

Please find below the snapshots for the same:

Sl. No	Question No	Previous answer declared	Final Answer declared
35	Q2786912	C	Nullified

Row Labels	Diploma Laterals
Change of Key	0
Multiple Answer	0
No Change	82
Nullified	1
Grand Total (Unique Questions Claimed)	83

1) A rope 44 cm long has been put in the form of a circle. The area of the circle so formed is

- A) 154 cm²
- B) 174 cm²
- C) 162 cm²
- D) 185 cm²

1) एक 44 cm लंबी रस्सी को एक वृत्त के रूप में रखा गया है। इस प्रकार बने वृत्त का क्षेत्रफल है

- A) 154 cm²
- B) 174 cm²
- C) 162 cm²
- D) 185 cm²

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2786913

Number of Claims: 1

Declared Answer Key: A

Candidate Claim: A

Final Answer: A

Explanation:

The framing of the question and the answer options is appropriate to arrive at the correct answer. Since, there is no discrepancy found between the claimed answer option and the declared answer key, there is no change in the answer key.

Conclusion:

The final answer is option A. There is no change in the answer key

2) A rectangular carpet has an area of 1250 m^2 and the perimeter is 150 m . The length of the diagonal is approximately

- A) 48 m
- B) 52 m
- C) 45 m
- D) 56 m

2) एक आयताकार कार्पेट का क्षेत्रफल 1250 m^2 है और परिमाप 150 m है। विकर्ण की लंबाई लगभग है

- A) 48 m
- B) 52 m
- C) 45 m
- D) 56 m

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2787088

Number of Claims: 1

Declared Answer Key: D

Candidate Claim: C

Final Answer: D

Explanation:

Let the length and Breadth be L and B respectively

$L+B=75$ and $LB=1250$. Thus $L=50$ and $B=25$.

Length of the diagonal= $\sqrt{2500+625}$ =56 metres (approximately)

Conclusion:

The final answer is option D. There is no change in the answer key

3) In a simultaneous throw of two coins, the probability of getting at least one tail is

- A) $1/2$
- B) $1/3$
- C) $3/4$
- D) $2/3$

3) दो सिक्कों को एक साथ उछालने पर कम से कम एक पट आने की प्रायिकता है

- A) $1/2$
- B) $1/3$
- C) $3/4$
- D) $2/3$

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2786919

Number of Claims: 1

Declared Answer Key: C

Candidate Claim: D

Final Answer: C

Explanation:

Let S be a sample space and E are favourable events

$$S=\{HH,HT,TH,TT\}, E=\{HT,TH,TT\}$$

Tail is not obtained only when we get both heads. Thus, the probability of getting at least one tail is $3/4$.

Conclusion:

The final answer is option C. There is no change in the answer key

4) The probability of selecting an even number from the numbers 31, 32,..... 50 is

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

4) 31, 32, 50 संख्याओं में से एक सम संख्या चुनने की प्रायिकता है

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

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2786920

Number of Claims: 1

Declared Answer Key: B

Candidate Claim: C

Final Answer: B

Explanation:

There are equal number of odd and even numbers from 31 to 50. Thus, the probability of selecting an even number is 1/2.

Conclusion:

The final answer is option B. There is no change in the answer key

5) The value of $(1 - \tan A)^2 + (1 + \tan A)^2$ is

- A) $2 \sec A$
- B) $2 \cos A$
- C) $2 \cos^2 A$
- D) $2 \sec^2 A$

5) $(1 - \tan A)^2 + (1 + \tan A)^2$ का मान है

- A) $2 \sec A$
- B) $2 \cos A$
- C) $2 \cos^2 A$
- D) $2 \sec^2 A$

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2786926

Number of Claims: 1

Declared Answer Key: D

Candidate Claim: A

Final Answer: D

Explanation:

$$(1 - \tan A)^2 + (1 + \tan A)^2 = 2 + 2(\tan A)^2 = 2 \sec^2 A$$

Conclusion:

The final answer is option D. There is no change in the answer key

6) The roots of a quadratic equation are 6 and -5.

The equation is

A) $x^2+x-30=0$

B) $x^2+x+30=0$

C) $x^2-x-30=0$

D) $x^2-x+30=0$

6) किसी द्विघात समीकरण के मूल 6 और -5 हैं। वह समीकरण है

A) $x^2+x-30=0$

B) $x^2+x+30=0$

C) $x^2-x-30=0$

D) $x^2-x+30=0$

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2787095

Number of Claims: 3

Declared Answer Key: C

Candidate Claim: B,D

Final Answer: C

Explanation:

The equation is $(x-6)(x+5)=x^2-x-30=0$

Conclusion:

The final answer is option C. There is no change in the answer key

7) When we subtract x^2+7x+3 from the sum of $7x^2+5x-1$ and $-5x^2+2x+3$, we get

- A) x^2+1
- B) x^2-5
- C) x^2-1
- D) x^2+5

7) जब हम $7x^2+5x-1$ और $-5x^2+2x+3$ के योग से x^2+7x+3 घटाते हैं, तो हमें प्राप्त होता है

- A) x^2+1
- B) x^2-5
- C) x^2-1
- D) x^2+5

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2786910

Number of Claims: 2

Declared Answer Key: C

Candidate Claim: A, D

Final Answer: C

Explanation:

$$(2x^2+7x+2) - (x^2+7x+3) = x^2-1$$

Conclusion:

The final answer is option C. There is no change in the answer key

8) The LCM of two polynomial is $x^3+4x^2-7x-10$ and their GCD is $x+1$. If one polynomial is x^2-x-2 , the other polynomial is

- A) x^2-6x-5
- B) x^2+6x-5
- C) x^2-6x+5
- D) x^2+6x+5

8) दो बहुपद का लघुत्तम समापवर्तक (LCM) $x^3+4x^2-7x-10$ है और उनका महत्तम समापवर्तक (GCD) $x+1$ है। यदि एक बहुपद x^2-x-2 है, तो दूसरा बहुपद है

- A) x^2-6x-5
- B) x^2+6x-5
- C) x^2-6x+5
- D) x^2+6x+5

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2787084

Number of Claims: 1

Declared Answer Key: D

Candidate Claim: **D**

Final Answer: D

Explanation:

The framing of the question and the answer options is appropriate to arrive at the correct answer. Since, there is no discrepancy found between the claimed answer option and the declared answer key, there is no change in the answer key.

Conclusion:

The final answer is option D. There is no change in the answer key

9) If $\operatorname{cosec}A + \cot A = 15/7$, then $\operatorname{cosec}A =$

- A) 234/105
- B) 274/105
- C) 117/105
- D) 137/105

9) यदि $\operatorname{cosec}A + \cot A = 15/7$, तो $\operatorname{cosec}A =$

- A) 234/105
- B) 274/105
- C) 117/105
- D) 137/105

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2787104

Number of Claims: 1

Declared Answer Key: D

Candidate Claim: B

Final Answer: D

Explanation:

$$\operatorname{cosec}^2 A - \cot^2 A = 1$$

Thus, $\operatorname{cosec} A - \cot A = 7/15$ and $\operatorname{cosec} A + \cot A = 15/7$

Adding the 2 equations, we get $2 \operatorname{cosec} A = 274/105$, $\operatorname{cosec} A = 137/105$

Conclusion:

The final answer is option D. There is no change in the answer key

10) One card is drawn at random from a pack of 52 cards. What is the probability that the card drawn is either a king or a queen?

- A) 8/13
- B) 4/13
- C) 3/13
- D) 2/13

10) 52 ताश के पत्तों के एक पैकेट में से एक पत्ता यादृच्छिक रूप से निकाला जाता है। इसकी क्या प्रायिकता है कि निकाला गया पत्ता या तो राजा है या रानी?

- A) 8/13
- B) 4/13
- C) 3/13
- D) 2/13

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2786921

Number of Claims: 1

Declared Answer Key: D

Candidate Claim: C

Final Answer: D

There are 13 cards of one type where one is king and the other is queen. Thus, the probability is 2/13.

Conclusion:

The final answer is option D. There is no change in the answer key

11) Two dices are thrown simultaneously. The probability of getting a same number on upper face of each dice is

- A) 1/6
- B) 1/36
- C) 1/5
- D) 5/36

- 11) दो पासे एक साथ फेंके जाते हैं। दोनों पासों के ऊपरी सतह पर एक ही अंक आने की प्रायिकता है
- A) 1/6
 - B) 1/36
 - C) 1/5
 - D) 5/36

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2786922

Number of Claims: 1

Declared Answer Key: A

Candidate Claim: **A**

Final Answer: A

Explanation:

The framing of the question and the answer options is appropriate to arrive at the correct answer. Since, there is no discrepancy found between the claimed answer option and the declared answer key, there is no change in the answer key.

Conclusion:

The final answer is option A. There is no change in the answer key

12) What is the probability of getting a king or queen in a single draw from a pack of 52 cards?

- A) 4/13
- B) 1/13
- C) 3/13
- D) 2/13

12) 52 ताश के पत्तों के एक पैकेट से एक ताश निकालने पर राजा या रानी के मिलने की प्रायिकता क्या है?

- A) 4/13
- B) 1/13
- C) 3/13
- D) 2/13

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2787101

Number of Claims: 3

Declared Answer Key: D

Candidate Claim: B, C

Final Answer: D

Explanation:

There are 8 possibilities of getting a king or queen. Thus, the probability of getting a king or queen from a pack of 52 cards is $8/52$ or $2/13$.

Conclusion:

The final answer is option D. There is no change in the answer key

13) The length of a rectangle is increased by 40%.
By what percent the width has to be decreased to
maintain the same area?

- A) approximately 28.6%
- B) approximately 30.6%
- C) approximately 27.7%
- D) approximately 29.2%

13) एक आयत की लंबाई में 40% की वृद्धि की जाती है।
उसी क्षेत्रफल को बनाए रखने के लिए चौड़ाई में कितने
प्रतिशत की कमी करनी होगी?

- A) लगभग 28.6%
- B) लगभग 30.6%
- C) लगभग 27.7%
- D) लगभग 29.2%

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2787089

Number of Claims: 2

Declared Answer Key: A

Candidate Claim: A, B

Final Answer: A

Explanation:

Width must be decreased by $(100 \times 40/140)\% = 28.6\%$ to keep the area as same

Conclusion:

The final answer is option A. There is no change in the answer key

14) A bag contains 8 black balls and 10 white balls. One ball is drawn at random. What is the probability that the ball drawn is white?

14) एक थैले में 8 काली गेंदें और 10 सफेद गेंदें हैं। एक गेंद यादृच्छिक रूप से निकाली जाती है। निकाली गई गेंद के सफेद होने की प्रायिकता क्या है?

- A) $1/3$
- B) $5/9$
- C) $2/3$
- D) $4/9$

- A) $1/3$
- B) $5/9$
- C) $2/3$
- D) $4/9$

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2787100

Number of Claims: 1

Declared Answer Key: B

Candidate Claim: A

Final Answer: B

Explanation:

There are 18 balls out of which 10 are white balls. Thus, the probability is $10/18=5/9$.

Conclusion:

The final answer is option B. There is no change in the answer key

15) The value of the expression $3x^2 + 5x + 7$ for $x = \frac{1}{3}$ is

- 15) $x = \frac{1}{3}$ के लिए व्यंजक $3x^2 + 5x + 7$ का मान है
- A) 5
B) 3
C) 9
D) 7

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2787082

Number of Claims: 2

Declared Answer Key: C

Candidate Claim: B, C

Final Answer: C

Explanation:

At $x = \frac{1}{3}$, the value of the expression is $3(\frac{1}{9}) + 5(\frac{1}{3}) + 7 = 9$

Conclusion:

The final answer is option C. There is no change in the answer key

- 16) The diameter of a wheel is 35 cm. If the wheel makes 50 revolutions, then the distance travelled by the wheel is
- 16) एक पहिये का व्यास 35 cm है। यदि यह पहिया 50 चक्कर लगाता है, तब पहिये द्वारा तय की गई दूरी है
- A) 43 m
- B) 58 m
- C) 55 m
- D) 52 m

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2787091

Number of Claims: 2

Declared Answer Key: C

Candidate Claim: B, C

Final Answer: C

Explanation:

Distance covered in one revolution $= (22/7)(35) = 110$ cms. Distance covered in 50 revolutions is $(110 \times 50) / 100 = 55$ meters

Conclusion:

The final answer is option C. There is no change in the answer key

17) The area of a right angled triangle whose base is 5 cm and hypotenuse is 13 cm is 17) आधार 5 cm और कर्ण 13 cm वाले समकोण त्रिभुज का क्षेत्रफल है

A) 32 cm²

A) 32 cm²

B) 36 cm²

B) 36 cm²

C) 34 cm²

C) 34 cm²

D) 30 cm²

D) 30 cm²

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2786911

Number of Claims: 1

Declared Answer Key: D

Candidate Claim: C

Final Answer: D

Explanation:

Using Pythagoras theorem, height of triangle =12 cms. Thus area = $(1/2)(5)(12)=30$ sq.cm

Conclusion:

The final answer is option D. There is no change in the answer key

18) A two digit number is such that the product of the digits is 8. When 18 is added to the number, the digits gets reversed. The number is

- A) 81
- B) 24
- C) 18
- D) 42

18) कोई दो अंकीय संख्या ऐसी है कि अंकों का गुणनफल 8 है। जब संख्या में 18 जोड़ा जाता है तो अंक उलट जाते हैं। वह संख्या है

- A) 81
- B) 24
- C) 18
- D) 42

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2787097

Number of Claims: 1

Declared Answer Key: B

Candidate Claim: **B**

Final Answer: B

Explanation:

The framing of the question and the answer options is appropriate to arrive at the correct answer. Since, there is no discrepancy found between the claimed answer option and the declared answer key, there is no change in the answer key.

Conclusion:

The final answer is option B. There is no change in the answer key

19) The GCD of x^2-x-2 and x^2+6x+5 is

- A) $x+5$
- B) $x+1$
- C) $x-2$
- D) $(x+1)(x-2)(x+5)$

19) x^2-x-2 तथा x^2+6x+5 का महत्तम

समापवर्तक (GCD) है

- A) $x+5$
- B) $x+1$
- C) $x-2$
- D) $(x+1)(x-2)(x+5)$

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2787083

Number of Claims: 1

Declared Answer Key: B

Candidate Claim: **B**

Final Answer: B

Explanation:

The framing of the question and the answer options is appropriate to arrive at the correct answer. Since, there is no discrepancy found between the claimed answer option and the declared answer key, there is no change in the answer key.

Conclusion:

The final answer is option B. There is no change in the answer key

20) The number of marble slabs of size 25 cm x 25 cm required to pave the floor of a square room of side 5 m is

- A) 300
- B) 325
- C) 375
- D) 400

20) 5 m भुजा वाले एक वर्गाकार कमरे के फर्श को पक्का करने के लिए आवश्यक 25 cm x 25 cm आकार के संगमरमर के स्लैबों की संख्या है

- A) 300
- B) 325
- C) 375
- D) 400

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2787090

Number of Claims: 1

Declared Answer Key: D

Candidate **Claim: D**

Final Answer: D

Explanation:

The framing of the question and the answer options is appropriate to arrive at the correct answer. Since, there is no discrepancy found between the claimed answer option and the declared answer key, there is no change in the answer key.

Conclusion:

The final answer is option D. There is no change in the answer key

21) The equation $3x^2-5x+k=0$ will have real roots when

- 21) समीकरण $3x^2-5x+k=0$ के वास्तविक मूल होंगे जब
- A) $k > 25/12$
B) $k < 25/12$
C) $k > 12/25$
D) $k < 12/25$

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2787094

Number of Claims: 2

Declared Answer Key: B

Candidate Claim: B

Final Answer: B

Explanation:

The framing of the question and the answer options is appropriate to arrive at the correct answer. Since, there is no discrepancy found between the claimed answer option and the declared answer key, there is no change in the answer key.

Conclusion:

The final answer is option B. There is no change in the answer key

22) If $a=8$, $b=2$ and $c=3$, then the value of $(16bc+5ab) / (abc-3b^2)$ is

- A) 44 / 9
- B) 45 / 7
- C) 32 / 9
- D) 36 / 5

22) यदि $a=8$, $b=2$ और $c=3$ है, तो $(16bc+5ab) / (abc-3b^2)$ का मान है

- A) 44 / 9
- B) 45 / 7
- C) 32 / 9
- D) 36 / 5

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2787085

Number of Claims: 1

Declared Answer Key: A

Candidate Claim: D

Final Answer: A

Explanation:

$$(16bc+5ab)/(abc-3b^2) = (96+80)/(48-12)=176/36=44/9$$

Conclusion:

The final answer is option A. There is no change in the answer key

23) The base of a triangular field is 5 times its height. If the cost of cleaning the field at the rate of ₹2,500 per hectare is ₹25,000, then height of the field is

- A) 200 m
- B) 150 m
- C) 180 m
- D) 160 m

23) एक त्रिभुजाकार खेत का आधार उसकी ऊंचाई का 5 गुना है। यदि ₹2,500 प्रति हेक्टेयर की दर से खेत की सफाई की लागत ₹25,000 रुपये है, तो खेत की ऊंचाई है

- A) 200 m
- B) 150 m
- C) 180 m
- D) 160 m

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2787086

Number of Claims: 1

Declared Answer Key: A

Candidate Claim: C

Final Answer: A

Explanation:

1 hectare=10,000 sq.m

10 hectares=1,00,000 sq.m

Area= $\frac{1}{2} \times X \times 5X=1,00,000$. Thus $X=200$ mt

Height of the field is 200 m

Conclusion:

The final answer is option A. There is no change in the answer key.

24) If $\cos t - \sin t = \sqrt{2} \sin t$, then $\cos t + \sin t =$

- A) $\sqrt{3} \sin t$
- B) $\sqrt{2} \cos t$
- C) $2 \cos t$
- D) $\sin t$

24) यदि $\cos t - \sin t = \sqrt{2} \sin t$, तो $\cos t + \sin t =$

- A) $\sqrt{3} \sin t$
- B) $\sqrt{2} \cos t$
- C) $2 \cos t$
- D) $\sin t$

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2786923

Number of Claims: 1

Declared Answer Key: B

Candidate Claim: D

Final Answer: B

Explanation:

$$\cos t = (\sqrt{2}+1)\sin t$$

$$(\sqrt{2}+1)(\sqrt{2}-1)\sin t = (\sqrt{2}-1)\cos t.$$

$$\sin t = \sqrt{2} \cos t - \cos t$$

$$\text{Thus, } \sin t + \cos t = \sqrt{2} \cos t$$

Conclusion:

The final answer is option B. There is no change in the answer key

25) For what value of k, the system of linear equations $3x+8y-5=0$ and $6x+ky-10=0$ has infinite number of solutions?

- A) $k=16$
- B) $k=12$
- C) $k=17$
- D) $k=15$

25) k के किस मूल्य के लिए, रैखिक समीकरणों की प्रणाली $3x+8y-5=0$ तथा $6x+ky-10=0$ में अनंत हल है?

- A) $k=16$
- B) $k=12$
- C) $k=17$
- D) $k=15$

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2786915

Number of Claims: 1

Declared Answer Key: A

Candidate Claim: D

Final Answer: A

Explanation:

$$(3/6)=(8/k)=(5/10), k=16$$

If $K=16$, then the two equations becomes same. Thus, there will be infinite number of solutions

Conclusion:

The final answer is option A. There is no change in the answer key

- 26) If $x + (1/x) = 5$, then the value of $x^2 + (1/x^2) =$ 26) यदि $x + (1/x) = 5$, तो $x^2 + (1/x^2)$ का मान है
- A) 27 A) 27
B) 21 B) 21
C) 23 C) 23
D) 25 D) 25

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2786906

Number of Claims: 1

Declared Answer Key: C

Candidate Claim: B

Final Answer: C

Explanation:

By squaring the expression, we get

$$x^2 + (1/x^2) + 2 = 25. \text{ Thus } x^2 + (1/x^2) = 23$$

Conclusion:

The final answer is option C. There is no change in the answer key

27) If the perimeter of a rectangular field is 250 m and its breadth is 25 m, then its area is

- A) 2500 m²
- B) 580 m²
- C) 1250 m²
- D) 525 m²

27) यदि एक आयताकार मैदान का परिमाप 250 m है और उसकी चौड़ाई 25 m है, तो उसका क्षेत्रफल है

- A) 2500 m²
- B) 580 m²
- C) 1250 m²
- D) 525 m²

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2787087

Number of Claims: 2

Declared Answer Key: A

Candidate Claim: C

Final Answer: A

Explanation:

The breadth=25 meters and length is 100 meters. Thus area=25 x 100=2500 sq meters.

Conclusion:

The final answer is option A. There is no change in the answer key

28) If one root of the equation $5x^2-8x+3=0$ is $3/5$, then the other root is

- A) 1
- B) $2/5$
- C) $1/5$
- D) -1

28) यदि समीकरण $5x^2-8x+3=0$ का एक मूल $3/5$ है, तो दूसरा मूल है

- A) 1
- B) $2/5$
- C) $1/5$
- D) -1

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2786918

Number of Claims: 1

Declared Answer Key: A

Candidate **Claim: A**

Final Answer: A

Explanation:

The framing of the question and the answer options is appropriate to arrive at the correct answer. Since, there is no discrepancy found between the claimed answer option and the declared answer key, there is no change in the answer key.

Conclusion:

The final answer is option A. There is no change in the answer key

29) The value of k, for which the system of linear equations $x+3y=7$ and $5x+ky=35$ is consistent, is

- A) 11
- B) 15
- C) 13
- D) 17

29) जिस k के मान से रैखिक समीकरणों की प्रणाली $x+3y=7$ और $5x+ky=35$ संगत है, वह है

- A) 11
- B) 15
- C) 13
- D) 17

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2787093

Number of Claims: 1

Declared Answer Key: B

Candidate Claim: A

Final Answer: B

Explanation:

$1/5=3/k=7/35$. Thus, $k=15$.

When $k=15$, the system of equations becomes consistent

Conclusion:

The final answer is option B. There is no change in the answer key

30) The equation whose roots are 8 and -5 is

A) $x^2+3x-40=0$

B) $x^2-3x+40=0$

C) $x^2-3x-40=0$

D) $x^2+3x+40=0$

30) 8 और -5 मूलों वाला समीकरण है

A) $x^2+3x-40=0$

B) $x^2-3x+40=0$

C) $x^2-3x-40=0$

D) $x^2+3x+40=0$

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2786916

Number of Claims: 1

Declared Answer Key: C

Candidate Claim: D

Final Answer: C

Explanation:

The equation is $(x-8)(x+5)=0$

Thus, $(x^2-3x-40)=0$ is the required equation

Conclusion:

The final answer is option C. There is no change in the answer key

31) On dividing $x^3 - 5x^2 + 8x + 45$ by $(x + 2)$, the remainder is

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

31) $x^3 - 5x^2 + 8x + 45$ को $(x + 2)$ से भाग करने पर शेषफल है

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

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2786907

Number of Claims: 1

Declared Answer Key: A

Candidate Claim: C

Final Answer: A

Explanation:

When $f(x)$ is divided by $x-a$, the remainder is $f(a)$

The remainder is $(-2)^3 - 5(-2)^2 + 8(-2) + 45 = -8 - 20 - 16 + 45 = 1$

Conclusion:

The final answer is option A. There is no change in the answer key

32) If $\tan A = 12/5$ and angle A is acute, then the value of $(\sin A \sec A + \cos A \operatorname{cosec} A)$ is

- A) 165/75
- B) 169/60
- C) 144/75
- D) 75/245

32) यदि $\tan A = 12/5$ और कोण A न्यून है, तो $(\sin A \sec A + \cos A \operatorname{cosec} A)$ का मान है

- A) 165/75
- B) 169/60
- C) 144/75
- D) 75/245

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2787105

Number of Claims: 1

Declared Answer Key: B

Candidate Claim: D

Final Answer: B

Explanation:

$$\sin A \sec A + \cos A \operatorname{cosec} A = (12/13)(13/5) + (5/13)(13/12) = 12/5 + 5/12 = 169/60$$

Conclusion:

The final answer is option B. There is no change in the answer key

33) The odds against the occurrence of an event is 9:5. The probability of its occurrence is

- A) 9/14
- B) 5/14
- C) 2/3
- D) 9/5

33) किसी घटना के घटित होने की ऑड्स 9:5 हैं। इसके घटित होने की प्रायिकता है

- A) 9/14
- B) 5/14
- C) 2/3
- D) 9/5

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2787102

Number of Claims: 1

Declared Answer Key: B

Candidate Claim: D

Final Answer: B

Explanation:

If 9 times it does not happen then 5 times it happens.

Thus, the probability of its occurrence is 5/14.

Conclusion:

The final answer is option B. There is no change in the answer key

34) The common root of the quadratic equations $x^2 - 9 = 0$ and $x^2 - 4x + 3 = 0$ is

- A) 3
- B) 2
- C) -3
- D) -2

34) द्विघात समीकरणों $x^2 - 9 = 0$ तथा $x^2 - 4x + 3 = 0$ का उभयनिष्ठ मूल है

- A) 3
- B) 2
- C) -3
- D) -2

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2787096

Number of Claims: 1

Declared Answer Key: A

Candidate **Claim: A**

Final Answer: A

Explanation:

The framing of the question and the answer options is appropriate to arrive at the correct answer. Since, there is no discrepancy found between the claimed answer option and the declared answer key, there is no change in the answer key.

Conclusion:

The final answer is option A. There is no change in the answer key

35) Find the cost of carpeting a room 15 m long and 12 m wide with a carpet 80 cm broad at ₹10 per meter. 35) एक 15 m लंबे और 12 m चौड़े कमरे में 80 cm चौड़े कालीन के साथ ₹10 प्रति मीटर की दर से कालीन बिछाने का खर्च ज्ञात कीजिए।

A) ₹1,420

B) ₹1,540

C) ₹1,440

D) ₹1,200

A) ₹1,420

B) ₹1,540

C) ₹1,440

D) ₹1,200

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2786912

Number of Claims: 2

Declared Answer Key: C

Candidate Claim: None of These

Final Answer: None of the above

Explanation:

Area of carpet = area of room = $15 \times 12 = 180 \text{m}^2$.

Breadth of carpet (80/100) meters = $(4/5)$ meters.

Length of carpet = area/breadth = $(180/0.8) = 225 \text{ m}$.

Thus, the cost of carpeting a room is ₹ 2250.

Conclusion:

As none of the options are correct, the question is nullified.

36) If $\sin A = 4/5$ and angle A is acute, then the value of $\tan A + \sec A =$

- A) $4/3$
- B) $1/3$
- C) $3/4$
- D) 3

36) यदि $\sin A = 4/5$ और कोण A न्यून है, तो $\tan A + \sec A$ का मान है

- A) $4/3$
- B) $1/3$
- C) $3/4$
- D) 3

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2786924

Number of Claims: 1

Declared Answer Key: D

Candidate Claim: C

Final Answer: D

Explanation:

$\sin A = 4/5$ and $\cos A = 3/5$

Thus, $\tan A = 4/3$ and $\sec A = 5/3$.

Thus, $\tan A + \sec A = 9/3 = 3$

Conclusion:

The final answer is option D. There is no change in the answer key

- 37) If $A+B+C = \pi$, then the value of $\sin(A+B) + \sin C$ is
- 37) यदि $A+B+C = \pi$, तो $\sin(A+B) + \sin C$ का मान है
- A) $\sin 2C$
- B) $\cos A$
- C) $2 \cos C$
- D) $2 \sin C$

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2787109

Number of Claims: 1

Declared Answer Key: D

Candidate **Claim: D**

Final Answer: D

Explanation:

The framing of the question and the answer options is appropriate to arrive at the correct answer. Since, there is no discrepancy found between the claimed answer option and the declared answer key, there is no change in the answer key.

Conclusion:

The final answer is option D. There is no change in the answer key

38) The value of $(\sin 72^\circ \cos 12^\circ - \cos 72^\circ \sin 12^\circ)$ is 38) $(\sin 72^\circ \cos 12^\circ - \cos 72^\circ \sin 12^\circ)$ का मान है

A) $\sqrt{3}/2$

A) $\sqrt{3}/2$

B) $3\sqrt{3}/2$

B) $3\sqrt{3}/2$

C) $1/2$

C) $1/2$

D) $3/2$

D) $3/2$

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2787106

Number of Claims: 2

Declared Answer Key: A

Candidate Claim: A, B

Final Answer: A

Explanation:

$$\sin(A-B) = \sin A \cos B - \cos A \sin B$$

$$\sin 72^\circ \cos 12^\circ - \cos 72^\circ \sin 12^\circ = \sin(72^\circ - 12^\circ) = \sin 60^\circ = \sqrt{3}/2$$

Conclusion:

The final answer is option A. There is no change in the answer key

39) The value of $(1 / \sin^2 A) + (1 / \cos^2 A)$ is

- A) $\sec A \operatorname{cosec} A$
- B) $\sin A \cos A$
- C) $\sec^2 A \operatorname{cosec}^2 A$
- D) $\sin^2 A \cos^2 A$

39) $(1 / \sin^2 A) + (1 / \cos^2 A)$ का मान है

- A) $\sec A \operatorname{cosec} A$
- B) $\sin A \cos A$
- C) $\sec^2 A \operatorname{cosec}^2 A$
- D) $\sin^2 A \cos^2 A$

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2787107

Number of Claims: 2

Declared Answer Key: C

Candidate Claim: A

Final Answer: C

Explanation:

$$(1 / \sin^2 A) + (1 / \cos^2 A) = (1 / \sin^2 A) \times (1 / \cos^2 A) = \sec^2 A \operatorname{cosec}^2 A$$

Conclusion:

The final answer is option C. There is no change in the answer key

40) A can hit a target 3 times with 8 shots, B can hit it 4 times with 7 shots and C can hit it 5 times with 9 shots. If they fire at a volley, what is the probability that atleast one of them hits it?

- A) 24/35
- B) 37/42
- C) 39/42
- D) 29/42

40) A किसी लक्ष्य को 8 शॉट्स से 3 बार मार सकता है, B उसे 7 शॉट्स से 4 बार मार सकता है और C उसे 9 शॉट्स के साथ 5 बार मार सकता है। यदि वे एक साथ एक दिशा में गोली चलाते हैं (वॉली फायर करते हैं), तो इसकी क्या प्रायिकता है कि उनमें से कम से कम एक इसे हिट करे?

- A) 24/35
- B) 37/42
- C) 39/42
- D) 29/42

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2787103

Number of Claims: 1

Declared Answer Key: B

Candidate Claim: C

Final Answer: B

Explanation:

The probability that at least one of them hit = $1 - P(\text{none hits}) = 1 - P(A' \cap B' \cap C')$
 $= 1 - P(A')P(B')P(C') = 1 - [5/8 \times 3/7 \times 4/9] = 1 - 5/42 = 37/42$

Conclusion:

The final answer is option B. There is no change in the answer key

41) In VIBGYOR, which colour has the shortest wavelength? 41) विबग्योर (VIBGYOR) में किस रंग की तरंगदैर्घ्य सबसे कम होती है?

- A) Blue
- B) Red
- C) Yellow
- D) Violet

- A) नीला
- B) लाल
- C) पीला
- D) बैंगनी

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2786881

Number of Claims: 1

Declared Answer Key: D

Candidate Claim: None of These

Final Answer: D

Explanation:

In VIBGYOR, Red has maximum wavelength and least deviation and Violet has shortest wavelength and maximum deviation.

Conclusion:

The final answer is option D. There is no change in the answer key.

- 42) Light of frequency 5.8×10^{14} Hz is travelling at a speed of 2.4×10^8 m/s in a material. The frequency of this light in air is
- 42) आवृत्ति 5.8×10^{14} Hz का प्रकाश एक पदार्थ में 2.4×10^8 m/s की गति से गुज़र रहा है। वायु में इस प्रकाश की आवृत्ति क्या होगी?
- A) 2.4×10^6 Hz
- B) 2.4×10^8 Hz
- C) 5.8×10^{14} Hz
- D) 5.8×10^6 Hz

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2786878

Number of Claims: 1

Declared Answer Key: C

Candidate Claim: A

Final Answer: C

Explanation:

When light travels from one medium to another, the frequency doesn't change.

Conclusion:

The final answer is option C. There is no change in the answer key.

43) The slope of V-I graph for a conductor represents its

- A) Resistance
- B) Conductance
- C) Resistivity
- D) Voltage

43) एक कंडक्टर के लिए V-I ग्राफ का ढलान प्रतिनिधित्व करता है:

- A) प्रतिरोध
- B) प्रवाहकत्व
- C) प्रतिरोधकता
- D) वोल्टेज

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2786875

Number of Claims: 2

Declared Answer Key: A

Candidate Claim: D

Final Answer: A

Explanation:

Slop = $(V_2 - V_1) / (I_2 - I_1) = \delta V / \delta I = R$ i.e. resistance

Conclusion:

The final answer is option A. There is no change in the answer key.

44) Find the velocity of light in benzene, if the refractive index of benzene is 1.5.

- A) 1×10^8 m/s
- B) 2×10^8 m/s
- C) 2.5×10^8 m/s
- D) 2×10^8 cm/s

44) यदि बेंज़ीन का अपवर्तनांक 1.5 है, तो बेंज़ीन में प्रकाश का वेग ज्ञात कीजिए।

- A) 1×10^8 m/s
- B) 2×10^8 m/s
- C) 2.5×10^8 m/s
- D) 2×10^8 cm/s

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2786879

Number of Claims: 1

Declared Answer Key: B

Candidate Claim: C

Final Answer: B

Explanation:

$$\eta = c / v,$$

$$1.5 = 3 \times 10^8 / v$$

$$\Rightarrow v = 3 \times 10^8 / 1.5 = 2 \times 10^8$$

Conclusion:

The final answer is option B. There is no change in the answer key.

45) Three resistors 5Ω , 10Ω and 15Ω are combined in parallel. What is the total resistance of the combination?

A) 0.3Ω

B) 30Ω

C) $30/11 \Omega$

D) $11/30 \Omega$

A) 0.3Ω

B) 30Ω

C) $30/11 \Omega$

D) $11/30 \Omega$

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2786871

Number of Claims: 3

Declared Answer Key: C

Candidate Claim: A, B, D

Final Answer: C

Explanation:

$$1/R = 1/5 + 1/10 + 1/15 = 11/30$$

$$\Rightarrow R = 30/11$$

Conclusion:

The final answer is option C. There is no change in the answer key.

46) Which of the following is a non-renewable source of energy?

- A) Wind energy
- B) Solar energy
- C) Fossil fuels
- D) Geothermal energy

46) निम्नलिखित में से कौन ऊर्जा का अनवीकरणीय स्रोत है?

- A) पवन ऊर्जा
- B) सौर ऊर्जा
- C) जीवाश्म ईंधन
- D) भूतापीय ऊर्जा

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2786867

Number of Claims: 11

Declared Answer Key: C

Candidate Claim: A,B,C, None of These

Final Answer: C

Explanation:

Fossil fuels take millions of years to form thus they are non-renewable.

Conclusion:

The final answer is option C. There is no change in the answer key.

47) A small current is passed through a wire of length 10 m and uniform cross section $5.0 \times 10^{-7} \text{ m}^2$, and its resistance is measured to be 2.5Ω .

Resistivity of the wire is

- A) $12.5 \times 10^{-7} \Omega\text{m}$
- B) $1.25 \times 10^{-7} \Omega\text{m}$
- C) $0.125 \times 10^{-7} \Omega\text{m}$
- D) $125 \times 10^{-7} \Omega\text{m}$

47) एक छोटी धारा को 10 मीटर लंबाई और एकसमान क्रॉस सेक्शन $5.0 \times 10^{-7} \text{ m}^2$ के तार के माध्यम से पारित किया जाता है, और इसका प्रतिरोध 2.5Ω मापा जाता है। तार की प्रतिरोधकता क्या होगी?

- A) $12.5 \times 10^{-7} \Omega\text{m}$
- B) $1.25 \times 10^{-7} \Omega\text{m}$
- C) $0.125 \times 10^{-7} \Omega\text{m}$
- D) $125 \times 10^{-7} \Omega\text{m}$

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2786874

Number of Claims: 1

Declared Answer Key: B

Candidate Claim: C

Final Answer: B

Explanation:

$$L = 10 \text{ m}, A = 5 \times 10^{-7} \text{ m}^2, R = 2.5$$

$$\rho = RA / L = 2.5 \times 5 \times 10^{-7} / 10 = 1.25 \times 10^{-7}$$

Conclusion:

The final answer is option B. There is no change in the answer key.

48) The procedure involving the fitting of a series of rigid contact lenses to reshape the cornea is called as

- A) Orthokeratology
- B) Laser in situ keratomileusis
- C) Laser epithelial keratomileusis
- D) Photorefractive keratectomy

48) कॉर्निया को फिर से आकार देने के लिए कठोर कॉन्टैक्ट लेंस की एक श्रृंखला की फिटिंग को शामिल करने वाली प्रक्रिया को कहा जाता है:

- A) हड्डी रोग विज्ञान (ऑर्थोकेरोटोलॉजी)
- B) स्वस्थानी केराटोमाइलेसिस में लेजर
- C) लेजर एपिथेलियल केराटोमिलेसिस
- D) फोटोरिफ्रेक्टिव केराटेक्टोमी

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2786882

Number of Claims: 3

Declared Answer Key: A

Candidate Claim: A, B, D

Final Answer: A

Explanation:

Orthokeratology, or ortho-k, is the use of specially designed and fitted contact lenses to temporarily reshape the cornea to improve vision.

<https://www.aao.org/eye-health/glasses-contacts/what-is-orthokeratology>

Conclusion:

The final answer is option A. There is no change in the answer key.

49) If two or more resistors are connected in series, the parameter which remains the same is

- A) heat
- B) current
- C) resistance
- D) voltage

49) यदि दो या दो से अधिक प्रतिरोधक श्रेणीक्रम में जुड़े हैं, तो जो पैरामीटर समान रहता है वह है:

- A) उष्मा
- B) करंट
- C) प्रतिरोध
- D) वोल्टेज

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2786872

Number of Claims: 3

Declared Answer Key: B

Candidate **Claim: B**

Final Answer: B

Explanation:

The framing of the question and the answer options is appropriate to arrive at the correct answer. Since, there is no discrepancy found between the claimed answer option and the declared answer key, there is no change in the answer key.

Conclusion:

The final answer is option B. There is no change in the answer key.

50) In minimum deviation position of the prism, the angle of incidence is equal to angle of

- A) reflection
- B) emergence
- C) deviation
- D) refraction

50) प्रिज्म की न्यूनतम विचलन स्थिति में, आपतन कोण के कोण के बराबर होता है

- A) प्रतिबिंब
- B) उद्भव
- C) विचलन
- D) अपवर्तन

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2786884

Number of Claims: 1

Declared Answer Key: B

Candidate Claim: B

Final Answer: B

Explanation:

The framing of the question and the answer options is appropriate to arrive at the correct answer. Since, there is no discrepancy found between the claimed answer option and the declared answer key, there is no change in the answer key.

Conclusion:

The final answer is option B. There is no change in the answer key.

51) Kirchhoff's junction law signifies the law of conservation of

- A) power
- B) energy
- C) charge
- D) heat

51) किरचॉफ का संधि नियम किसके संरक्षण के नियम को दर्शाता है?

- A) शक्ति
- B) ऊर्जा
- C) चार्ज
- D) हीट

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2786873

Number of Claims: 3

Declared Answer Key: C

Candidate Claim: B, C

Final Answer: C

Explanation:

Kirchhoff's law states that the sum of currents entering a node is equal to the sum of currents leaving the node. Hence total charge that enters a node, leaves that node. This is law of conservation of charge.

Conclusion:

The final answer is option C. There is no change in the answer key.

52) In terms of image distance (v) and object distance (u), the linear magnification (m) is equal to

- A) v/u
- B) $(u-v)/v$
- C) $1/uv$
- D) u/v

52) प्रतिबिंब दूरी (इमेज डिस्टेंस) (v) और बिंब दूरी (ऑब्जेक्ट डिस्टेंस) (u) के संदर्भ में, रेखीय आवर्धन (लीनियर मैग्निफिकेशन) (m) किसके बराबर होगी?

- A) v/u
- B) $(u-v)/v$
- C) $1/uv$
- D) u/v

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2786876

Number of Claims: 1

Declared Answer Key: A

Candidate Claim: A

Final Answer: A

Explanation:

The framing of the question and the answer options is appropriate to arrive at the correct answer. Since, there is no discrepancy found between the claimed answer option and the declared answer key, there is no change in the answer key.

Conclusion:

The final answer is option A. There is no change in the answer key.

53) Which of the following elements is used in making a solar cell? 53) सौर सेल बनाने में निम्नलिखित में से किस तत्व का उपयोग किया जाता है?

- A) Gold
- B) Silver
- C) Carbon
- D) Silicon

- A) सोना
- B) चांदी
- C) कार्बन
- D) सिलिकॉन

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2786866

Number of Claims: 44

Declared Answer Key: D

Candidate Claim: A,B,C,D, None of These, Wrong Framing of Question

Final Answer: D

Explanation:

Solar cell is made using semiconductors. Silicon is a semiconductor and is commonly used in solar cell.

The question has been framed correctly and candidate should not face any difficulty in arriving at the correct answer.

Conclusion:

The final answer is option D. There is no change in the answer key.

54) The nuclear fuel in the sun is

- A) Hydrogen
- B) Nitrogen
- C) Helium
- D) Iridium

54) सूर्य में परमाणु ईंधन है:

- A) हाइड्रोजन
- B) नाइट्रोजन
- C) हीलियम
- D) इरिडियम

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2786869

Number of Claims: 4

Declared Answer Key: A

Candidate Claim: A, C, None of These

Final Answer: A

Explanation:

The source of sun incessant energy is hydrogen which is continuously converting to helium through nuclear fusion reaction releasing energy.

Conclusion:

The final answer is option A. There is no change in the answer key.

55) In which of the following isotopes of uranium or plutonium, fission is NOT caused by low-energy (slow, or thermal) neutrons?

- A) U-233
- B) Pu-239
- C) U-235
- D) Pu-238

55) यूरेनियम या प्लूटोनियम के निम्नलिखित में से किस समस्थानिक में, विखंडन निम्न-ऊर्जा (धीमी, या थर्मल) न्यूट्रॉन के कारण नहीं होता है?

- A) U-233
- B) Pu-239
- C) U-235
- D) Pu-238

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2786868

Number of Claims: 10

Declared Answer Key: D

Candidate Claim: A, B, C, D, None of These

Final Answer: D

Explanation:

Low-energy (slow, or thermal) neutrons are able to cause fission only in those isotopes of uranium and plutonium whose nuclei contain odd numbers of neutrons (e.g. U-233, U-235, and Pu-239).

Conclusion:

The final answer is option D. There is no change in the answer key.

56) The role of plane mirror and glass sheet in a solar cooker is

A) to focus solar energy into the cooker

B) for protection of cooker

C) to radiate solar heat

D) to reflect solar heat into the solar cooker thereby increasing its temperature

56) सोलर कुकर में समतल दर्पण और कांच की शीट की भूमिका है

A) सौर ऊर्जा को कुकर में केंद्रित करने के लिए

B) कुकर की सुरक्षा के लिए

C) सौर ताप विकीर्ण करने के लिए

D) सौर कुकर में सौर ताप को प्रतिबिंबित करने के लिए जिससे उसका तापमान बढ़ जाता है

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2786870

Number of Claims: 5

Declared Answer Key: D

Candidate Claim: A, C, **Wrong Framing of Question**

Final Answer: D

Explanation:

The plane mirror is used in a solar cooker, because it reflects the most of the light falling on it.

A glass sheet is used in a solar cooker because the sun rays pass through the glass sheet cover and get absorbed inside the cooker box. It traps more and more heat rays of the sun, thus heating the food item

The question has been framed correctly and candidate should not face any difficulty in arriving at the correct answer.

Conclusion:

The final answer is option D. There is no change in the answer key.

57) The refractive index of glass with respect to air is 2. The critical angle for the glass-air interface is

- A) 45°
- B) 60°
- C) 0°
- D) 30°

57) वायु के संबंध में काँच का अपवर्तनांक 2 है। तो काँच-वायु अंतरापृष्ठ (इंटरफेस) के लिए क्रांतिक कोण क्या होगा?

- A) 45°
- B) 60°
- C) 0°
- D) 30°

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2786877

Number of Claims: 1

Declared Answer Key: D

Candidate Claim: B

Final Answer: D

Explanation:

$$\sin c = 1/n$$

$$\sin c = 1/2 \Rightarrow c = 30 \text{ degree}$$

Conclusion:

The final answer is option D. There is no change in the answer key.

58) If the power of a lens is +2.5D, the focal length of the lens is

- A) 100 cm
- B) 400 cm
- C) 40 cm
- D) 25 cm

58) यदि किसी लेंस की क्षमता +2.5D है, तो लेंस की फोकस दूरी है:

- A) 100 cm
- B) 400 cm
- C) 40 cm
- D) 25 cm

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2786883

Number of Claims: 1

Declared Answer Key: C

Candidate Claim: A

Final Answer: C

Explanation:

$$f = 1/P = 1/2.5 = 0.4 \text{ m} = 40 \text{ cm}$$

Conclusion:

The final answer is option C. There is no change in the answer key.

59) A convex lens of power 4D is placed at a distance of 50 cm from the wall. At what distance from the wall a candle be placed to get a clear image at the wall?

- A) 50 cm
- B) 30 cm
- C) 40 cm
- D) 60 cm

59) 4D शक्ति का एक उत्तल लेंस दीवार से 50 cm की दूरी पर रखा गया है। दीवार पर एक स्पष्ट छवि प्राप्त करने के लिए दीवार से कितनी दूरी पर एक मोमबत्ती रखी जाए?

- A) 50 cm
- B) 30 cm
- C) 40 cm
- D) 60 cm

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2786885

Number of Claims: 1

Declared Answer Key: A

Candidate Claim: B

Final Answer: A

Explanation:

$P = 4D \Rightarrow f = 1/P = 1/4 = 0.25 = 25 \text{ cm}$, $1/u = 1/f - 1/v$, $1/u = 1/25 - 1/50 = 1/50 \Rightarrow u = 50 \text{ cm}$

Conclusion:

The final answer is option A. There is no change in the answer key.

60) Components of the Stainless steel alloy are

- A) Iron, Nickel and Magnesium
- B) Iron, Nickel and Chromium
- C) Bronze, Magnesium and Nickel
- D) Iron, Bronze and Magnesium

60) स्टेनलेस स्टील मिश्र धातु के घटक हैं:

- A) लोहा, निकल और मैग्नीशियम
- B) लोहा, निकल और क्रोमियम
- C) कांस्य, मैग्नीशियम और निकल
- D) लोहा, कांस्य और मैग्नीशियम

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2786896

Number of Claims: 2

Declared Answer Key: B

Candidate Claim: A

Final Answer: B

Explanation:

Stainless steel is a metal alloy, made up of steel mixed with elements such as chromium, nickel, molybdenum, silicon, aluminum, and carbon. Iron mixed with carbon to produce steel is the main component of stainless steel.

The snapshot below can be referred to.

Ans. (b) Stainless steel is a metal alloy, made up of steel mixed with elements such as chromium, nickel, molybdenum, silicon, aluminum, and carbon. Iron mixed with carbon to produce steel is the main component of stainless steel. Chromium is added to make it resistant to rust.

References:

NCERT science book for class 10, NCERT chemistry book for class 11

NCERT chemistry book for class 12

http://www.softschools.com/quizzes/science/properties_of_stainless_steel/quiz6252.html

Conclusion:

The final answer is option B. There is no change in the answer key.

61) Formation of calcium hydroxide by calcium oxide with water is an example of

- A) Substitution reaction
- B) Combustion reaction
- C) Single displacement reaction
- D) Combination reaction

61) पानी के साथ कैल्शियम ऑक्साइड द्वारा कैल्शियम हाइड्रॉक्साइड का बनना निम्न में से किस प्रतिक्रिया का एक उदाहरण है?

- A) प्रतिस्थापन प्रतिक्रिया
- B) दहन प्रतिक्रिया
- C) एकल विस्थापन प्रतिक्रिया
- D) संयोजन प्रतिक्रिया

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2786890

Number of Claims: 2

Declared Answer Key: D

Candidate Claim: B, D

Final Answer: D

Explanation:

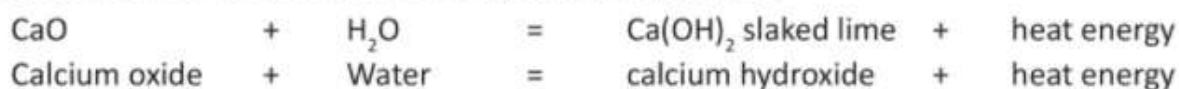
Chemical reactions in which two or more substances react to form one compound are called Combination Reactions. Combination means to get combine.

Example: 1:

When quick lime reacts with water, water and quick lime go under combination reaction and give calcium hydroxide.

The snapshot below can be referred to.

We take the example of calcium hydroxide which is widely available. Calcium oxide (quicklime) on being placed in water reacts with it forming calcium hydroxide.



References:

<http://10upon10.com/10thscience-chemical-reactions-and-equations-3.html>

https://books.google.co.in/books?id=cTQtDAAAQBAJ&pg=PA81&dq=Formation+of+calcium+hydroxide+by+calcium+oxide+with+water+is+an+example+of&hl=en&sa=X&ved=0ahUKEwjot9m487_XAhXFO48KHUkIBpQQ6AEIKDAA#v=onepage&q=Formation%20of%20calcium%20hydroxide%20by%20calcium%20oxide%20with%20water%20is%20an%20example%20of&f=false

Conclusion:

The final answer is option D. There is no change in the answer key.

62) Different solutions having equal osmotic pressure are called

- A) Hypotonic solutions
- B) Isotonic solutions
- C) Saline solutions
- D) Hypertonic solutions

62) समान आसमाटिक दबाव वाले विभिन्न विलयनों को क्या कहा जाता है?

- A) हाइपोटोनिक विलयन
- B) आइसोटोनिक विलयन
- C) खारा विलयन
- D) हाइपरटोनिक विलयन

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2786905

Number of Claims: 1

Declared Answer Key: B

Candidate Claim: C

Final Answer: B

Explanation:

Two solutions having same osmotic pressure at a given temperature are called isotonic solutions.

The snapshot below can be referred to.

The two solutions having equal osmotic pressure are called isotonic solutions. A solution having higher osmotic pressure than some other solution is said to be hypertonic with respect to the other solution. A solution having lower osmotic pressure relative to some other solution is called hypotonic.

References:

<https://byjus.com/questions/what-is-the-term-used-for-two-solutions-having-same-osmotic-pressure-at-a-given-temperature/>

https://books.google.co.in/books?id=oAlxIVRzrN8C&pg=PA245&lpg=PA245&dq=Saline+solutions+%2B+equal+osmotic+pressure&source=bl&ots=P0E2hHmtLe&sig=mXrW8CkgfWALF14rVqHStiVf1_Q&hl=en&sa=X&ved=0ahUKEwui4fmjosLXAhWGvo8KHxs9C584ChDoAQg_MAY#v=onepage&q=Saline%20solutions%20%2B%20equal%20osmotic%20pressure&f=false

<https://books.google.co.in/books?id=IBGdBQAAQBAJ&pg=PA231&lpg=PA231&dq=Saline+solutions+%2B+equal+osmotic+pressure&source=bl&ots=y6VhtAln1S&sig=u0bBddc4CDmqMvukl-5dfD6Xy1w&hl=en&sa=X&ved=0ahUKEwui4fmjosLXAhWGvo8KHxs9C584ChDoAQg8MAU#v=onepage&q=Saline%20solutions%20%2B%20equal%20osmotic%20pressure&f=false>

Conclusion:

The final answer is option B. There is no change in the answer key.

63) Rancidity in oils and fats is due to

- A) Reduction
- B) Oxidation
- C) Combination reaction
- D) Substitution reaction

63) तेल और चरबी में विकृतगंधिका (रेंसिडीटी) किसके कारण होती है?

- A) न्यूनीकरण
- B) ऑक्सीकरण
- C) संयोजन प्रतिक्रिया
- D) प्रतिस्थापन प्रतिक्रिया

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2786892

Number of Claims: 1

Declared Answer Key: B

Candidate Claim: **B**

Final Answer: B

Explanation:

The framing of the question and the answer options is appropriate to arrive at the correct answer. Since, there is no discrepancy found between the claimed answer option and the declared answer key, there is no change in the answer key.

Conclusion:

The final answer is option B. There is no change in the answer key.

64) Passing hydrogen gas over heated cupric oxide results in formation of

- A) Cupric anhydrate
- B) Cuprous oxide
- C) Oxygen
- D) Copper

64) गर्म क्यूप्रिक ऑक्साइड के ऊपर हाइड्रोजन गैस प्रवाहित करने के परिणामस्वरूप क्या निर्माण होता है?

- A) क्यूप्रिक एनहाइड्रेट
- B) क्यूप्रस ऑक्साइड
- C) ऑक्सीजन
- D) तांबा (कॉपर)

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2786888

Number of Claims: 1

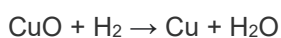
Declared Answer Key: D

Candidate Claim: A

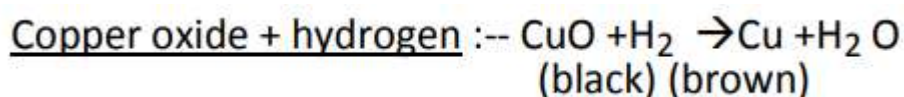
Final Answer: D

Explanation:

When hydrogen gas is passed over heated cupric oxide, it results in formation of copper.



The snapshot below can be referred to.



References:

<https://books.google.co.in/books?id=Go3TCQAAQBAJ&pg=PA16&lpg=PA16&dq=passing+hydrogen+gas+over+heat+ed+cupric+oxide+results+in+formation&source=bl&ots=9TIOgw3PMB&sig=aSiW8IFVu4rWZfKOBNAabe4RcsU&hl=en&sa=X&ved=0ahUKEwjV6O2DzrPXAhXBPo8KHRHMDn0Q6AEISzAI#v=onepage&q=passing%20hydrogen%20gas%20over%20heated%20cupric%20oxide%20results%20in%20formation&f=false>

http://chemed.chem.purdue.edu/demos/main_pages/9.9.html

https://stewartschoolctc.in/green-hornet/uploads/CLASS-8-Chem-Q.Bank_.pdf

Conclusion:

The final answer is option D. There is no change in the answer key.

65) Dilute solution of hydrochloric acid is used to remove deposits from inner side of boilers. This process is called

- A) Galvanising
- B) Neutralizing
- C) Rescaling
- D) Descaling

65) हाइड्रोक्लोरिक अम्ल के तनु विलयन का उपयोग बॉयलरों के भीतरी भाग से जमा को हटाने के लिए किया जाता है। इस प्रक्रिया को क्या कहा जाता है?

- A) गाल्वेनाइजिंग
- B) न्यूट्रलाइजिंग
- C) रीस्केलिंग
- D) डीस्केलिंग

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2786903

Number of Claims: 1

Declared Answer Key: D

Candidate Claim: D

Final Answer: D

Explanation:

The framing of the question and the answer options is appropriate to arrive at the correct answer. Since, there is no discrepancy found between the claimed answer option and the declared answer key, there is no change in the answer key.

Conclusion:

The final answer is option D. There is no change in the answer key.

66) Silver articles on exposure to sunlight turns black due to formation of

- A) Silver sulphide
- B) Silver nitrate
- C) Silver sulphate
- D) Silver sulphite

66) सूर्य के प्रकाश के संपर्क में आने पर चांदी की वस्तुएँ किसके बनने के कारण काली हो जाती हैं?

- A) सिल्वर सल्फाइड
- B) सिल्वर नाइट्रेट
- C) सिल्वर सल्फेट
- D) सिल्वर सल्फाइट

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2786895

Number of Claims: 2

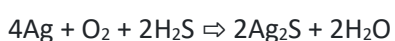
Declared Answer Key: A

Candidate Claim: A, B

Final Answer: A

Explanation:

A layer of black substance, called silver oxide, deposited over silver because of exposure of oxygen present in air. Finally it forms silver sulphide with the reaction of oxygen and hydrogen sulphide gas present in atmosphere, because of which silver metal turns black. This phenomenon is called tarnish or tarnishing of silver. Reaction involved in this is given here:



The silver sulphide so formed can be cleaned using toothpaste. Toothpastes have many abrasive substance.

The snapshot below can be referred to.

67) Potassium ferricyanide is an example for

- A) Gel
- B) Acid
- C) Base
- D) Salt

67) पोटैशियम फेरिसायनाइड किसके लिए एक उदाहरण है?

- A) जेल
- B) एसिड
- C) बेस
- D) नमक

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2786904

Number of Claims: 1

Declared Answer Key: D

Candidate Claim: A

Final Answer: D

Explanation:

Definition of potassium ferricyanide

A red crystalline salt $K_3Fe(CN)_6$ made by oxidizing potassium ferrocyanide with chlorine and used chiefly as a photographic bleach and in coating blueprint paper — called also red prussiate of potash.

Potassium ferrocyanide (E536) is classified as a neutral salt and is becoming increasingly common in the diet by being added to iodised salt as an anti-caking agent.

The snapshot below can be referred to.

Potassium ferricyanide is a coordination compound whose chemical formula is given by $K_3[Fe(CN)_6]$. This chemical compound exists as a bright red salt under standard conditions for temperature and pressure (usually abbreviated to STP). Each potassium ferricyanide molecule consists of three positively charged potassium cations and one ferricyanide anion. It can be noted that the coordination structure of the ferricyanide anion is octahedral.

References:

https://www.europarl.europa.eu/doceo/document/E-7-2011-004484_EN.html

<https://byjus.com/chemistry/potassium-ferricyanide/>

<https://www.merriam-webster.com/dictionary/potassium%20ferricyanide>

Conclusion:

The final answer is option D. There is no change in the answer key.

68) Reducing agent in smelting of iron is

- A) Cobalt
- B) Calcium carbonate
- C) Coke
- D) Calcium hydroxide

68) लोहे को गलाने में अपचायक है:

- A) कोबाल्ट
- B) कैल्शियम कार्बोनेट
- C) कोक
- D) कैल्शियम हाइड्रॉक्साइड

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2786894

Number of Claims: 1

Declared Answer Key: C

Candidate **Claim: C**

Final Answer: C

Explanation:

The framing of the question and the answer options is appropriate to arrive at the correct answer. Since, there is no discrepancy found between the claimed answer option and the declared answer key, there is no change in the answer key.

Conclusion:

The final answer is option C. There is no change in the answer key.

69) Phenolphthalein works in the

(i)acidic pH

(ii)basic pH

(iii)neutral pH

Choose the CORRECT option from the options given.

A) both (i) and (ii)

B) (i) only

C) (ii) only

D) (iii) only

69) फेनोल्फथेलिन काम करता है

(i) एसिडिक pH में

(ii) बेसिक pH में

(iii) न्यूट्रल pH में

दिए गए विकल्पों में से सही विकल्प चुनें।

A) (i) और (ii) दोनों

B) केवल (i)

C) केवल (ii)

D) केवल (iii)

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2786901

Number of Claims: 4

Declared Answer Key: C

Candidate Claim: A, C

Final Answer: C

Explanation:

Phenolphthalein works in basic range pH 8.2 to 10.

Some of the most widely-used pH testing tools are pH indicators, including phenolphthalein (range pH 8.2 to 10.0; colorless to pink), bromthymol blue (range pH 6.0 to 7.6; yellow to blue), and litmus (range pH 4.5 to 8.3; red to blue).

The snapshot below can be referred to.

For phenolphthalein: pH 8.2 = colorless; pH 10 = red
For bromophenol blue: pH 3 = yellow; pH 4.6 = blue

References:

<https://www.carolina.com/knowledge/2020/02/18/measuring-ph>

https://www.google.co.in/books/edition/Pearson_NEET_Foundation_Science_Class_10/--rGDwAAQBAJ?hl=en&gbpv=1&dq=Phenolphthalein+works+in+basic+range+pH+8.2+to+10.&pg=RA4-PA22&printsec=frontcover

<http://chemistry.bd.psu.edu/jircitano/abindic.html>

Conclusion:

The final answer is option C. There is no change in the answer key.

70) When magnesium ribbon is burnt in presence of air, it forms
70) जब मैग्नीशियम रिबन को हवा की उपस्थिति में जलाया जाता है, तो क्या बनता है?

- A) green flame
- B) blue flame
- C) white flame
- D) red flame

- A) हरी लौ
- B) नीली लौ
- C) सफेद लौ
- D) लाल लौ

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2786886

Number of Claims: 2

Declared Answer Key: C

Candidate Claim: C

Final Answer: C

Explanation:

The framing of the question and the answer options is appropriate to arrive at the correct answer. Since, there is no discrepancy found between the claimed answer option and the declared answer key, there is no change in the answer key.

Conclusion:

The final answer is option C. There is no change in the answer key.

71) Colour of ferrous sulphate crystals is

- A) White
- B) Blue
- C) Green
- D) Orange

71) फेरस सल्फेट क्रिस्टल का रंग है:

- A) सफेद
- B) नीला
- C) हरा
- D) नारंगी

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2786887

Number of Claims: 1

Declared Answer Key: C

Candidate Claim: C

Final Answer: C

Explanation:

The framing of the question and the answer options is appropriate to arrive at the correct answer. Since, there is no discrepancy found between the claimed answer option and the declared answer key, there is no change in the answer key.

Conclusion:

The final answer is option C. There is no change in the answer key.

72) Reaction of Zinc with Sulphuric acid releases

- A) Oxygen gas
- B) Sulphur gas
- C) Nitrogen gas
- D) Hydrogen gas

72) जिंक की सल्फ्यूरिक एसिड के साथ प्रतिक्रिया से क्या मुक्त (रिलीज़) होता है?

- A) ऑक्सीजन गैस
- B) सल्फर गैस
- C) नाइट्रोजन गैस
- D) हाइड्रोजन गैस

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2786889

Number of Claims: 2

Declared Answer Key: D

Candidate Claim: D, Wrong Framing of Question

Final Answer: D

Explanation:

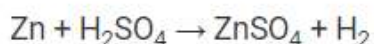
Reaction of Zinc with Dilute Sulphuric Acid

Zinc is more reactive than hydrogen and it displaces hydrogen from dilute acids. Zinc reacts with dilute sulphuric acid to form zinc sulphate and hydrogen gas is evolved. This is a single displacement reaction of a non-metal by a metal.

The products $ZnSO_4$ and H_2 (g) are entirely different in chemical composition and chemical properties from the reactants Zn and H_2SO_4 . So, this reaction is a chemical change.

The snapshot below can be referred to.

When dilute sulphuric acid is poured on zinc granules, then zinc being more reactive than hydrogen displaces it from the acid and forms zinc sulphate and hydrogen gas.



Hydrogen is a combustible gas and burns with a popping sound. This can be observed when a match stick which is burnt is brought near to the test tube.

The question has been framed correctly and candidate should not face any difficulty in arriving at the correct answer.

References:

https://books.google.co.in/books?id=sx8TBAAQBAJ&pg=PT8&dq=Reaction+of+zinc+with+sulphuric+acid+releases&hl=en&sa=X&ved=0ahUKEwjLj4_o57_XAhVIRY8KHRcVCvwQ6AEISzAH#v=onepage&q=Reaction%20of%20zinc%20with%20sulphuric%20acid%20releases&f=false

<http://amrita.olabs.edu.in/?sub=73&brch=2&sim=77&cnt=1>

<https://byjus.com/questions/what-happens-when-dilute-sulphuric-acid-is-poured-on-zinc-granules/>

Conclusion:

The final answer is option D. There is no change in the answer key.

73) Which compound is used for reducing iron oxide to iron?

- A) Silica dioxide
- B) Quick lime
- C) Silica
- D) Coke

73) आयरन ऑक्साइड को आयरन में अपचयित करने के लिए किस यौगिक का उपयोग किया जाता है?

- A) सिलिका डाइऑक्साइड
- B) क्विक लाइम
- C) सिलिका
- D) कोक

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2786899

Number of Claims: 2

Declared Answer Key: D

Candidate Claim: A

Final Answer: D

Explanation:

Coke is used for reducing iron oxide to iron. Silica and silica dioxide doesn't react with iron and quicklime is used in cement industry.

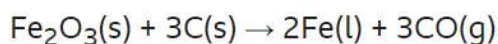
The common ores of iron are both iron oxides, and these can be reduced to iron by heating them with carbon in the form of coke. Coke is produced by heating coal in the absence of air.

Coke is cheap and provides both the reducing agent for the reaction and also the heat source.

The snapshot below can be referred to.

Iron(III) oxide is reduced to molten iron when it reacts with carbon. One of the products is carbon monoxide:

iron(III) oxide + carbon → iron + carbon monoxide



This method of extraction works because carbon is more reactive than iron, so it can **displace** iron from iron compounds. Extracting a metal by heating with carbon is cheaper than using electrolysis.

References:

<https://www.chemguide.co.uk/inorganic/extraction/iron.html>

http://www.bbc.co.uk/schools/gcsebitesize/science/aqa_pre_2011/rocks/metalsrev2.shtml

Conclusion:

The final answer is option D. There is no change in the answer key.

74) Identify the following statements as TRUE or FALSE.

(i) Calcium oxide, in its direct form, reacts slowly with carbon dioxide. Therefore, to accelerate the process, it is mixed with water to form slaked lime

(ii) Quick lime is used to prepare bleaching powder, Calcium carbide and Calcium cyanamide

(iii) Quick lime is used as a fertilizer for acidic soils

(iv) The solubility of Quick lime increases with temperature

A) (i) - TRUE; (ii) - TRUE; (iii) - TRUE; (iv) - TRUE

B) (i) - FALSE; (ii) - FALSE; (iii) - TRUE; (iv) - TRUE

C) (i) - TRUE; (ii) - TRUE; (iii) - FALSE; (iv) - FALSE

D) (i) - TRUE; (ii) - TRUE; (iii) - TRUE; (iv) - FALSE

74) निम्नलिखित कथनों को सही या गलत के रूप में पहचानें।

(i) कैल्शियम ऑक्साइड अपने प्रत्यक्ष रूप में कार्बन डाइऑक्साइड के साथ धीरे-धीरे प्रतिक्रिया करता है। इसलिए, प्रक्रिया को तेज करने के लिए, इसे बुझा हुआ चूना (स्लेक्ड लाइम) बनाने के लिए पानी के साथ मिलाया जाता है

(ii) ब्लिचिंग पाउडर, कैल्शियम कार्बाइड और कैल्शियम साइनामाइड तैयार करने के लिए क्लिक लाइम का उपयोग किया जाता है

(iii) त्वरित चूने (क्लिक लाइम) का उपयोग अम्लीय मिट्टी के लिए उर्वरक के रूप में किया जाता है

(iv) त्वरित चूने (क्लिक लाइम) की घुलनशीलता तापमान के साथ बढ़ जाती है

A) (i) - सही ; (ii) - सही ; (iii) - सही ; (iv) - सही

B) (i) - गलत; (ii) - गलत; (iii) - सही ; (iv) - सही

C) (i) - सही ; (ii) - सही ; (iii) - गलत; (iv) - गलत

D) (i) - सही ; (ii) - सही ; (iii) - सही ; (iv) - गलत

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2786891

Number of Claims: 1

Declared Answer Key: D

Candidate Claim: B

Final Answer: D

Explanation:

Calcium oxide, in its direct form, reacts slowly with carbon dioxide. Therefore, to accelerate the process, it is mixed with water to form slaked lime. Quick lime is used to prepare bleaching powder, Calcium carbide and Calcium cyanamide.

Quick lime is used as a fertilizer for acidic soils.

The solubility of Quick lime decreases with temperature. So, Statement 4 is INCORRECT.

References:

<https://sciencestruck.com/quicklime-uses>

<http://www.cheneylime.com/limefact.htm>

Conclusion:

The final answer is option D. There is no change in the answer key.

75) Which artificial nonmetallic compound is used as water softener? 75) पानी को मृदु बनाने के लिए किस कृत्रिम अधातु यौगिक का उपयोग किया जाता है?

- A) Calcium silicate
- B) Permutit
- C) Carborundum
- D) Silicone

- A) कैल्शियम सिलिकेट
- B) परमुटिट
- C) कारबरंडम
- D) सिलिकॉन

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2786898

Number of Claims: 2

Declared Answer Key: B

Candidate **Claim: B**

Final Answer: B

Explanation:

The framing of the question and the answer options is appropriate to arrive at the correct answer. Since, there is no discrepancy found between the claimed answer option and the declared answer key, there is no change in the answer key.

Conclusion:

The final answer is option B. There is no change in the answer key.

- 76) Carbohydrates in plants are usually stored in the form of
- 76) पौधों में कार्बोहाइड्रेट आमतौर पर किस रूप में जमा होते हैं?
- A) Glucose
- B) Glycogen
- C) Starch
- D) Maltose
- A) शर्करा
- B) ग्लाइकोजन
- C) स्टार्च
- D) माल्टोस

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2786927

Number of Claims: 2

Declared Answer Key: C

Candidate Claim: A, C

Final Answer: C

Explanation:

Carbohydrates in plants are usually stored in the form of starch.

The snapshot below can be referred to:

The main purpose of carbohydrates is, providing energy to the plant. The carbohydrates are not utilized immediately for the process; they are stored in the form of starch, which serves as an internal energy reserve.

The stored energy can be used as and when required by the plant.

References:

[https://books.google.co.in/books?id=rdCbAAAAQBAJ&pg=PA37&dq=Carbohydrates+in+plants+are+stored+in+the+form+of+Starch&hl=en&sa=X&ved=0ahUKEwjnrprMij_XAhXLo48KHQQNBbUQ6AEIKzAB#v=onepage&q=Carbohydrates in plants are stored in the form of Starch&f=false](https://books.google.co.in/books?id=rdCbAAAAQBAJ&pg=PA37&dq=Carbohydrates+in+plants+are+stored+in+the+form+of+Starch&hl=en&sa=X&ved=0ahUKEwjnrprMij_XAhXLo48KHQQNBbUQ6AEIKzAB#v=onepage&q=Carbohydrates+in+plants+are+stored+in+the+form+of+Starch&f=false)

[https://books.google.co.in/books?id=UI7gBwAAQBAJ&pg=PA117&dq=Carbohydrates+in+plants+are+stored+in+the+form+of+Starch&hl=en&sa=X&ved=0ahUKEwilicaih5_XAhUCTo8KHV04CAMQ6AEIJTAA#v=onepage&q=Carbohydrates in plants are stored in the form of Starch&f=false](https://books.google.co.in/books?id=UI7gBwAAQBAJ&pg=PA117&dq=Carbohydrates+in+plants+are+stored+in+the+form+of+Starch&hl=en&sa=X&ved=0ahUKEwilicaih5_XAhUCTo8KHV04CAMQ6AEIJTAA#v=onepage&q=Carbohydrates+in+plants+are+stored+in+the+form+of+Starch&f=false)

<http://pediaa.com/difference-between-starch-cellulose-and-glycogen/>

Conclusion:

The final answer is option C. There is no change in the answer key.

77) The structure associated with both, the nervous system and endocrine system is

- A) Hypothalamus
- B) Pons
- C) Cerebellum
- D) Spinal cord

77) तंत्रिका तंत्र और अंतःस्रावी तंत्र दोनों से जुड़ी संरचना है

- A) हाइपोथेलेमस
- B) पॉस
- C) अनुमस्तिष्क
- D) मेरुदण्ड

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2786932

Number of Claims: 1

Declared Answer Key: A

Candidate Claim: D

Final Answer: A

Explanation:

The structure associated with both, the nervous system and endocrine system is hypothalamus.

The snapshot below can be referred to:

- The portion of the brain that maintains the body's internal balance (homeostasis).
- The hypothalamus is the link between the endocrine and nervous systems.

References:

<https://books.google.co.in/books?id=mxJnDAAAQBAJ&pg=PA39&dq=The+structure+associated+with+both+nervous+system+and+endocrine+system+is+hypothalamus&hl=en&sa=X&ved=0ahUKEwj3pJmu7KnXAhWJpY8KHQ3QB9sQ6AEILTAB#v=onepage&q=The+structure+associated+with+both+nervous+system+and+endocrine+system+is+hypothalamus&f=false>

<https://www.endocrineweb.com/endocrinology/overview-hypothalamus>

Conclusion:

The final answer is option A. There is no change in the answer key.

78) Plant hormones are also called

- A) cytohormones
- B) metahormones
- C) phytohormones
- D) hypothomes

78) पादप हॉर्मोन को किस नाम से भी जाना जाता है?

- A) साइटोहोर्मोन
- B) मेटाहोर्मोन
- C) फाइटोहोर्मोन
- D) हाइपोथोमस

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2786931

Number of Claims: 1

Declared Answer Key: C

Candidate **Claim: C**

Final Answer: C

Explanation:

The framing of the question and the answer options is appropriate to arrive at the correct answer. Since, there is no discrepancy found between the claimed answer option and the declared answer key, there is no change in the answer key.

Conclusion:

The final answer is option C. There is no change in the answer key.

79) The component in chromosome that controls heredity is

- A) RNA
- B) DNA
- C) Histone
- D) Protein

79) गुणसूत्र (क्रोमोज़ोम) में आनुवंशिकता को नियंत्रित करने वाला घटक है

- A) RNA
- B) DNA
- C) हिस्टोन
- D) प्रोटीन

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2786937

Number of Claims: 2

Declared Answer Key: B

Candidate Claim: A, B

Final Answer: B

Explanation:

The component in chromosome that controls heredity is DNA.

The snapshot below can be referred to:

The genetic material is present in the form of chromatin which is a loose and indistinct network of nucleoprotein fibers. The Nucleo part is made up of the nucleic acid DNA and the protein part is made up of histone and non-histone proteins. The DNA is two meters long and it is distributed among 46 (twenty-three pairs) chromosomes. DNA is made up of nucleotides and the sequence in which they are arranged determines the genotype and phenotype of a person. DNA results in the formation of RNA which results in the formation of proteins and thus decides the phenotype. Thus, the component of a chromosome that controls heredity and inheritance is DNA.

References:

<https://books.google.co.in/books?id=L9TwLvnIvncC&pg=PA24&dq=chromosome+that+controls+heredity+is+DNA&hl=en&sa=X&ved=0ahUKEwjw8SHi6zXAhXCNo8KHRg7BjMQ6AEIJTAA#v=onepage&q=chromosome+that+controls+heredity+is+DNA&f=false>

<https://www.vedantu.com/question-answer/the-component-of-a-chromosome-that-controls-class-12-biology-cbse-5fd83733609c0e2b7672e75b>

Conclusion:

The final answer is option B. There is no change in the answer key.

80) On what cellular structures are genes in eukaryotes carried? 80) यूकेरियोट्स में जीन किस सेलुलर संरचना पर होते हैं?

- A) Chromosomes
- B) Endoplasmic reticulum
- C) Nuclear membrane
- D) Mitochondria

- A) क्रोमोज़ोम्स
- B) एन्डोप्लाज़्मिक रेटिकुलम
- C) न्यूक्लियर मेम्ब्रेन
- D) माइटोकॉन्ड्रिया

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2786938

Number of Claims: 1

Declared Answer Key: A

Candidate Claim: D

Final Answer: A

Explanation:

On chromosomes are genes in eukaryotes carried.

The snapshot below can be referred to:

Chromosome, the microscopic threadlike part of the cell that carries hereditary information in the form of genes. A defining feature of

References:

<https://www.britannica.com/science/chromosome>

Conclusion:

The final answer is option A. There is no change in the answer key.

81) Which of the following is a respiratory pigment in the human body?

- A) Blood
- B) Haemoglobin
- C) Water
- D) Chlorophyll

81) निम्नलिखित में से कौन सा मानव शरीर में श्वसन वर्णक है?

- A) खून
- B) हीमोग्लोबिन
- C) पानी
- D) क्लोरोफिल

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2786928

Number of Claims: 2

Declared Answer Key: B

Candidate Claim: B, D

Final Answer: B

Explanation:

Haemoglobin is the respiratory pigment in the human body.

The snapshot below can be referred to:

Haemoglobin is the respiratory pigment in human beings. It is red and present in the human blood.

References:

https://books.google.co.in/books?id=7tt1C1aJ0G4C&pg=PA518&dq=Which+is+the+respiratory+pigment+in+the+human+body&hl=en&sa=X&ved=0ahUKEwikzfaVmZ_XAhUG2o8KHRtnBnQQ6AEIKjAB#v=onepage&q=Which+is+the+respiratory+pigment+in+the+human+body&f=false

<https://byjus.com/questions/name-the-respiratory-pigment-in-human-beings-where-it-is-found/>

Conclusion:

The final answer is option B. There is no change in the answer key.

82) The stratosphere layer of the atmosphere consists of what among the following that provides protection to our life?

- A) Argon
- B) Ozone
- C) Nitrogen
- D) Hydrogen

82) वायुमंडल की समताप मंडल परत में निम्नलिखित में से क्या है जो हमारे जीवन को सुरक्षा प्रदान करता है?

- A) आर्गन
- B) ओजोन
- C) नाइट्रोजन
- D) हाइड्रोजन

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2786941

Number of Claims: 2

Declared Answer Key: B

Candidate Claim: C, D

Final Answer: B

Explanation:

The stratosphere layer of the atmosphere consists of ozone that provides protection to our life.

The snapshot below can be referred to:

The ozone layer is the common term for the high concentration of ozone that is found in the stratosphere around 15–30km above the earth's surface. It covers the entire planet and protects life on earth by absorbing harmful ultraviolet-B (UV-B) radiation from the sun.

References:

<https://www.environment.gov.au/protection/ozone/publications/ozone-layer-factsheet>

Conclusion:

The final answer is option B. There is no change in the answer key.

83) An example of Detritivores among the following is

A) Plants

B) Owl

C) Lizard

D) Earthworm

A) पौधा

B) उल्लू

C) छिपकली

D) केंचुआ

Domain Name	Batch	Question No
Diploma Laterals	Batch 1	Q2786942

Number of Claims: 1

Declared Answer Key: D

Candidate Claim: **D**

Final Answer: D

Explanation:

The framing of the question and the answer options is appropriate to arrive at the correct answer. Since, there is no discrepancy found between the claimed answer option and the declared answer key, there is no change in the answer key.

Conclusion:

The final answer is option D. There is no change in the answer key.