} + \sqrt{b^2 - ab}}{\sqrt{b^2 + ab} - \sqrt{b^2 - ab}}$, then the value of

$ax^2 - 2bx$ is:

- (A) $-a$ (B) b
 (C) a (D) $-b$

23. In an A.P. 5 times the 5th term is equal to 8 times the 8th term, then its 13th term is

- (A) -13 (B) -1
 (C) 1 (D) 0

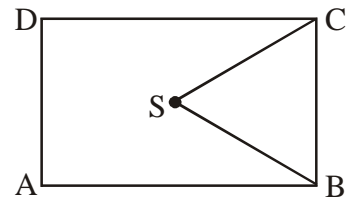
24. ΔABC is an equilateral triangle of side $2\sqrt{3}$ cm. P is any point in the interior of ΔABC . If x, y, z are the distances of P from the sides of the triangle, then $x + y + z =$

- (A) $2 + \sqrt{3}$ cms. (B) 5 cms.
 (C) 3 cms. (D) 4 cms.

25. The mean of n number is M. If 1 is added to the first number, 2 is added to the second number,, n is added to the nth number then the new mean is

- (A) $M + \frac{n+1}{2}$ (B) $M + \frac{n}{2}$
 (C) $M + n$ (D) None of these

21. ; fn ABCD, d l elaj pr hq g SCsv l SBS Øe' l% $\angle C$ v l $\angle B$ dsl ef, Hk d g r k $\angle S$ dkek gsk



- (A) 85° (B) 60°
 (C) 90° (D) 45°

22. ; fn $x = \frac{\sqrt{b^2 + ab} + \sqrt{b^2 - ab}}{\sqrt{b^2 + ab} - \sqrt{b^2 - ab}}$, r k $ax^2 - 2bx$ dk eku gsk%

- (A) $-a$ (B) b
 (C) a (D) $-b$

23. , d l -J s ea 5oi n dk 5 xok 8oi n ds 8 xok dscjkj g r ksd dk 13oi n — gsk

- (A) -13 (B) -1
 (C) 1 (D) 0

24. ΔABC , d l eckgf Hk g Sft l dh Hk $2\sqrt{3}$ cm. gSA f Hk ABC dsv rj P d l k fcl d gSA ; fn x, y, z fcl d P l sf Hk dh Hk k l s n j , k g r k $x + y + z =$

- (A) $2 + \sqrt{3}$ cms. (B) 5 cms.
 (C) 3 cms. (D) 4 cms.

25. n l \bar{x} ; k lsd ke l M gSA ; fn i gyhl \bar{x} ; ke a 1 t l k t k] n j h l \bar{x} ; ke a 2 t l k t k] —] n o r a l \bar{x} ; ke a n t l k t k r k ; ke l — gsk

- (A) $M + \frac{n+1}{2}$ (B) $M + \frac{n}{2}$
 (C) $M + n$ (D) bual sd l k Zuga

Space for Rough Work

26. The square of an odd integer must be of the form
 (A) $8n + 1$
 (B) $6n + 3$
 (C) $6n + 1$
 (D) $4n + 1$ but may not be $8n + 1$

27. A bag contains 5 red and some blue balls. If the probability of drawing a blue ball is three times the probability of drawing a red ball then the number of blue balls in the bag is
- (A) 10 (B) 12
 (C) 15 (D) 8

28. The surface area of a cylindrical pipe, open at both ends is 200π sq.m. The difference between its radius and length is 15m, the length being larger. If the pipe was closed at one end, the amount of water that it can hold is,
- (A) 500π cu.m (B) 525π cu.m
 (C) 550π cu.m (D) 600π cu.m

29. If $\sin x + \sin^2 x = 1$ then
 $\cos^8 x + 2 \cos^6 x + \cos^4 x = \dots\dots\dots$
 (A) 0 (B) -1
 (C) 2 (D) 1

30. Find value of
 $\frac{1}{2 \times 3} + \frac{1}{3 \times 4} + \frac{1}{4 \times 5} + \frac{1}{5 \times 6} + \dots + \frac{1}{99 \times 100}$
 (A) $\frac{12}{25}$ (B) $\frac{51}{100}$
 (C) $\frac{1}{2}$ (D) $\frac{49}{100}$

26. fo"le i vke dk oxZU : i eagsk
 (A) $8n + 1$
 (B) $6n + 3$
 (C) $6n + 1$
 (D) $4n + 1$ fd lde n + 1 ugragls drk

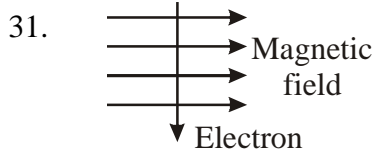
27. , d fgses 5 yky , oad u uyh xa gA ; fn uyh xa dksfudky usdhi k; drk , d yky xa dksfudky usdhi k; drk dhrhu xon gS rls fgs es uyh xa sdh l a; k gS—
 (A) 10 (B) 12
 (C) 15 (D) 8

28. , d cyudk i ki] t ls n d rji Q [l y h g S dk i "B { k i Q 200π oxZeh gA d dh f k; k, oa yal bZdk v l j 15 eh g S t g k yal bZ f k; k l s c M h g A ; f n i k i d k s , d r j i Q l s c a d j f n ; k t k r l s d e a i k u h d h e k k — v k x h A
 (A) 500π ?u eh (B) 525π ?u eh
 (C) 550π ?u eh (D) 600π ?u eh

29. ; fn $\sin x + \sin^2 x = 1$ rls
 $\cos^8 x + 2 \cos^6 x + \cos^4 x = \dots\dots\dots$
 (A) 0 (B) -1
 (C) 2 (D) 1

30. eku fudky a
 $\frac{1}{2 \times 3} + \frac{1}{3 \times 4} + \frac{1}{4 \times 5} + \frac{1}{5 \times 6} + \dots + \frac{1}{99 \times 100}$
 (A) $\frac{12}{25}$ (B) $\frac{51}{100}$
 (C) $\frac{1}{2}$ (D) $\frac{49}{100}$

Space for Rough Work

SCIENCE

An electron enters a magnetic field at right angle to it as shown in figure. The direction of the force acting on the electron will be

- (A) To the right
 (B) To the left
 (C) Going into the paper at right angle
 (D) Coming out of paper at right angle

32. If the velocity of a wave is 400m/sec and frequency is 100 Hz, then the wavelength of the wave is

- (A) 6 m (B) 2.8 m
 (C) 3 m (D) 4 m

33. Three equal resistors connected in series across a source of V voltage together dissipates 5 W power. If the same resistors are connected in parallel across the same source of voltage V, the power dissipated will be

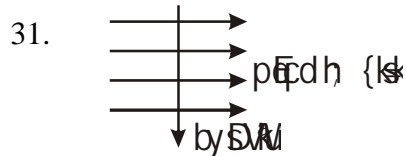
- (A) 45 W (B) 25 W
 (C) 40 W (D) 20 W

34. Every hot object emits

- (A) Infrared rays
 (B) Visible rays
 (C) X-rays
 (D) ultraviolet rays

35. The distance between the objective lens and the eye - piece of an astronomical telescope will be

- (A) $\frac{f_0}{f_e}$ (B) $\frac{f_e}{f_0}$
 (C) $f_0 + f_e$ (D) $f_0 - f_e$



An electron enters a magnetic field at right angle to it as shown in figure. The direction of the force acting on the electron will be

- (A) To the right
 (B) To the left
 (C) Going into the paper at right angle
 (D) Coming out of paper at right angle

32. If the velocity of a wave is 400m/sec and frequency is 100 Hz, then the wavelength of the wave is

- (A) 6 m (B) 2.8 m
 (C) 3 m (D) 4 m

33. Three equal resistors connected in series across a source of V voltage together dissipates 5 W power. If the same resistors are connected in parallel across the same source of voltage V, the power dissipated will be

- (A) 45 W (B) 25 W
 (C) 40 W (D) 20 W

34. Every hot object emits

- (A) Infrared rays
 (B) Visible rays
 (C) X-rays
 (D) ultraviolet rays

35. The distance between the objective lens and the eye - piece of an astronomical telescope will be

- (A) $\frac{f_0}{f_e}$ (B) $\frac{f_e}{f_0}$
 (C) $f_0 + f_e$ (D) $f_0 - f_e$

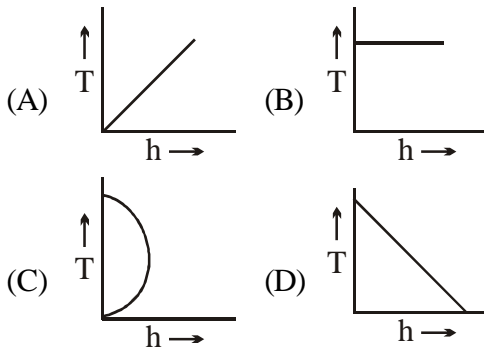
Space for Rough Work

36. The focal length of a concave mirror is 'f' and the distance from the object to the principal focus is 'p'. The ratio of the size of the image to the size of the object is :
- (A) $\frac{p}{f}$ (B) $\frac{f^2}{p^2}$
 (C) $\sqrt{\frac{f}{p}}$ (D) $\frac{f}{p}$
37. A 1 kg mass has a kinetic energy of 1 joule when its speed is -
- (A) 1ms^{-1} (B) 4.4ms^{-1}
 (C) 1.4ms^{-1} (D) 0.45ms^{-1}
38. A convex lens forms a real image of a point object placed on its principal axis. If the upper half of the lens is cut
- (A) The image will be shifted downward
 (B) The image will be shifted upward
 (C) The intensity of the image will decrease
 (D) None of the above
39. When a bulb is connected to 30 V battery, 0.5 A current flows through it. The resistance of the bulb is :
- (A) 15Ω (B) 60Ω
 (C) 150Ω (D) 30Ω
40. A piece of iron has dimensions $3\text{cm} \times 1.5\text{cm} \times 6\text{cm}$. If its mass is 205.2 gms, its density is :
- (A) 5.6gm cm^{-3} (B) 8.4gm cm^{-3}
 (C) 76gm cm^{-3} (D) 7.6gm cm^{-3}
41. A convex mirror has a focal length of 10cm. A real object is placed at a distance of 10cm from pole produces an image at :
- (A) infinity (B) 20cm
 (C) 10 cm (D) 5 cm
36. , d volky ni Zkdhi Gyl n/n 'f' gS d kZolr qef; i G l 's'p' n/n j j l k g Si f f c E d h n p k Z f k o l r q d h n p k Z k v u k g s i %
- (A) $\frac{p}{f}$ (B) $\frac{f^2}{p^2}$
 (C) $\sqrt{\frac{f}{p}}$ (D) $\frac{f}{p}$
37. 1 kg n Zeku d h x f r t A t Z t w g s h t c b d h p k y g &
- (A) 1ms^{-1} (B) 4.4ms^{-1}
 (C) 1.4ms^{-1} (D) 0.45ms^{-1}
38. , d m l y y a f d l h o l r g d k o k r f o d i f r f c E c u k k g s a v x j y a d k A i j h v k k f g l l k d k v f n , k t k r k s i
- (A) i f r f c E u p s f l k d t k x k A
 (B) i f r f c E A i j f l k d t k x k A
 (C) i f r f c E d h r t c z k d e g s t k x h A
 (D) b u e a l s d l k Z h n u g h A
39. t c , d c y c d k s 30 v d h c s h i s t k s g s i d e s 0.5 , f E ; j / k k i o k g g s h g s c y c d k i f r k g s i %
- (A) 15Ω (B) 60Ω
 (C) 150Ω (D) 30Ω
40. , d y l s s d v m d k v d k j 3 c m \times 1.5 c m \times 6 c m . g s f n b d k n Z e k u 205.2 x t e g s r s t d k ? u o f d r u k g s k \
- (A) $5.6 \text{ x t e } \times \text{ l s h }^3$ (B) $8.4 \text{ x t e } \times \text{ l s h }^3$
 (C) $76 \text{ x t e } \times \text{ l s h }^3$ (D) $7.6 \text{ x t e } \times \text{ l s h }^3$
41. , d m l y n i Z k d h i G l n / n 10 l s h g s , d o k r f o d f c E b l s 10 l s h n / n j j l k g s i f r f c E d h f l f r g s i %
- (A) v u l d (B) 20 l s h
 (C) 10 l s h (D) 5 l s h

Space for Rough Work

42. A rectangular coil of copper wire is rotated in a magnetic field. The direction of the induced current changes once in each
 (A) revolution (B) two revolutions
 (C) half revolution
 (D) one fourth of a revolution

43. Which of the following graphs best represents the total energy (T) of a freely falling body and its height (h) above the ground ?



44. When the current through a solenoid increases at a constant rate, the induced current:

- (A) increases with time and is opposite to the direction of inducing current
 (B) is a constant and is opposite to the direction of inducing current
 (C) increases with time and is in the direction of inducing current
 (D) is a constant and in the direction of inducing current

45. Lenz's law is a consequence of the law of conservation of:

- (A) energy (B) momentum
 (C) angular momentum
 (D) charge and mass

46. When a beta particle is given out, then the atomic number of the atom after reaction

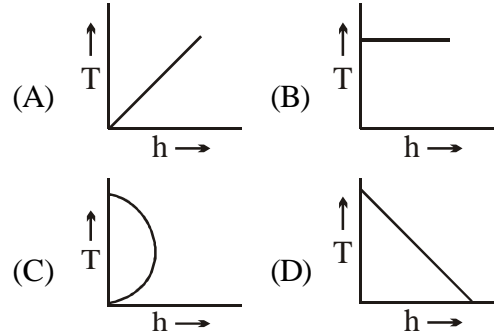
- (A) Increases by unity (B) Decreases by unity
 (C) Remains the same (D) is halved

47. An electron is moving with velocity 10^4 m/s in a magnetic field of 5 tesla. The maximum force on electron is:

- (A) 1.6×10^{-19} N (B) 10^4 N
 (C) 8×10^{-15} N (D) 5×10^4 N

42. A rectangular coil of copper wire is rotated in a magnetic field. The direction of the induced current changes once in each
 (A) revolution (B) two revolutions
 (C) half revolution
 (D) one fourth of a revolution

43. Which of the following graphs best represents the total energy (T) of a freely falling body and its height (h) above the ground ?



44. When the current through a solenoid increases at a constant rate, the induced current:

- (A) increases with time and is opposite to the direction of inducing current
 (B) is a constant and is opposite to the direction of inducing current
 (C) increases with time and is in the direction of inducing current
 (D) is a constant and in the direction of inducing current

45. Lenz's law is a consequence of the law of conservation of:

- (A) energy (B) momentum
 (C) angular momentum
 (D) charge and mass

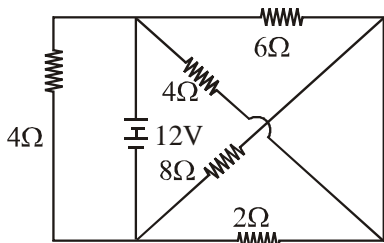
46. When a beta particle is given out, then the atomic number of the atom after reaction

- (A) Increases by unity (B) Decreases by unity
 (C) Remains the same (D) is halved

47. An electron is moving with velocity 10^4 m/s in a magnetic field of 5 tesla. The maximum force on electron is:

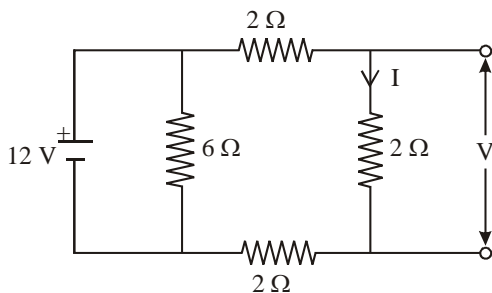
- (A) 1.6×10^{-19} N (B) 10^4 N
 (C) 8×10^{-15} N (D) 5×10^4 N

48. Compute the value of battery current in the circuit shown below :



- (A) 8A (B) 6A
(C) 3A (D) 10A

49. The value of current I and voltage V in the given circuit will be



- (A) 1A, 2V (B) 4A, 2V
(C) 2A, 4V (D) 2A, 1V

50. Fission is splitting of the nucleus into two nuclei. The fission products have:

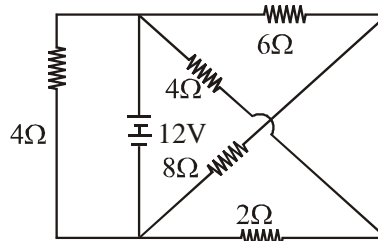
- (A) the same atomic number
(B) lower atomic number
(C) the same atomic mass
(D) higher atomic mass

51. There is a mixture of three solid compounds A, B and C. Out of these compounds A and C are soluble in water and compound C is sublimable also. In what sequence the following techniques can be used for their effective separation ?

- I. Filtration
- II. Sublimation
- III. Crystallisation from water extract
- IV. Dissolution in water

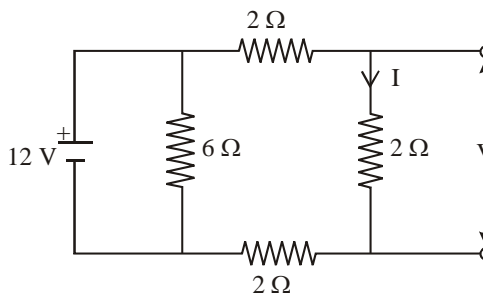
- (A) II, I, IV, III (B) IV, I, II, III
(C) I, II, III, IV (D) II, IV, I, III

48. Compute the value of battery current in the circuit shown below :



- (A) 8A (B) 6A
(C) 3A (D) 10A

49. The value of current I and voltage V in the given circuit will be



- (A) 1A, 2V (B) 4A, 2V
(C) 2A, 4V (D) 2A, 1V

50. Fission is splitting of the nucleus into two nuclei. The fission products have:

- (A) the same atomic number
(B) lower atomic number
(C) the same atomic mass
(D) higher atomic mass

51. There is a mixture of three solid compounds A, B and C. Out of these compounds A and C are soluble in water and compound C is sublimable also. In what sequence the following techniques can be used for their effective separation ?

- I. Filtration
- II. Sublimation
- III. Crystallisation from water extract
- IV. Dissolution in water

- (A) II, I, IV, III (B) IV, I, II, III
(C) I, II, III, IV (D) II, IV, I, III

52. An element X has 7 electrons in its L shell. What is true about the element X ?
- It belongs to period 9 of modern periodic table
 - Its atom contains 9 protons
 - It has a valency of 7
 - Its atoms can accept an electron to acquire noble gas configuration.
- (A) I and II (B) II and III
(C) III and IV (D) II and IV
53. A metal carbonate X on treatment with a mineral acid liberates a gas which when passed through aqueous solution of a substance Y gives back X. The substance Y on reaction with the gas obtained at anode during electrolysis of brine gives a compound Z which can decolorise coloured fabrics. The compounds X, Y and Z respectively are
- (A) $\text{CaCO}_3, \text{CaOCl}_2, \text{Ca}(\text{OH})_2$
(B) $\text{Ca}(\text{OH})_2, \text{CaO}, \text{CaOCl}_2$
(C) $\text{CaCO}_3, \text{Ca}(\text{OH})_2, \text{CaOCl}_2$
(D) $\text{Ca}(\text{OH})_2, \text{CaCO}_3, \text{CaOCl}_2$
54. A compound X is obtained by the reaction of alkaline KMnO_4 with another compound Y followed by acidification. Compound X also reacts with compound Y in presence of few drops of H_2SO_4 to form a sweet smelling compound Z. The compound X, Y and Z are, respectively
- (A) Ethanol, Ethene, Ethanoic Acid
(B) Ethanoic Acid, Ethanol, Ethyl ethanoate
(C) Ethanoic Acid, Ethanol, Ethene
(D) Ethanol, Ethanoic Acid, Sodium Ethanoate
55. Which of the following pairs of compounds of carbon will undergo combustion as well as addition reaction ?
- (A) CH_4 and C_2H_6
(B) $\text{C}_2\text{H}_6\text{O}$ and $\text{C}_3\text{H}_8\text{O}$
(C) $\text{C}_2\text{H}_4\text{O}_2$ and $\text{C}_3\text{H}_6\text{O}$
(D) C_2H_2 and C_3H_6

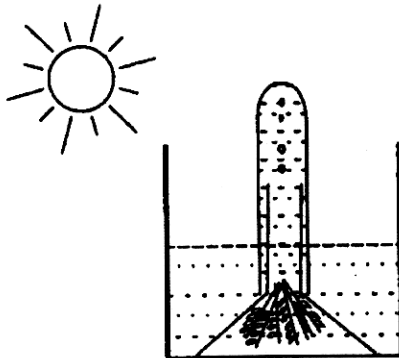
52. An element X has 7 electrons in its L shell. What is true about the element X ?
- It belongs to period 9 of modern periodic table
 - Its atom contains 9 protons
 - It has a valency of 7
 - Its atoms can accept an electron to acquire noble gas configuration.
- (A) I and II (B) II and III
(C) III and IV (D) II and IV
53. A metal carbonate X on treatment with a mineral acid liberates a gas which when passed through aqueous solution of a substance Y gives back X. The substance Y on reaction with the gas obtained at anode during electrolysis of brine gives a compound Z which can decolorise coloured fabrics. The compounds X, Y and Z respectively are
- (A) $\text{CaCO}_3, \text{CaOCl}_2, \text{Ca}(\text{OH})_2$
(B) $\text{Ca}(\text{OH})_2, \text{CaO}, \text{CaOCl}_2$
(C) $\text{CaCO}_3, \text{Ca}(\text{OH})_2, \text{CaOCl}_2$
(D) $\text{Ca}(\text{OH})_2, \text{CaCO}_3, \text{CaOCl}_2$
54. A compound X is obtained by the reaction of alkaline KMnO_4 with another compound Y followed by acidification. Compound X also reacts with compound Y in presence of few drops of H_2SO_4 to form a sweet smelling compound Z. The compound X, Y and Z are, respectively
- (A) Ethanol, Ethene, Ethanoic Acid
(B) Ethanoic Acid, Ethanol, Ethyl ethanoate
(C) Ethanoic Acid, Ethanol, Ethene
(D) Ethanol, Ethanoic Acid, Sodium Ethanoate
55. Which of the following pairs of compounds of carbon will undergo combustion as well as addition reaction ?
- (A) CH_4 and C_2H_6
(B) $\text{C}_2\text{H}_6\text{O}$ and $\text{C}_3\text{H}_8\text{O}$
(C) $\text{C}_2\text{H}_4\text{O}_2$ and $\text{C}_3\text{H}_6\text{O}$
(D) C_2H_2 and C_3H_6

56. An element X combines with hydrogen to form a compound XH_3 . The element X is placed on the right side of the periodic table. What is true about the element X ?
- Has 3 valence electrons
 - Is a metal and is solid
 - Is a non - metal and is a gas
 - Has 5 valence electrons
 - XH_3 reacts with water to form a basic compound
- A,B and C
 - B,C and D
 - C,D and E
 - E,A and B
57. An element X (atomic number 12) reacts with another element Y (atomic number 17) to form a compound Z. Which of the following statements are true regarding this compound ?
- Molecular formula of Z is XY_2
 - It is soluble in water
 - X and Y are joined by sharing of electrons
 - It would conduct electricity in the molten state
- II and III
 - I and III
 - I, III and IV
 - I, II and IV
58. The general electronic configuration of transition metal is
- $ns^2np^2nd^{1-10}$
 - $ns^2np^1(n-1)d^{1-10}$
 - $ns^2np^6(n-1)d^{1-10}$
 - $ns^{1-2}(n-1)d^{1-10}$
59. Which of the following is paramagnetic ?
- Cl_2O_6
 - Cl_2O_7
 - Cl_2O
 - ClO_2
60. Which pair of atomic number represent S -block element
- 7,15
 - 6,14
 - 9,17
 - 4,12
56. An element X combines with hydrogen to form a compound XH_3 . The element X is placed on the right side of the periodic table. What is true about the element X ?
- Has 3 valence electrons
 - Is a metal and is solid
 - Is a non - metal and is a gas
 - Has 5 valence electrons
 - XH_3 reacts with water to form a basic compound
- A,B and C
 - B,C and D
 - C,D and E
 - E,A and B
57. An element X (atomic number 12) reacts with another element Y (atomic number 17) to form a compound Z. Which of the following statements are true regarding this compound ?
- Molecular formula of Z is XY_2
 - It is soluble in water
 - X and Y are joined by sharing of electrons
 - It would conduct electricity in the molten state
- II and III
 - I and III
 - I, III and IV
 - I, II and IV
58. The general electronic configuration of transition metal is
- $ns^2np^2nd^{1-10}$
 - $ns^2np^1(n-1)d^{1-10}$
 - $ns^2np^6(n-1)d^{1-10}$
 - $ns^{1-2}(n-1)d^{1-10}$
59. Which of the following is paramagnetic ?
- Cl_2O_6
 - Cl_2O_7
 - Cl_2O
 - ClO_2
60. Which pair of atomic number represent S -block element
- 7,15
 - 6,14
 - 9,17
 - 4,12

61. Valency of carbon in CO_3^{2-} ion is
 (A) 2 (B) 3 (C) 4 (D) 5
62. Nature of aqueous solution of salt obtained by the reaction of strong acid and strong base is
 (A) Acidic (B) Basic
 (C) Neutral (D) Amphoteric
63. Number of moles in 128gm of sulphur will be
 (A) 0.5 (B) 2
 (C) 4 (D) 8
64. The bond, in compound formed from combination of 14 group and 17 group elements of Periodic table will be
 (A) Electrovalent bond
 (B) Co-ordinate bond
 (C) Van der Waals bond
 (D) Covalent bond
65. In Haber process of Ammonia production, the element used as catalytic promotor to increase the activity of Iron catalyst is
 (A) Ni (Nickel) (B) W (Tungston)
 (C) V (Vanadium) (D) Mo (Molybdenum)
66. Which element forms maximum multiple bonds?
 (A) N (B) P (C) As (D) Bi
67. Which is the correct order of decreasing reactivity of metals ?
 (A) $\text{K} > \text{Na} > \text{Cu} > \text{Au}$
 (B) $\text{Na} > \text{Au} > \text{Cu} > \text{K}$
 (C) $\text{Cu} > \text{Na} > \text{K} > \text{Au}$
 (D) $\text{Au} > \text{Cu} > \text{Na} > \text{K}$
68. Number of Ca^{2+} and Cl^- ions in anhydrous 111g CaCl_2 are :
 (A) $N_A, 2N_A$ (B) $2N_A, N_A$
 (C) N_A, N_A (D) None of these
69. An element belongs to groups 17. It is present in third period and its atomic number is 17. What is the atomic number of the element belonging to same group and present in fifth period ?
 (A) 85 (B) 17 (C) 35 (D) 53
70. Biogas is a mixture of :
 (A) $\text{CO} + \text{CH}_4$ (B) $\text{CO} + \text{H}_2$
 (C) $\text{CO}_2 + \text{CH}_4$ (D) $\text{CO} + \text{N}_2$

61. CO_3^{2-} v k u eadkZ dhl alsdrk gS
 (A) 2 (B) 3 (C) 4 (D) 5
62. l kae v Ey r Fk l kae {kjh dh v fHkO, k l scus yo.kdst y h foy; u dhi ffr gshu
 (A) v Ey h (B) {kjh
 (C) rnk hu (D) mtk delZ
63. 128 xk l Y Q eadkZ dhl h; k gshu
 (A) 0.5 (B) 2
 (C) 4 (D) 8
64. v kor ZI kj .kh dsl ey 14 dsr R , oal ey 17 dsr R dsl als ij cusokys; ksd eac k gshu
 (A) oSq l als h cak
 (B) ml gl als h cak
 (C) okMjokV cak
 (D) l gl als h cak
65. veku, k fuekZ dh gSj fo k eal fO, rkc < kus ds fy, yls kn Rzd o dZ ds: i esi zd O gsk gS
 (A) Ni (fudy) (B) W (VALU)
 (C) V (osM e) (D) Mo (ekM e)
66. d l S l kr R v fedre cggak cuk k gS
 (A) N (B) P (C) As (D) Bi
67. fuEu eal sd l S h/ k r kled h fO, k k yr k ds? v sqg Oe dhl ghr kZ k gS
 (A) $\text{K} > \text{Na} > \text{Cu} > \text{Au}$
 (B) $\text{Na} > \text{Au} > \text{Cu} > \text{K}$
 (C) $\text{Cu} > \text{Na} > \text{K} > \text{Au}$
 (D) $\text{Au} > \text{Cu} > \text{Na} > \text{K}$
68. 111g fu Z CaCl_2 ea Ca^{2+} v l S Cl^- v k a dhl h; k gS
 (A) $N_A, 2N_A$ (B) $2N_A, N_A$
 (C) N_A, N_A (D) buesl sd l S Z gha
69. , d r R ox ZI 17 es g Ad dkv loZ ua3 r Fk i j ek k Oe d 17 g S m r R dki j ek k Oe d D k g s k t l s g y s R ds l eku ox Z ear Fk i l p osv loZ eamif l Fk gS
 (A) 85 (B) 17 (C) 35 (D) 53
70. t S xS fuEu dk feJ . k gS
 (A) $\text{CO} + \text{CH}_4$ (B) $\text{CO} + \text{H}_2$
 (C) $\text{CO}_2 + \text{CH}_4$ (D) $\text{CO} + \text{N}_2$

71. Photosynthesis in an aquatic plant was measured by counting the number of O₂ bubbles coming out of the cut end of the plant. What will happen to O₂ production if you use a pipe to blow air from your mouth into water in the beaker ?



- (A) Air from mouth contains O₂ which is being added to the plant. Hence increase in O₂ production.
- (B) Air from mouth contains CO₂ which is utilized in photosynthesis. Hence increase in O₂ production occurs.
- (C) Bacteria from mouth will infect plant. Hence cause reduction in O₂ production.
- (D) Water is already in contact with air. Hence air from mouth will have no effect.

72. A group of inter connected food chains is called—

- (A) Food cycle
- (B) Pyramid of energy
- (C) Complex food chain
- (D) Food web

73. Which nitrogenous base is absent in D.N.A. ?

- (A) Adenine (B) Guanine
- (C) Uracil (D) Cytosine

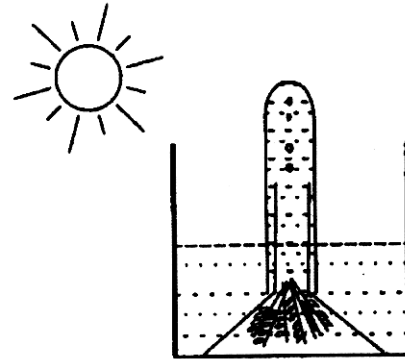
74. Nucleic acid is fragmented by which enzyme -

- (A) Ligases (B) Proteases
- (C) Polymerases (D) Nucleases

75. Fossils are found in

- (A) Sedimentary rocks
- (B) Igneous rocks
- (C) Metamorphic rocks
- (D) All of the above

71. , d t y h i k r i e a i k r i d s d \s f l j s l s f u d y u s
o k y h v k d h u d s c o g l e d h l a ; k f x u d j
i d k k l ' a y s k k d k v d y u f d ; k t k k g s a ; f n
v k i c h d j e a m i f l f r i k u h e a e p k } j k i k i l s
o k q h s a r k s v k d h u m r k u d k D k g s k l



- (A) e p k } j k H h x b z o k q e a v k d h u g l s h g s
t k i k r i e a f e f y r g l s h g s a v r % k d h u
m r k u d l s c < k h g s a
- (B) e g } j k H h x b z o k q e a c o 2 g l s h g s t k s
i d k k l ' a y s k k d s f y , m i ; k e a v k h g s
v r % o 2 d s m r k u d l s c < k h g s a
- (C) e g d s t h o k k q i k r i d l s l o f e r d j r s g a
v r % o 2 d s m r k u d l s d e d j r s g a
- (D) t y] g o k d s i g y l s g h l a d z e a g s v r % e g
d h o k q d k d l s z i k o u g r a g s k a

72. v e j l a e k [k J a y k v a d k l e g d g y k k g s

- (A) [k p o (B) A t k z d k f i j k e m
- (C) t f v y [k J a y k (D) [k t l y

73. M h , u , - e a d k e l k u h v s u h { k j v u p l f r k
g l s k g s

- (A) , M u k u (B) x q k f u u
- (C) ; j e y (D) l k v s u

74. f u l y f l k e a l s d l k , u k e u f d y d v e y d l s v d m e
e a r k a k g s

- (A) y l o x t (B) i l v , t
- (C) i k v e j s (D) u f d y , t

75. t h o k e i k s t k s g s

- (A) v o l i j h p w u l e a
- (B) v k s p w u l e a
- (C) d k k d f j r p w u l e a
- (D) m i ; o l H h e a

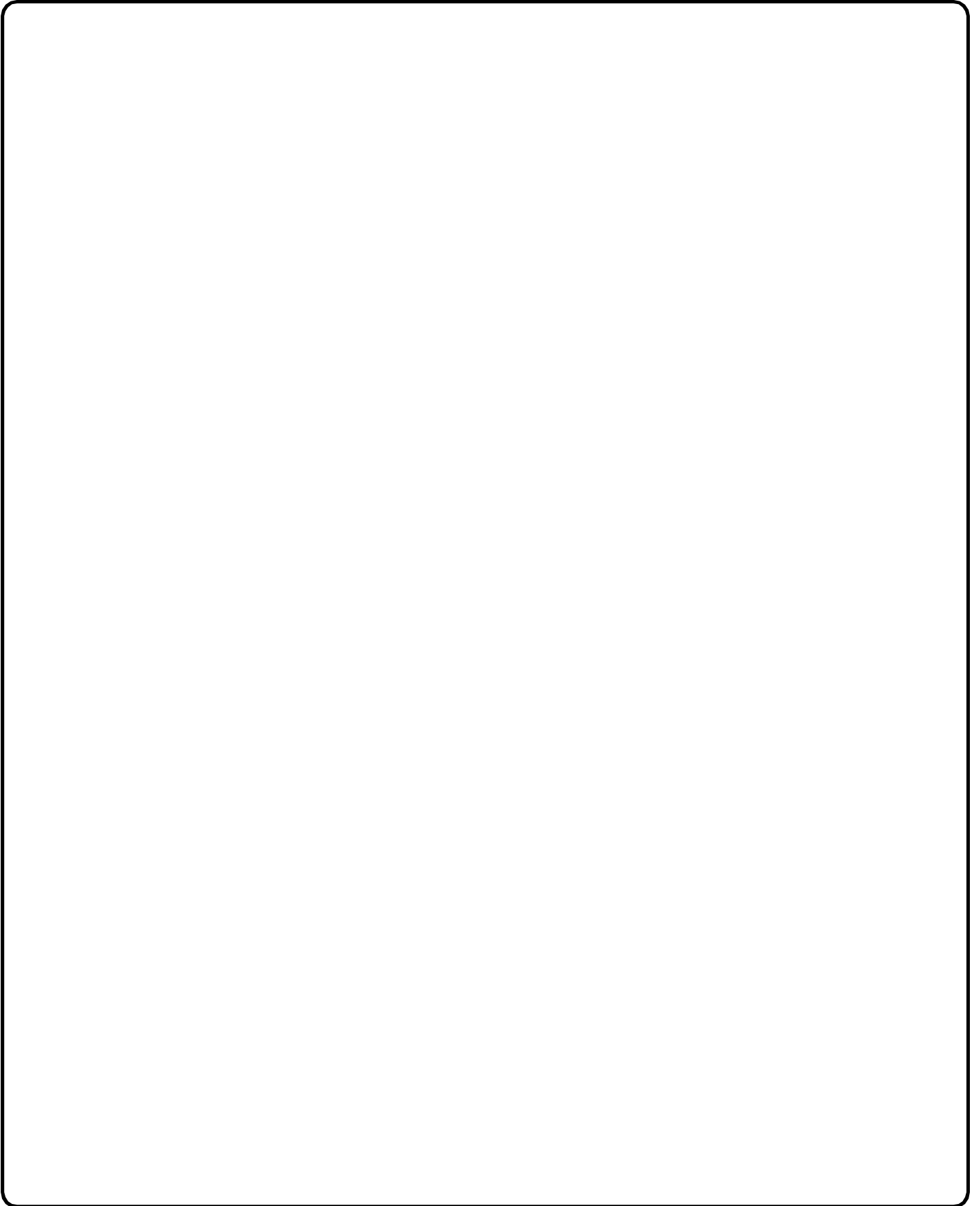
76. Why are honeybees so important ?
 (A) They are excellent pollinators
 (B) They show a high degree of social life
 (C) They have a stinger
 (D) They produce bee wax
77. In the process of budding, when bud forms outside it is called as
 (A) uncertain budding
 (B) endogenous budding
 (C) exogenous budding
 (D) none of these
78. Leaves respire with the help of
 (A) lenticles (B) stomata
 (C) plasmodesmata (D) cuticle
79. The wavelength of light used in photosynthesis ?
 (A) 400 - 700 nm (B) 300 - 400 nm
 (C) 800 - 1000 nm (D) all of the above
80. Which of the following is an excretory organ of cockroach
 (A) Liver (B) Nephron
 (C) Flame cell (D) Malpighian tubules
81. Which one of the following does not produce any digestive enzyme?
 (A) Pancreas (B) Liver
 (C) Salivary gland (D) Gastric gland
82. What will be the ratio of dominant and recessive character in second filial generation of monohybrid cross done by the mendal-
 (A) 2 : 3 (B) 1 : 3
 (C) 3 : 1 (D) 3 : 2
83. Lichens indicate SO₂ pollution because they
 (A) Show association between algae and fungi
 (B) grow faster than others
 (C) are sensitive to SO₂
 (D) flourish in SO₂ rich environment
84. If the surface area for gaseous exchange in lungs is reduced due to excessive smoking, this condition is called as
 (A) emphysema (B) pneumonia
 (C) asthma (D) tuberculosis

76. e/ eD lknin; kshgSD fcl
 (A) osi jk. kgsqgrjhu t to gSA
 (B) ; scgg gh l kft d t to gA
 (C) meafLVk gssgA
 (D) ; soB i zku djrsgA
77. edygu dhog i Z; kft l eacL; dfydkfufez gshgSD k
 dgyk h gS
 (A) vfuf pr edygu (B) vlefjd edygu
 (C) clà; edygu (D) buesl s d kZugA
78. i fùk laes d u gsk gS
 (A) okj d s (B) j d s
 (C) lyk e k s (D) D vdy l s
79. i zkk l ay kkedle v kusyhi zkk rja n s ZgS
 (A) 400 – 700 nm (B) 300 - 400 nm
 (C) 800 – 1000 nm (D) mijl f l Hh
80. d klyp esi k kt kusyknrt z v a d l k gS
 (A) ; dr (B) usA
 (C) Toky s d k k (D) e s hufydka
81. fu f y f l k esl s d l ds j k f d l h h i l o d , u k e d k
 L k o k u g r j s g S
 (A) v X k k (B) ; dr
 (C) y k x d k (D) t B x d k
82. e s m y j k k f d , x , , d l d j o k w d s i q l o : i
 i k r f j r h l a f r i k h e s i z k o h o v i z k o h y { k k
 f d l v u k e s o a k u r g l a s
 (A) 2 : 3 (B) 1 : 3
 (C) 3 : 1 (D) 3 : 2
83. y k d a S O 2 i z k k i n f k z d j r h g d f c l &
 (A) osdod o ' k s y d s e e l a l s u i n f k z d j r s g A
 (B) v U l s v f / d r h o z k l s o f ¼ d j r s g A
 (C) S O 2 d s i f l a s h g s s g A
 (D) S O 2 v k f / D o k y s o k k o j . k e a o f ¼ d j r s g A
84. v R f / d / v i z u d s d j . k o k o p k s e h n t o j k e k { k r f k
 i G O l a d h x S h v k l u & i z u d h { l e r k d k d e g e k D k
 d g y k k g S
 (A) , E O d h e k (B) f u e l u ; k
 (C) n e k (D) { k j k s

85. Which non-toxic, fast growing cyanobacterium is cultivated in tanks as a protein-rich animal food ?
 (A) Scytonema (B) Spirulina
 (C) Nostoc (D) Oscillatoria
86. How many mitotic generations should occur for a single cell to form 256 cells ?
 (A) 16 (B) 8 (C) 32 (D) 64
87. Which of the following statement is correct ?
 (A) Capillaries supply blood to tissues
 (B) Veins supply blood to tissues
 (C) Arteries collect blood from tissues
 (D) None of the above
88. RNA is absent in -
 (A) ribosomes (B) cytoplasm
 (C) plasmalemma (D) nucleolus
89. Loss of water from the margin of leaves in the form of water droplets is called -
 (A) guttation (B) transpiration
 (C) respiration (D) bleeding
90. Which muscle cell is spindle shaped ?
 (A) Cardiac muscle cell
 (B) Striated muscle cell
 (C) Smooth muscle cell
 (D) None of these

85. तनुकस्य, विशुद्धस्य, त्वरितवृद्धिमानस्य, प्रोटीनसमृद्धस्य, कृष्युक्तस्य, कृत्युक्तस्य, तनुकस्य, विशुद्धस्य, त्वरितवृद्धिमानस्य, प्रोटीनसमृद्धस्य, कृत्युक्तस्य, कृत्युक्तस्य
 (A) लकृत्युक्तस्य (B) लिलकृत्युक्तस्य
 (C) लनुकृत्युक्तस्य (D) लनुकृत्युक्तस्य
86. , d ek` d` d` d` d` d` s 256 i` d` d` d` d` d` d` s f u e l z k d s f y ,
 f d r u h i k` r d l e l` w` f o h k` u v l o` ; d` g` s`
 (A) 16 (B) 8 (C) 32 (D) 64
87. f u l y f i [k e a l s d l e k d f u l g h g s`
 (A) d` s` l` d` k` ; n` u` l` l` e` d` s` j` d` r` n` s` h` g` s`
 (B) f` l` k` ; n` u` l` l` e` d` s` j` d` r` n` s` h` g` s`
 (C) / e f u ; k e n` u` l` l` e` d` s` j` d` r` , d f` k` d j r h g` s`
 (D) m i j` s` e a l s d l e k z u g h`
88. RNA f d l e a v u p l f r g l s k g s`
 (A) j k c l s e e a (B) d l s d k n e e a a
 (C) l y k e f > y h e a (D) d f u z k e a
89. i f l k e a l s d u j k e s c a l e s i e a y d h g k u d g y k h g s`
 (A) f c a p k o (B) o k i k r t i z`
 (C) ' d u (D) j d r l k o`
90. f u l e a l s d l e h i s k r d z v k l j d h g s h g s`
 (A) E` r ; i s k`
 (B) j e` k i s k`
 (C) f p d u h i s k`
 (D) l u e a l s d l e k z u g a`

Space for Rough Work



ANSWER KEY

CLASS-10

MATHEMATICS

1.	B	2.	A	3.	B	4.	B	5.	A	6.	D	7.	C
8.	A	9.	D	10.	C	11.	B	12.	A	13.	D	14.	A
15.	B	16.	C	17.	D	18.	A	19.	B	20.	A	21.	C
22.	A	23.	D	24.	C	25.	A	26.	A	27.	C	28.	A
29.	D	30.	D										

PHYSICS

31.	C	32.	D	33.	A	34.	A	35.	C	36.	D	37.	C
38.	C	39.	B	40.	D	41.	D	42.	C	43.	B	44.	A
45.	A	46.	A	47.	C	48.	B	49.	C	50.	B		

CHEMISTRY

51.	D	52.	D	53.	C	54.	B	55.	D	56.	C	57.	D
58.	D	59.	D	60.	D	61.	C	62.	C	63.	A	64.	D
65.	D	66.	A	67.	A	68.	A	69.	D	70.	C		

BIOLOGY

71.	B	72.	D	73.	C	74.	D	75.	A	76.	A	77.	C
78.	B	79.	A	80.	D	81.	B	82.	C	83.	C	84.	A
85.	B	86.	B	87.	A	88.	C	89.	A	90.	C		