

Question (1)

Directions (1 – 3) : In each of the following questions, select the related letter/word/ number from the given alternatives.

निर्देश (1-3): निम्न प्रत्येक प्रश्न में दिए गए विकल्पों में से सम्बन्धित अक्षर/शब्द/संख्य को चुनिए।

Clock : Time :: Thermometer : ?

घड़ी : समय : थर्मामीटर : ?

(A) Heat/ऊष्मा (B) Radiation/विकिरण

(C) Energy/ऊर्जा (D) Temperature/तापमान

Correct Option : D

Explanation :

As Clock shows the time, similarly Thermometer shows the Temperature

Question (2)

Skeleton : Body :: Grammar : ?

कंकाल : शरीर :: व्याकरण

(A) Language/भाषा

(B) Sentence/वाक्य

(C) Meaning/अर्थ

(D) Education/शिक्षा

Correct Option : A

Explanation :

A body consist of skeleton and language consist of grammar.

Question (3)

97 : 63 :: 48 : ?

(A) 38 (B) 46

(C) 32 (D) 72

Correct Option : C

Explanation :

$9 \times 7 = 63$ and $4 \times 8 = 32$

Question (4)

Directions (4–6) : Find the odd word/letters/ number pair/number from the given alternatives.

निर्देश (4-6): दिये गए विकल्पों में से विषम शब्द/अक्षर/संख्या युग्म/संख्या को चुनिए।

(A) Snake/साँप

(B) Whale/व्हाले

(C) Crocodile/मगरमच्छ

(D) Lizard/छिपकली

Correct Option : B

Explanation :

All except Whales are reptiles

Question (5)

(A) Correction/संशोधन

(B) Improvement/सुधार

(C) Betterment/बेहतरी

(D) Elevation/उन्नति

Correct Option : D

Explanation :

All except elevation are synonyms of one another

Question (6)

- (A) RQPS (B) JIHK
(C) TUSV (D) EDCF

Correct Option : C

Explanation :

TUSV (2314) is not following the same order as others i.e., RQPS = JIHK = EDCF = 3214 are following.

Question (7)

Pointing to a girl in photograph. Amar said, "Her mother's brother is the only son of my mothers's father." How the girl's mother related to Amar?

तस्वीर की एक लड़की की ओर इशारा करते हुए अमर ने कहा, "उसकी माँ का भाई, मेरी माँ के पिता का इकलौता बेटा है।" लड़की माँ, अमर से किस प्रकार संबंधित है?

- (A) Mother/माँ
(B) Sister/बहन
(C) Aunt/मौसी
(D) Grandmother/दादी

Correct Option : C

Explanation :

Only son of Amar's Mother's father @ Amar maternal Uncle So, Girl's maternal uncle is the Amar's maternal uncle. Thus, the Girl's mother is Amar's Aunt.

Question (8)

Direction (8-10) : In question no 8 to 10, select the missing number from the give responses.

निर्देश (8-10) : प्रश्न संख्या 8 से 10 में, दिए गए विकल्पों में से विलुप्त संख्या चुनिए।

2	3	4	6
3	6	9	3
4	4	5	2
5	6	11	?

(A) 8
(C) 10

(B) 9
(D) 11

Correct Option : B

Explanation :

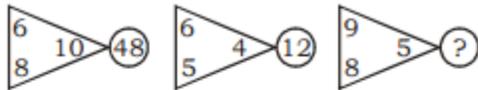
$$2 \times 4 - 3 = 5$$

$$3 \times 4 - 6 = 6$$

$$4 \times 5 - 9 = 11$$

$$6 \times 2 - 3 = 9$$

Question (9)



(A) 24
(C) 36

(B) 32
(D) 28

Correct Option : C

Explanation :

$$6 \times 8 \times 10 = 480 \div \frac{480}{10} = 48$$

$$6 \times 5 \times 7 = 210 \div \frac{210}{10} = 21$$

$$9 \times 8 \times 5 = 360 \div \frac{360}{10} = \mathbf{36}$$

Question (10)

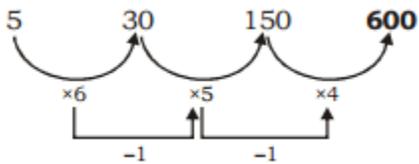


(A) 960
(C) 600

(B) 1000
(D) 1260

Correct Option : C

Explanation :



Question (11)

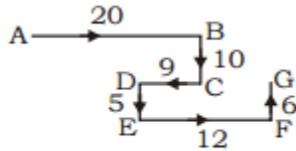
A dog runs 20 metre towards East, turns Right and runs 10 metre, again turns to right and runs 9 metre, then again turns to left and runs 5 metre and then turns to left and runs 12 metre and finally turns to left and runs 6 metre. Now which direction dog is facing?

एक कुत्ता पूर्व की ओर 20 मी. चलता है, दाएं मुड़ता है और 10 मी. चलता है। फिर दाएं मुड़ता है और 9 मी. चलता है और फिर बायें मुड़ता है और 5 मी. चलता है और फिर बाएं मुड़ता है तथा 12 मी. चलता है और अंततः बाएं मुड़ता है और 6 मी. चलता है। अब कुत्ते का मुख किस दिशा में है?

- (A) East/पूर्व (B) North/उत्तर
(C) West/पश्चिम (D) South/दक्षिण

Correct Option : B

Explanation :

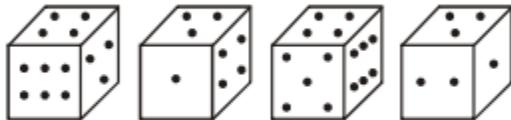


Now, dog is facing **North**.

Question (12)

How many points will be on the face opposite to the face which contains 1 point?

1 बिन्दु वाले सतह के विपरीत वाले सतह पर कितने बिन्दु होंगे?



- (A) 2 (B) 4
(C) 5 (D) 6

Correct Option : D

Explanation :

From dice 1 and dice 4.

Digit (Top)	3	1	2
Digit (Bottom)	5	6	4

So, when 1 is on the top, 6 at the bottom.

Question (13)

Directions (13-14) : In the following questions, a series is given with one terms missing. Choose the correct alternative from the given ones that will complete the series:

निर्देश (13-14): निम्नलिखित प्रश्नों में, एक नुक्रम दिया गया है जिसमें एक पद लुप्त है। दिए गए विकल्पों में से वह सही विकल्प चुनिए जो अनुक्रम को पूरा करें।

198, 194, 185, 169, ?

(A) 92 (B) 112

(C) 136 (D) 144

Correct Option : D

Explanation :

The pattern is $-4, -9, -16, \dots$ i.e. $-2^2, -3^2, -4^2, \dots$

So, missing pattern = $169 - 5^2 = 169 - 25 = 144$.

Question (14)

3, 15, ?, 63, 99, 143

(A) 27 (B) 35

(C) 45 (D) 56

Correct Option : B

Explanation :

$(2^2 - 1), (4^2 - 1), \dots, (8^2 - 1), (10^2 - 1), (12^2 - 1)$

So, missing term = $(6^2 - 1) = (36 - 1) = 35$.

Question (15)

Ayush was born two years after his father's marriage. His mother is five years younger than his father, but 20 years older than Ayush, who is 10 years old. At what age did his father get married?

आयुष का जन्म अपने पिता के विवाह के 2 वर्ष पश्चात् हुआ था। उसकी माँ उसके पिता से 5 वर्ष छोटी है, किन्तु आयुष से 20 वर्ष बड़ी है, जो 10 साल का है। उसके पिता का विवाह किनती आयु में हुआ था?

(A) 23 years/वर्ष (B) 25 years/वर्ष

(C) 33 years/वर्ष (D) 35 years/वर्ष

Correct Option : A

Explanation :

Ayush's present age = 10 years.

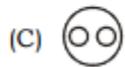
His mother's present age = $(10 + 20) = 30$ years
Ayush's father's present age = $(30 + 5) = 35$ years
Ayush's father's age at the time of Ayush's birth = $(35 - 10) = 25$ years.

Therefore Ayush's father's age at the time of marriage = $(25 - 2) = 23$ years

Question (16)

Which of the following diagrams indicates the best relation between Horse, Carnivorous and Tiger ?

निम्न में से कौन-सी आकृति घोड़ा, मांसाहारी तथा बाघ के बीच संबंध इंगित करती है?



Correct Option : D

Explanation :

Tiger is carnivorous, but Horse is herbivours.

Question (17)

Directions (17): A statement is given followed by two conclusions I and II. You have to consider the statement to be true, even if they seem to be at variance from commonly known facts. You have to decide which of the given argument, if any, follow from the given statement.

निर्देश (17): एक कथन दिया गया है, जिनके आगे दो निष्कर्ष I तथा II हैं। आपको विचार करना है कि कथन सत्य है, चाहे वह सामान्यतः ज्ञात तथ्यों से भिन्न प्रतीत होते हों। आपको निर्णय करना है कि दिए गए तर्कों में से कौन-सा निश्चित रूप से दिए गए कथनों द्वारा सही निकलता है, यदि कोई हो।

Statements/कथन:

All cars are cats./सभी कारें बिल्लियाँ हैं।

All rats are cats./सभी चूहे बिल्लियाँ हैं।

Conclusions/निष्कर्ष:

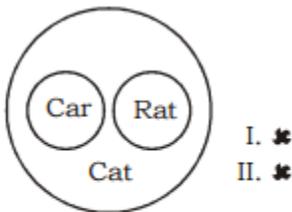
I. All cars are rats./सभी कारें चूहे हैं।

II. Some rats are cars./कुछ चूहे कारें हैं।

- (A) Only conclusion I follows/
केवल निष्कर्ष I अनुसरण करता है।
- (B) Only conclusion II follows/
केवल निष्कर्ष II अनुसरण करता है।
- (C) Either conclusion I or II follows/
या तो निष्कर्ष I या II अनुसरण करता है।
- (D) Neither conclusion I nor II follows/
न तो निष्कर्ष I न ही II अनुसरण करते हैं।

Correct Option : D

Explanation :



Neither I nor II follows.

Question (18)

Arrange the words given below in a meaningful sequence.

निम्न शब्दों कको एक सार्थक क्रम में व्यवस्थित करें।

1. Study/अध्ययन
2. Job/नौकरी
3. Examination/परीक्षा
4. Earn/कमाई
5. Apply/आवेदन करना

(A) 1, 3, 2, 5, 4

(B) 1, 2, 3, 4, 5

(C) 1, 3, 5, 2, 4

(D) 1, 3, 5, 4, 2

Correct Option : C

Explanation :

1 ® 3 ® 5 ® 2 ® 4

Question (19)

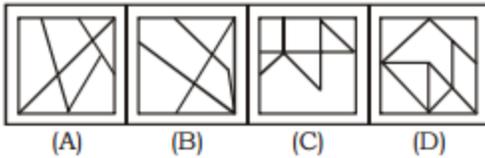
From the given answer figures, select the one in which the question figure is embedded.

दी गई उत्तर आकृतियों में से, उस आकृति को चुनिए जिसमें प्रश्न आकृति अन्तर्निहित है।

Question figure/प्रश्न आकृति:



Answer figures/उत्तर आकृतियाँ:

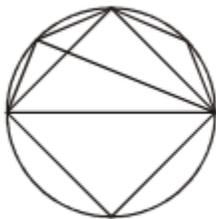


Correct Option : B

Question (20)

Find the number of triangles in the given figure.

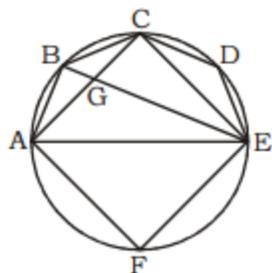
दिए गए आकृति के त्रिभुजों की संख्या ज्ञात करें।



- (A) 8 (B) 10
(C) 11 (D) 12

Correct Option : B

Explanation :



Simple triangles are ABG, BCG, CGE, CDE, AGE and AEF i.e. 6 in number.

Triangles composed of two components each are ABE, ABC, BCE and ACE i.e. 4 in number.

So, there are $6 + 4 = 10$ triangles in the figure.

Question (21)

Choose the correct water image of the given question figure from amongst the four alternatives.

दिए गए चार विकल्पों में से प्रश्न आकृति का सही जल प्रतिबिम्ब का चयन करें।

Question figure/प्रश्न आकृति :



Answer figures/उत्तर आकृतियाँ :



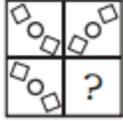
Correct Option : C

Question (22)

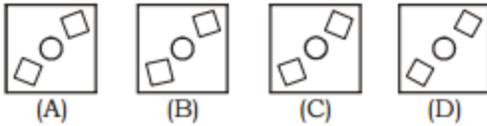
Identify the figure that will complete the pattern.

उस आकृति को पहचाने जो पैटर्न को पूरा करेगी।

Question figure/प्रश्न आकृति :

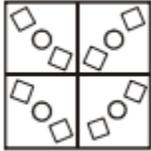


Answer figures/उत्तर आकृतियाँ :



Correct Option : C

Explanation :



Question (23)

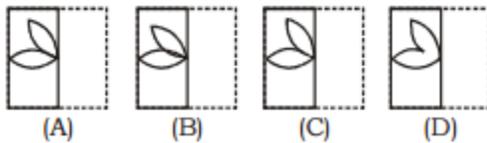
Find out from amongst the four alternatives as to how the pattern would appear when the sheet is folded at the dotted line.

शीट को डॉटेड रेखा पर मोड़ने पर दिखने वाले आकृति को चार विकल्पों में से चयनित करें।

Question figure/प्रश्न आकृति :



Answer figures/उत्तर आकृतियाँ :



Correct Option : B

Question (24)

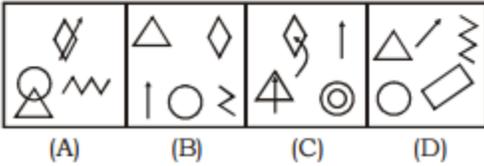
Select the alternative in which the specified components of the question figure can be found.

उस प्रश्न आकृति का चयन करें, जिसमें प्रश्न आकृति के विस्तृत भाग पाये जा सकते हैं।

Question figure/प्रश्न आकृति :



Answer figures/उत्तर आकृतियाँ :



Correct Option : A

Question (25)

A word is represented by only one set of numbers as given in any one of the alternatives. The sets of numbers given in the alternatives are represented by two classes of letters as in two matrices given below. The columns and rows of Matrix-I are numbered from 1 to 4 and that of Matrix-II are numbered from 5 to 8. A letter from these matrices can be represented first by its row and next by its column. E.g., 'S' can be represented by 13, etc., 'D' can be represented by 76 and 'M' can be represented by 57 etc. Similarly, you have to identify the set for the word 'CAMP'.

एक शब्द केवल एक संख्या-समूह द्वारा दर्शाया गया है, जैसा कि विकल्पों में से किसी एक में दिया गया है। विकल्पों में दिए गए संख्या-समूह अक्षरों के दो वर्गों द्वारा दर्शाए गए हैं, जैसा कि नीचे दिए गए दो आव्यूह में है। आव्यूह-I के स्तंभ और पंक्ति की संख्या 1 से 4 दी गई है और आव्यूह-II की 5 से 8। इन आव्यूहों से एक अक्षर को पहले उसकी पंक्ति और बाद में स्तंभ संख्या द्वारा दर्शाया जा सकता है। उदाहरण के लिए 'S' को 13, द्वारा दर्शाया जा सकता है, 'D' को 76, द्वारा दर्शाया जा सकता है तथा 'M' को 57 द्वारा दर्शाया जा सकता है। इसी तरह से, आपको शब्द 'CAMP' के लिए संख्या समूह को पहचानना है।

Matrix-I/आव्यूह-I **Matrix-II/आव्यूह-II**

	1	2	3	4
1	A	M	S	D
2	S	M	A	D
3	M	D	A	S
4	A	M	S	D

	5	6	7	8
5	A	C	M	P
6	C	A	D	P
7	C	D	P	S
8	A	M	C	P

- (A) 65, 23, 12, 32 (B) 75, 86, 32, 68
 (C) 87, 11, 31, 68 (D) 56, 88, 31, 58

Correct Option : C

Question (26)

In the Mahayana Buddhism, the Bodhisattva Avalokiteshvara was also known as:

महायान बौद्ध धर्म में 'अवलोकितेश्व बोधिसत्व' के रूप में कौन जाता था?

- (A) Vajrapani/वज्रपाणी
 (B) Manjusri/मंजुश्री
 (C) Padmapani/ पद्मपाणी

(D) Maitreya/मैत्रेय

Correct Option : C

Question (27)

Which one of the following is the largest Committee of the Parliament?

निम्नलिखित में से संसद की सबसे बड़ा समिति है-

(A) The Committee on Public Accounts/
लोक लेखा समिति

(B) The Committee on Estimates/
प्राक्कलन समिति

(C) The Committee on Public Undertakings/
सरकारी उपक्रमों संबंधी समिति

(D) The Committee on Petitions/
याचिका समिति

Correct Option : B

Explanation :

The largest committee is the committee of estimates and it has 30 members

Committee on	No. of members
Public Accounts	22
Estimates	30
Public undertakings	22
Petitions	LS(15), RS(10)

Question (28)

Which Bollywood actress has been bestowed with the 2016 ET Panache Trendsetter Award?

किस बॉलीवुड अभिनेत्री को 2016 ईटी कलॅगी चलन पुरस्कार से सम्मानित किया गया है?

- (A) Deepika Padukone/दीपिका पादुकोण
- (B) Aishwarya Rai/ऐश्वर्या राय
- (C) Sonam Kapoor/सोनम कपूर
- (D) Priyanka Chopra/प्रियंका चोपड़ा

Correct Option : C

Explanation :

Bollywood Actress Sonam Kapoor has been bestowed with the 2016 ET Panache Trendsetter Award in Mumbai, Maharashtra. Beside her, Vijay Shekhar Sharma, Kavin Bharti Mittal, Bhavin and Divyank Turakhia, Dipa Karmakar, Devendra Jhajharia, Ananya Birla, etc., has been honoured with the award. The award recognizes the efforts of entrepreneurs, innovators, newsmakers and athletes whose stories inspire millions and whose services transform lives. Each winner is harbingers of change, driven by professional passion, personal elan and a commitment to quality

Question (29)

Two seas or water-bodies connected by a narrow stretch of water is known as a

दो समुद्रों या जल निकायों को जोड़ने वाले जल के संकीर्ण विस्तार को क्या कहते हैं?

- (A) Bay/खाड़ी
- (B) Strait/जलडमरूमध्य
- (C) Peninsula/प्रायद्वीपीय
- (D) Isthmus/स्थलडमरूमध्य

Correct Option : B

Explanation :

A strait is a narrow, typically navigable channel of water that connects two larger, navigable bodies of water. It commonly refers to a channel of water that lies between two land masses, but it may also refer to a navigable channel through a body of water that is otherwise not navigable, for example, because it is too shallow, or because it contains an un-navigable reef or archipelago.

Question (30)

The 2017 Indian Science Congress (ISC) will be held in which of the following states?

भारतीय विज्ञान कांग्रेस (आईएससी) 2017 में, निम्नलिखित में से किस राज्य में आयोजित किया जाएगा?

(A) Odisha/ओडिशा

(B) Karnataka/कर्नाटक

(C) Kerala/केरल

(D) Andhra Pradesh/आंध्र प्रदेश

Correct Option : D

Explanation :

The 104th edition of Indian Science Congress (ISC) 2017 will be held at the Sri Venkateswara University in Tirupati, Andhra Pradesh from January 3rd to 7th, 2017. In the 2017 ISC, 9 Nobel Laureates from the United States, Japan, France, Israel and Bangladesh would attend the event and share their experiences. In addition to this, a huge contingent of 200 scientists from foreign nations, 10,000 scientists representing various national laboratories, faculty and research scholars from Indian universities and several others will take part in the event to exchange their views on a range of scientific issues, both on national and international level.

Question (31)

Which of the following "group of elements" is responsible for origin of life on earth?

निम्नलिखित में से कौन-से "तत्वों का समूह" धरती पर जीवन के उद्गम के लिए उत्तरदायी हैं?

(A) Hydrogen, Oxygen, Sodium/
हाइड्रोजन, ऑक्सीजन, सोडियम

(B) Carbon, Hydrogen, Nitrogen/
कार्बन, हाइड्रोजन, फ़ास्फ़रोस

(C) Oxygen, Calcium, Phosphorous/
ऑक्सीजन, कैल्शियम, फ़ास्फ़रोस

(D) Carbon, Hydrogen, Potassium/
कार्बन, हाइड्रोजन, पोटैशियम

Correct Option : B

Question (32)

Who was the Governor-General of India during the Sepoy Mutiny?

सिपाही विद्रोह के दौरान भारत के गवर्नर जनरल कौन था?

- (A) Lord Canning/लॉर्ड कैनिंग
- (B) Lord Dalhousie/लॉर्ड डलहौजी
- (C) Lord Harding/लॉर्ड हार्डिंग
- (D) Lord Lytton/लॉर्ड लिटन

Correct Option : A

Explanation :

Revolt of 1857 is referred as Sepoy Mutiny by many historians. After the mutiny Lord Canning was made the Viceroy and power was transferred from the East India Company to the British crown by Act of 1858.

Question (33)

Which of following charcoal is used to decolourise sugar?

निम्नलिखित में से कौन-सा चारकोल चीनी को रंगहीन बनाने के लिए इस्तेमाल किया जाता है?

- (A) Wood charcoal/काष्ठ चारकोल
- (B) Sugar charcoal/चीनी चारकोल
- (C) Animal charcoal/जंतु चारकोल
- (D) Coconut charcoal/नारियल चारकोल

Correct Option : C

Question (34)

Long-term funds in the capital market can be raised either by borrowing from certain institutions or

through?

पूंजी बाजार में लंबी अवधि के निधि के लिए कुछ निश्चित संस्थानों या किससे उधार लिया जाता है?

- (A) Issue of note/नोट जारी कर
- (B) Taking loan from Government/सरकार से ऋण लेकर
- (C) Issue of securities/प्रतिभूतियों को जारी कर
- (D) Taking loan from foreign institutions/विदेशी संस्थानों से ऋण लेकर

Correct Option : C

Explanation :

Capital markets provide for the buying and selling of long term debt or equity backed securities. When they work well, the capital markets channel the wealth of savers to those who can put it to long term productive use, such as companies or governments making long term investments. Capital Markets allow businesses to raise long-term funds by providing a market for securities, both through debt and equity. Capital markets offer a whole range of complicated products which allow businesses and banks not just to raise capital but also to 'hedge' (protect) against risks.

Question (35)

Consider the following ecosystems:

निम्नलिखित पारिस्थितिक तंत्र पर विचार करें।

1. Taiga/टैगा
2. Tropical Evergreen/उष्णकटिबंधीय सदाबहार
3. Tropical Deciduous/उष्णकटिबंधीय पर्णपाती
4. Tundra/टुंड्रा

The correct sequence in decreasing order of the Albedo values of these ecosystems is:

इन पारिस्थितिक तंत्रों पर सूर्य के किरणों की मात्राओं के घटते हुए रूप में सही क्रम है-

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

Correct Option : C

Explanation :

The average albedo of earth is 34%. It varies according to the colour and texture of the surface. According to the ecosystem, the maximum albedo would be of Tundra, than Taiga, then tropical green forest and tropical deciduous forest respectively.

Question (36)

If a Panchayat is dissolved, elections are to be held within:

पंचायत भंग होने पर, चुनाव करवाया जाता है-

- (A) 1 month/1 महीने में
- (B) 3 months/3 महीने में
- (C) 6 months/6 महीने में
- (D) 1 year/1 वर्ष में

Correct Option : C

Explanation :

Duration of Panchayats is five years. Fresh election to constitute a Panchayat shall be completed before the expiry of its term; or in case of dissolution before the expiry of a period of 6 months from the date of its dissolution.

Question (37)

What was the theme of 2016 World Food Day (WFD)?

विश्व खाद्य दिवस 2016 का विषय क्या था?

- (A) Social protection and Agriculture/सोशल प्रोटेक्शन एंड एग्रीकल्चर
- (B) Feeding the world, caring for the earth/फीडिंग द वर्ल्ड, केयरिंग द अर्थ
- (C) Climate is changing Food and agriculture must too/ क्लाइमेट इज चेंजिंग फूड एंड एग्रीकल्चर मस्ट टू
- (D) Family Farming: Breaking the Cycle of Rural Poverty/फैमिली फार्मिंग: ब्रेकिंग द साईकल ऑफ रुरल पॉवर्टी

Correct Option : C

Explanation :

The World Food Day (WFD) is observed every year on October 16th to mark the foundation of Food and Agriculture Organisation (FAO) of the United Nations in 1945. The global message for WFD 2016 is "Climate is changing. Food and agriculture must too".

Question (38)

Consider the following minerals:

निम्न खनिजों पर विचार करें:

1. Calcium/कैल्शियम
2. Iron/लौह
3. Sodium/सोडियम

Which of the minerals given above is/are required by human body for the contraction of muscles?

ऊपर दिए गए खनिजों में कौन-सा खनिज मानव शरीर में मांसपेशियों के संकुचन के लिए आवश्यक है?

- (A) 1 only/केवल 1
- (B) 2 and 3 only/केवल 2 और 3
- (C) 1 and 3 only/केवल 1 और 3
- (D) 1, 2 and 3/1, 2 और 3

Correct Option : C

Explanation :

Calcium is the most common and abundant mineral in the body. It is important for healthy bones and teeth, helps muscle relax and contract, important in nerve functioning, blood clotting etc. Sodium is needed for proper fluid balance, nerve transmission and muscle contraction.

Question (39)

What Constitutional provision enables the Central Government to provide reservations in jobs and educational institutions for the weaker sections of the society?

कौन-सा संवैधानिक प्रावधान केन्द्र सरकार को कमजोर वर्ग के लिए नौकरियाँ ओर शिक्षण संस्थानों में आरक्षण देने का अधिकार प्रदान करता है?

- (A) Article 14/अनुच्छेद 14
(B) Article 16/अनुच्छेद 16
(C) Article 46/अनुच्छेद 46
(D) Article 19/अनुच्छेद 19

Correct Option : B

Question (40)

Match List-I with List-II and select the correct answer using the codes given below the lists:

सूची-I को सूची-II से सुमेलित कर नीचे दिए गए सूचियों के प्रवृष्टियों में मौजूद कूटों का उपयोग करके सही उत्तर का चयन करें।

List-I/सूची-I (Minerals)/ खनिज	List-II/सूची-II (Mining area)/ खनिज क्षेत्र
a. Graphite/ग्रेफाइट	1. Bellary/बेल्लारी
b. Lead/लेड	2. Didwana/डीडवाना
c. Salt/साल्ट	3. Rampa/राम्पा
d. Silver/सिल्वर	4. Zawar/जावर

Codes:

	a	b	c	d
(A)	3	4	1	2
(B)	1	4	2	3
(C)	3	1	4	2
(D)	2	3	1	4

Correct Option : B

Explanation :

Minerals		Mining area
Graphite	ⓐ	Bellary
Lead	ⓑ	Zawar
Salt	ⓒ	Didwana
Siler	ⓓ	Rampa

Question (41)

Birds usually have a single

सामान्यतः पक्षियों में एक _____ होता है।

- (A) Kidney/वृक्क
- (B) Lung/फेफड़ा
- (C) Testis/वीर्यकोष
- (D) Ovary/अंडाशय

Correct Option : D

Explanation :

Female birds in most families have only one functional ovary (the left one), connected to an oviduct- although two ovaries are present in the embryonic stage of each female bird.

Question (42)

Why did Muhammad Bin Tughlaq change his capital from Delhi to Hyderabad/Deogiri?

मुहम्मद बिन तुगलक ने अपनी राजधानी दिल्ली से बदलकर हैदराबाद/देवगिरी को क्यों बनाया था?

- (A) Because he wanted to improve trade in Deccan/
क्योंकि वह डेक्कन में व्यापार में सुधार करना चाहता था?
- (B) Because he wanted to spread Islam in the Deccan/
क्योंकि वह डेक्कन में इस्लाम का प्रचार करना चाहता था
- (C) Because he wanted to punish the people of Delhi/
क्योंकि वह दिल्ली के लोगों को दंडित करना चाहता था
- (D) Because he wanted to escape from Mongolian invasion/
क्योंकि वह मंगोलियाई आक्रमण से बचना चाहता था

Correct Option : D

Explanation :

) In 1327, Tughluq passed an order to shift the capital from Delhi to Deogiri/Daulatabad (in present-day Maharashtra) in the Deccan region of south India. Tughluq said that it would help him to establish control over the fertile land of the Deccan plateau. He also felt that it would make him safe from the Mongol invasions which were mainly aimed at Delhi and regions in north India. Also, it was not always possible to operate an army from Delhi for the occupation of Southern states. Muhammad-bin-Tughlaq himself had spent a number of years when a prince in occupying and guarding the southern states during the rein of his father

Question (43)

Which one of the following Indian banks is not a nationalized bank?

निम्नलिखित में से कौन-सा भारतीय बैंक जो एक राष्ट्रीयकृत बैंक नहीं है?

- (A) Corporation Bank/कॉर्पोरेशन बैंक
- (B) Dena Bank/देना बैंक
- (C) Federal Bank/फेडरल बैंक
- (D) Vijaya Bank/विजया बैंक

Correct Option : C

Explanation :

Federal Bank is a major Indian commercial bank in the private sector, headquartered at Kochi, Kerala.

Question (44)

"Shenzhou-11" a manned spacecraft has been successfully launched by which country?

“शेनझाऊ-11” एक मानवयुक्त अंतरिक्ष यान सफलतापूर्वक किस देश द्वारा प्रक्षेप किया गया है?

- (A) North Korea/उत्तर कोरिया
- (B) Japan/जापान
- (C) Russia/रूस
- (D) China/चीन

Correct Option : D

Explanation :

China has successfully launched its longest-ever manned space mission "Shenzhou-11" spacecraft into space by a Long March-2F carrier rocket from the Jiuquan Satellite Launch Centre near the Gobi Desert, China. The two astronauts will stay in space for 30 days to test complex's ability to support human life. They will also conduct medical and scientific experiments. The purpose of the mission is to dock with the Tiangong-2 space laboratory and gain experience from a 30-day residence and to test its life-support systems.

Question (45)

1 Carat of diamond is equivalent to:

हीरे का 1 कैरेट समतुल्य है-

- (A) 100 mg/मिग्रा.
- (B) 150 mg/मिग्रा.
- (C) 200 mg/मिग्रा.
- (D) 250 mg/मिग्रा.

Correct Option : C

Question (46)

When the total production rises at an increasing rate, then

जब कुल उत्पाद बढ़ती हुई दर से बढ़ती है, तब

- (A) Marginal product is zero/सीमांत उत्पाद शून्य होता है
- (B) Marginal product is rising/सीमांत उत्पाद बढ़ता है
- (C) Marginal product is falling/सीमांत उत्पाद गिरता है
- (D) Marginal product remains constant/सीमांत उत्पाद सतत् स्थिर होती है

Correct Option : B

Explanation :

Marginal product of an input (factor of production) is the extra output that can be produced by using one more unit of the input (for instance, the difference in output when a firm's labour usage is increased from five to six units), assuming that the quantities of no other inputs to production change. Marginal product, which occasionally goes by the alias marginal physical product (MPP) is the one of the two measures derived from the total product. The other is average product. Marginal product is directly proportional to total product.

Question (47)

The Constitution of India recognizes:

भारत का संविधान स्वीकृति देता है-

(A) Only religious minorities/
केवल धार्मिक अल्पसंख्यकों को

(B) Only linguistic minorities/
केवल भाषाई अल्पसंख्यकों को

(C) Religious and linguistic minorities/
धार्मिक और भाषाई अल्पसंख्यकों को

(D) Religious, linguistic and ethnic minorities/
धार्मिक, भाषाई और जातीय अल्पसंख्यकों को

(C) Religious and linguistic minorities/
धार्मिक और भाषाई अल्पसंख्यकों को

(D) Religious, linguistic and ethnic minorities/
धार्मिक, भाषाई और जातीय अल्पसंख्यकों को

(C) Religious and linguistic minorities/
धार्मिक और भाषाई अल्पसंख्यकों को

(D) Religious, linguistic and ethnic minorities/
धार्मिक, भाषाई और जातीय अल्पसंख्यकों को

Correct Option : C

Explanation :

The Constitution of India recognizes religious and linguistic minorities under article 29 and 30 (Cultural and Educational rights). However it does not define the term Minority.

Question (48)

The work done by the string of a simple pendulum during one complete oscillation is equal to

एक पूर्ण दोलन के दौरान सरल लोलक के तार द्वारा किया गया कार्य किसके समान है?

(A) Total energy of the pendulum/लोलक की कुल ऊर्जा

- (B) Kinetic energy of the pendulum/लोलक की गतिज ऊर्जा
- (C) Potential energy of the pendulum/लोलक की स्थितिज ऊर्जा
- (D) Zero/शून्य

Correct Option : D

Explanation :

Work done by the string of the simple pendulum during one complete oscillation is zero. Tension in the string exactly cancels the component parallel to the string. This leaves a net restoring force back towards the equilibrium position as it is equal to zero.

Question (49)

Virus in a computer is a:-

कंप्यूटर में वायरस क्या होता है?

- (A) Chemical that attacks silicon/
रसायन जो सिलिकॉन पर आक्रमण करता है।
- (B) Micro-organism that disturbs integrated circuits/
सूक्ष्म जीव जो इंटीग्रेटेड सर्किट में बाधा डालता है।
- (C) Programme that damages the computer software/
प्रोग्राम जो कंप्यूटर सॉफ्टवेर को क्षति पहुँचाता है।
- (D) None of the above/
इनमें से कोई नहीं

Correct Option : C

Question (50)

The polymer obtained by the condensation of hexamethylenediamine and adipic acid is:

हेक्सामिथाइलिनडाईएमिन और वसीय अम्ल के संघनन से प्राप्त बहुलक है

- (A) Nylon 6,6/नायलॉन 6,6
 (B) Terylene/टेरिलिन
 (C) Tollens/टोलेंस
 (D) Bakelite/बेकलाइट

Correct Option : A

Question (51)

Fresh grapes contain 80%, while dry grapes contain 10% water. If the weight of dry grapes is 250 kg, then what was its total weight when it was fresh?

तजा अंगूर में 80% जबकि शुष्क अंगूर में 10% पानी है। यदि शुष्क अंगूर का वजन 250 किग्रा. है, तो इसका कुल वजन क्या था, जब यह ताजा था?

- (A) 1000 kg/किग्रा.
 (B) 1125 kg/किग्रा.
 (C) 1225 kg/किग्रा.
 (D) 1100 kg/किग्रा.

Correct Option : B

Explanation :

Quantity of water in 250 kg dry grapes,

$$= \frac{10}{100} \times 250 = 25 \text{ kg}$$

Then, pulp of grapes = 225 kg

We get 20 kg pulp in 100 kg fresh grapes.

To get 225 kg pulp, we need fresh grapes,

$$= \frac{100 \times 225}{20} = 1125 \text{ kg.}$$

Question (52)

The largest and the smallest angles of a triangle are in the ratio of 3 : 1 respectively. The second largest angle of the triangle is equal to 44°. What is the value of 150 percent of the largest angle of

the triangle?

किसी त्रिभुज के अधिकतम तथा न्यूनतम कोण का अनुपात क्रमशः 3:1 है। त्रिभुज के दूसरे सर्वाधिक कोण का मान 44° के बराबर है। त्रिभुज के अधिकतम कोण के 150 प्रतिशत का मान क्या है?

- (A) 149
- (B) 129
- (C) 153
- (D) 173

Correct Option : C

Explanation :

$$\begin{aligned}\text{Let largest angle} &= 3x \\ \text{smallest angle} &= x \\ \text{second largest angle} &= 44^\circ \\ 3x + x + 44 &= 180 \\ 4x + 44 &= 180 \\ 4x &= 136 \\ x &= 34 \\ \text{Largest angle} &= 3x = 3 \times 34 = 102^\circ \\ \text{150\% of the largest angle} \\ &= \frac{102 \times 150}{100} = 153^\circ\end{aligned}$$

Question (53)

Find the simplest value of $2\sqrt{50} + \sqrt{18} - \sqrt{72}$.

$2\sqrt{50} + \sqrt{18} - \sqrt{72}$ का सरलतम मान ज्ञात कीजिए।

- (A) 10.312
- (B) 4.242
- (C) 9.898
- (D) 8.484

Correct Option : C

Explanation :

$$\begin{aligned}
 2\sqrt{50} + \sqrt{18} - \sqrt{72} &= 10\sqrt{2} + 3\sqrt{2} - 6\sqrt{2} \\
 &= 7\sqrt{2} \\
 &= 7 \times 1.414 \\
 &= 9.898
 \end{aligned}$$

Question (54)

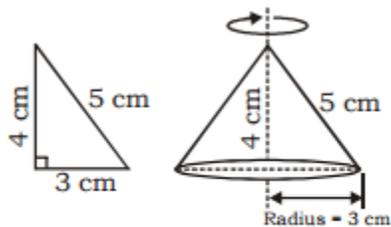
A right angled triangle with sides 3 cm, 4 cm and 5 cm is rotated at the side of 4 cm to form a cone. The volume of the cone so formed is:

3 सेमी., 4 सेमी. तथा 5 सेमी. भुजा वाले किसी समकोण त्रिभुज को 4 सेमी. भुजा पर शंकु बनाने के लिए घुमाया जाता है। इस प्रकार से बने शंकु का आयतन क्या है?

- (A) $12\pi \text{ cm}^3/\text{सेमी}^3$
- (B) $15\pi \text{ cm}^3/\text{सेमी}^3$
- (C) $16\pi \text{ cm}^3/\text{सेमी}^3$
- (D) $20\pi \text{ cm}^3/\text{सेमी}^3$

Correct Option : A

Explanation :



Clearly, we have $r = 3 \text{ cm}$ and $h = 4 \text{ cm}$.

$$\text{Volume} = \frac{1}{3} \pi r^2 h = \frac{1}{3} \pi \cdot 3^2 \cdot 4 = 12\pi \text{ cm}^3$$

Question (55)

If ₹ 1066 is divided among P, Q, R and S such that $P : Q = 3 : 4$, $Q : R = 5 : 6$ and $R : S = 7 : 5$, then who will get maximum amount?

यदि ₹ 1066 P, Q, R तथा S में इस प्रकार बांटा जाता है कि $P : Q = 3 : 4$, $Q : R = 5 : 6$ और $R : S = 7 : 5$ है, तो किसे अधिकतम राशि मिलेगी?

- (A) P (B) Q
(C) R (D) S

Correct Option : C

Explanation :

Take $P = x$.

$$\text{Then, } Q = \frac{4x}{3}, R = \frac{24x}{15}, S = \frac{8x}{7}$$

$$\text{So, } P + Q + R + S = 1066$$

$$x + \frac{4x}{3} + 3 + \frac{24x}{15} + \frac{8x}{7} = 1066$$

On simplifying, $x = 210$.

Accordingly,

$$P = 210$$

$$Q = 280$$

$$R = 336$$

$$S = 240$$

So, R gets the maximum.

Question (56)

For numbers a and b, it is defined as $a \times b = (a + b) + (a - b)$, then the value of $(1 \times 2) \times 3$ is:

किसी संख्या a तथा b में, $a \times b = (a + b) + (a - b)$

निर्धारित किया गया है, तो $(1 \times 2) \times 3$ का मान है-

- (A) $-\frac{2}{3}$ (B) $-\frac{1}{5}$
(C) 0 (D) $\frac{1}{2}$

Correct Option : C

Explanation :

$$(a \times b) = \frac{a+b}{a-b} \Rightarrow 1 \times 2 = \frac{1+2}{1-2} = -3$$

$$\text{Now, } -3 \times 3 = \frac{-3+3}{-3-3} = 0$$

Question (57)

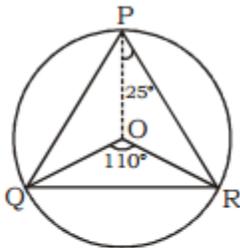
If O is the circumcenter of a ΔPQR and $\angle QOR = 110^\circ$, $\angle OPR = 25^\circ$, then the measure of $\angle PRQ$ is:

यदि एक ΔPQR का परिकेन्द्र O है और $\angle QOR = 110^\circ$, $\angle OPR = 25^\circ$ है, तो $\angle PRQ$ का माप क्या है?

- (A) 50° (B) 55°
(C) 60° (D) 65°

Correct Option : C

Explanation :



$$\angle QOR = 110^\circ, \angle QPR = 55^\circ$$

$$OR = OP \Rightarrow \angle OPR = \angle PRO = 25^\circ$$

$$OP = OQ \Rightarrow \angle OQR = \angle ORQ = \frac{70}{2} = 35^\circ$$

$$\begin{aligned} \angle PRQ &= \angle PRO + \angle ORQ \\ &= 25^\circ + 35^\circ = 60^\circ \end{aligned}$$

Question (58)

x and y are positive integer and they are inversely proportional. If x increases by 10%, then y decreases by:

x तथा y एक धन पूर्णांक है और वे विपरीत आनुपातिक है। यदि x को 10% बढ़ा दिया जाता है, तो y को कितना प्रतिशत कम किया जाए?

- (A) 10% (B) $\frac{10}{11}\%$
 (C) $\frac{100}{11}\%$ (D) $\frac{1}{11}\%$

Correct Option : C

Explanation :

For inversely proportional numbers, the product of the number must always be constant, if all other conditions are the same.

Let x and y be both 10, then

$$xy = \text{Constant}$$

$$\Rightarrow 10 \times 10 = \text{Constant}$$

If x increases by 10%, then the new value of x will be 11. And the product of x and y will be 110. But product of x and y should be constant (100 in this case.) Then y should be decrease to keep the product constant. Now,

$$xy = 100$$

$$11y = 100$$

$$y = \frac{100}{11}$$

And in percentage terms

$$\frac{10 - \frac{100}{11}}{10} \times 100 = \frac{10 - \frac{100}{11}}{10} \times 100 = \frac{100}{11}\%$$

Question (59)

The value of $\frac{1}{\operatorname{cosec} \theta - \cot \theta} - \frac{1}{\sin \theta}$ is:

$\frac{1}{\operatorname{cosec} \theta - \cot \theta} - \frac{1}{\sin \theta}$ का मान है-

- (A) 1 (B) $\operatorname{cosec} \theta$
(C) $\cot \theta$ (D) $\tan \theta$

Correct Option : C

Explanation :

$$\frac{1}{\operatorname{cosec} q - \cot q} \times \frac{\operatorname{cosec} q + \cos q}{\operatorname{cosec} q + \cos q} - \frac{1}{\sin q}$$

$\neq \operatorname{cosec} q + \cot q - \operatorname{cosec} q$
 $= \cot q$

Question (60)

A computer typist types a page with 20 lines in 10 minutes but he leaves 8% margin on the left side of the page. Now he has to type 23 pages with 40 line on each page for which he leaves 25% more margin than earlier. How much time is now required to type these 23 pages?

एक कंप्यूटर टाइपिस्ट किसी पेज को 10 मिनट में 20 लाइनों को टाइप करता है, लेकिन वह पेज के बाईं ओर पर 8% मार्जिन छोड़ देता है। अब उसे 23 पेज को टाइप करना है जहां प्रत्येक पेज में 40 लाइन है तथा इसमें वह पहले से 25% अधिक मार्जिन छोड़ता है। अब उसे इन 23 पेजों को टाइप करने के लिए कितने समय की आवश्यकता है?

- (A) $7\frac{1}{2}$ hrs/घण्टे (B) $7\frac{2}{3}$ hrs/घण्टे
(C) $23\frac{1}{2}$ hrs/घण्टे (D) 3.916 hrs/घण्टे

Correct Option : A

Explanation :

Assuming every line has 100 characters.
 ▸ with 8% margin, the total number of characters written in one line is $100 - 8 = 92$
 Time taken to write 20 lines is 10 mins
 ▸ time taken to write 1 line = 92 characters

$$\text{is } \frac{10}{92} \times \frac{60}{20}$$

Now, when the margin is increased by 25%
 ▸ new margin is $8 + 0.25 \times 8 = 10$
 ▸ number of characters per line now = 90
 Total number of characters to be written
 = number of characters per line \times number of lines per page \times number of pages = $90 \times 40 \times 23$
 Total time required = Total number of characters \times time required to type one character

$$= (90 \times 40 \times 23) \times \frac{10}{92} \times \frac{60}{20} = 450 \text{ minutes}$$

= 7 hours and 30 minutes

Question (61)

If the numerator of a fraction was increased by 350% and the denominator of the fraction is increased by 300%, then the resultant

fraction is $\frac{9}{22}$. What is the original fraction?

यदि किसी भिन्न के अंश को 350% बढ़ा दिया जाता है तथा भिन्न के हर को 300% बढ़ा दिया जाता है, तो प्राप्त भिन्न

$\frac{9}{22}$ है। मूल भिन्न क्या है?

(A) $\frac{3}{4}$

(B) $\frac{5}{12}$

(C) $\frac{7}{9}$

(D) $\frac{4}{11}$

Correct Option : D

Explanation :

Let fraction = $\frac{x}{y}$

$$\text{ATQ, } \frac{\frac{x}{y} \cdot \frac{450}{100}}{\frac{x}{y} \cdot \frac{400}{100}} = \frac{9}{22}$$

$$\therefore \frac{x}{y} = \frac{4}{11}$$

Question (62)

If $x = 3 + 2\sqrt{2}$, then the value of $x^2 + \frac{1}{x^2}$ is:

यदि $x = 3 + 2\sqrt{2}$ है, तो $x^2 + \frac{1}{x^2}$ का मान है-

- (A) 30 (B) 32
(C) 34 (D) 36

Correct Option : C

Explanation :

$$x = 3 + 2\sqrt{2} \quad \therefore x + \frac{1}{x} = 6$$

$$\frac{1}{x} = 3 - 2\sqrt{2} \quad \therefore x + \frac{1}{x} - 2 = 6 - 2$$

$$\therefore x^2 + \frac{1}{x^2} = 34$$

Question (63)

A motor starts its journey with the speed of 70 km/h, its speed increases by 10 km/h in every two hours. In how many hours will it cover a distance of 345 kms?

कोई मोटर 70 किमी./घण्टे की गति से अपनी यात्रा प्रारंभ करती है, प्रत्येक दो घण्टे में इसकी गति 10 किमी./घण्टा बढ़ जाती है। 345 किमी. की दूरी यह कितने घण्टे में तय करेगी?

(A) $2\frac{1}{4}$ hrs/घण्टे (B) $4\frac{1}{2}$ hrs/घण्टे

(C) $4\frac{1}{12}$ hrs/घण्टे (D) $2\frac{3}{4}$ hrs/घण्टे

Correct Option : B

Explanation :

Distance covered in first 2 hrs

$$= (70 \times 2) = 140 \text{ km}$$

Distance covered in next 2 hrs

$$= (80 \times 2) = 160 \text{ km}$$

Remaining distance

$$= 345 - (140 + 160) = 45 \text{ km}$$

Speed in the fifth hour = 90 km/hr

Time taken to cover 45 km = as speed is 90

km/hr means it covers 90 km in 1 hour

$$\therefore 45 \text{ km} = \frac{1}{2} \text{ hr}$$

$$\text{Total time taken} = 2 + 2 + \frac{1}{2} = 4\frac{1}{2} \text{ hrs}$$

Question (64)

If x and y are positive real numbers and $xy = 8$, then the minimum value of $2x + y$ is:

यदि x तथा y धनात्मक वास्तविक संख्याएँ हैं और $xy = 8$ है,

तो $2x + y$ का न्यूनतम मान है-

(A) 8

(B) 9

(C) 10

(D) 17

Correct Option : A

Explanation :

$xy = 8$ possible value of $(x, y) = (1, 8) (2, 4)$
 $(4, 2) (8, 1)$
when $(x, y) = (1, 8) \Rightarrow 2x + y = 2 \times 1 + 8 = 10$
 $(x, y) = (2, 4) = 2x + y = 2 \times 2 + 4 = 8$ @
minimum value
 $(x, y) = (4, 2) = 2x + y = 2 \times 4 + 2 = 10$
 $(x, y) = (8, 1) = 2x + y = 2 \times 8 + 1 = 17$

Question (65)

The batting average of 40 innings of a cricket player is 50 runs. His highest score exceeds his lowest score by 172 runs. If these two innings are excluded the average of the remaining 38 innings is 48. His highest score was:

किसी बल्लेबाज के 40 पारियों का औसत 50 रन है। उसका अधिकतम स्कोर उसके न्यूनतम स्कोर से 172 रन अधिक है। यदि इन दोनों पारियों को हटा दिया जाए, तो शेष 38 पारियों का औसत 48 है। उसका अधिकतम स्कोर था-

- (A) 172 (B) 173
(C) 174 (D) 176

Correct Option : C

Explanation :

Total runs scored by the player in 40 innings = 40×50

Total runs scored by the player in 38 innings after excluding two innings = 38×48

Sum of the scores of the excluded innings = $40 \times 50 - 38 \times 48 = 2000 - 1824 = 176$

Given that the scores of the excluded innings differ by 172. Hence let's take

the highest score as $x + 172$ and lowest score as x

Now $x + 172 + x = 176$

$\Rightarrow 2x = 4$

$\Rightarrow x = \frac{4}{2} = 2$

Highest score = $x + 172 = 2 + 172 = 174$

Question (66)

A contractor employed 25 labourers on a job. He paid ₹ 275 for the work. After retaining 20% of this sum, he distributed the remaining amount amongst the labourers. If the number of men to women labourers was in the ratio 2 : 3 and their wages in the ratio 5 : 4. What wages did a woman labourer get?

एक ठेकेदार किसी कार्य के लिए 25 मजदूरों को रखा। उसने उन्हें कार्य के लिए ₹ 275 का भुगतान किया। कुल राशि का 20% रोककर रखने के पश्चात् शेष राशि को मजदूरों में वितरित कर दिया। यदि पुरुष तथा महिला मजदूरों की संख्या का अनुपात 2 : 3 थी तथा उनके मजदूरी का अनुपात 5 : 4 था। महिला मजदूर को कितनी मजदूरी मिली?

- (A) ₹ 10 (B) ₹ 8
(C) ₹ 12 (D) ₹ 15

Correct Option : B

Explanation :

$$\text{Men } 25 \times \frac{2}{5} = 10$$

$$\text{Women } 25 \times \frac{3}{5} = 15$$

Wage each man $5x$

Woman $4x$

$$20\% \text{ of amount retaining} = 275 \times 20\% = 55$$

$$\text{Remaining amount} = 275 - 55 = 220$$

$$\text{₹ } 10 \times 5x + 15 \times 4x = 220$$

$$\text{₹ } 110x = 220$$

$$\text{₹ } x = 2$$

$$\text{Wages of women} = 4x = 4 \times 2 = \text{₹ } 8$$

Question (67)

From a point P on a level ground, the angle of elevation of the top tower is 30° . If the tower is 100 m high, then the distance of point P from the foot of the tower is:

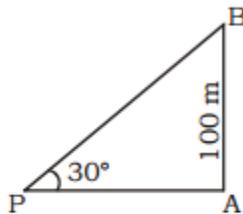
भूमि स्तर के किसी बिन्दु से मीनार का उन्नयन कोण 30° है। यदि मीनार 100 मी. ऊँचा है, तो बिन्दु P की मीनार से दूरी क्या है?

- (A) 149 m/मी.
- (B) 156 m/मी.
- (C) 173 m/मी.
- (D) 200 m/मी.

Correct Option : C

Explanation :

Let AB be the tower



Then, $\angle APB = 30^\circ$ and $AB = 100$ m

$$\frac{AB}{AP} = \tan 30^\circ = \frac{1}{\sqrt{3}}$$

$$\therefore AP = (AB \times \sqrt{3}) \text{ m}$$

$$= 100\sqrt{3} \text{ m}$$

$$= (100 \times 1.73) \text{ m}$$

$$= 173 \text{ m}$$

Question (68)

A train running at the speed of 20 m/s crosses a pole in 24 seconds less than the time it requires to cross a platform thrice its length at the same speed. What is the length of the train?

20 मी./से. की गति से चलती हुई एक रेलगाड़ी द्वारा किसी खम्भे को पार करने में लगा समय, समान गति से चलती हुई रेलगाड़ी को अपने से तीन गुने लम्बाई के प्लेटफॉर्म को पार करने में लगने वाले समय से 24 सेकण्ड कम है। रेलगाड़ी की लम्बाई क्या है?

- (A) 270 m/मी. (B) 340 m/मी.
(C) 180 m/मी. (D) 160 m/मी.

Correct Option : D

Explanation :

Let the length of the train be x m
So, the length of the platform = $3x$ m

$$\text{Time taken in crossing the platform} = \frac{4x}{20} \text{ sec}$$

$$\text{Time taken in crossing the pole} = \frac{x}{20} \text{ sec}$$

$$\Rightarrow \frac{x}{20} + 24 = \frac{4x}{20} \Rightarrow x = 160 \text{ m}$$

Length of the train = 160 m

Question (69)

A piece of cloth costs ₹ 35. If the length of the piece of cloth would have been 4 m longer and each metre costs ₹ 1 less, then the cost would have remained unchanged. How long is the piece of cloth?

किसी कपड़े का टुकड़े का मूल्य ₹ 35 है। यदि उसकी लम्बाई 4 मी. अधिक होती तथा प्रति मीटर का मूल्य ₹ 1 कम होता, तो कुल मूल्य अपरिवर्तित रहता। कपड़ा कितना मीटर लम्बा है?

- (A) 14 m/मी. (B) 10 m/मी.
(C) 12 m/मी. (D) 9 m/मी.

Correct Option : B

Explanation :

Let the length of the cloth be x m
therefore,

$$\text{cost of 1 m cloth} = \frac{35}{x}$$

$$\text{ATQ, } \frac{35}{x} - 1 = \frac{35}{x+4}$$

$$\Rightarrow \frac{35}{x} - \frac{35}{x+4} = 1$$

$$\Rightarrow \frac{35x+140-35}{x(x+4)} = 1 \Rightarrow x^2 + 4x - 140 = 0$$

$$\Rightarrow (x-10)(x+14) = 0$$

$$\Rightarrow x = 10$$

\ The length of the piece of cloth = 10 m

Question (70)

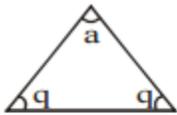
In an isosceles triangle, if the unequal angle is twice the sum of the equal angles, then each equal angle is:

किसी समद्विबाहु त्रिभुज में, यदि असमान कोण समान कोणों के योगफल का दुगुना है, तो प्रत्येक समान कोण बराबर है-

- (A) 30° (B) 90°
(C) 120° (D) 60°

Correct Option : A

Explanation :



Let q be the equal angles and a be the unequal angle $a = 2 \times 2q = 4q$

As sum of all angles of a triangle is 180°

$$a + q + q = 180^\circ \Rightarrow 4q + q + q = 180^\circ$$

$$\Rightarrow 6q = 180^\circ \Rightarrow q = 30^\circ$$

\ Each equal angles is of 30° .

Question (71)

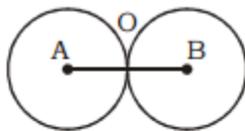
Two circles touch each other externally. The distance between their centres is 7 cm. If the radius of one circle is 4 cm, then the radius of the other circle is:

दो वृत्त बाहर से एक-दूसरे से मिलते हैं। उनके केन्द्रों के बीच की दूरी 7 सेमी है। यदि एक वृत्त की त्रिज्या 4 सेमी हो, तो दूसरे वृत्त की त्रिज्या कितनी होगी?

- (A) 2 cm/सेमी.
- (B) 3 cm/सेमी.
- (C) 3.5 cm/सेमी.
- (D) 4 cm/सेमी.

Correct Option : B

Explanation :



$$AB = 7, AO = 4 \text{ cm}$$

$$AO + OB = 7 \text{ cm}$$

$$\Rightarrow 4 + OB = 7$$

$$\Rightarrow OB = 7 - 4$$

$$= 3 \text{ cm}$$

\ Other radius = 3 cm

Question (72)

By selling 12 marbles for a rupee, a shopkeeper loses 20%. In order to gain 20% in the transaction, he should sell the marbles at the rate of how many marbles for a rupee?

एक रूपये में 12 मार्बल बेचने पर किसी दुकानदार को 20% की हानि होती है। इस सौदे में 20% लाभ कमाने के लिए उसे एक रूपये में कितने मार्बल बेचने चाहिए?

- (A) 8 (B) 6
(C) 4 (D) 3

Correct Option : A

Explanation :

SP of 12 marble = 12, Loss = 20%

$$CP = \frac{1}{0.8} = 1.25$$

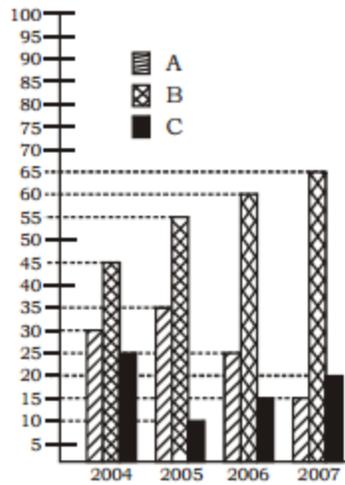
$$\text{If profit} = 20\%, \text{ new SP} = 1.25 \times \frac{120}{100} = ₹ 1.5$$

$$\text{For ₹ 1, he should sell} = \frac{12}{1.5} = 8 \text{ marbles.}$$

Question (73)

Direction (73-75) : The following bar diagram shows the percentage of Population A, B and C from year 2004 to 2007. Examine the bar diagram to answer the questions no. 73-75.

निर्देश (73-75) : निम्न दंड आरेख वर्ष 2004 से 2007 तक के वर्षों के दौरान A, B तथा C के जनसंख्या के प्रतिशत को दर्शाता है। आरेख का अध्ययन करें और प्रश्न संख्या 73-75 का उत्तर दें।



The ratio between the population of A and B in 2004 was-

2004 में A और B के बीच की जनसंख्या का अनुपात था-

- (A) 2 : 3
- (B) 3 : 4
- (C) 3 : 5
- (D) 1 : 2

Correct Option : A

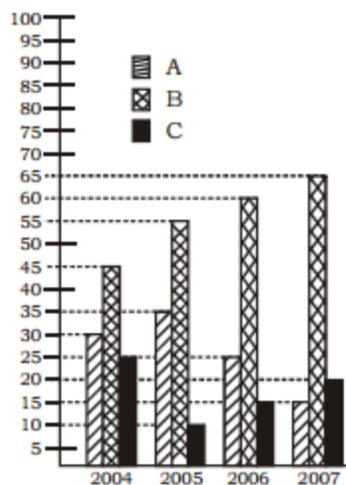
Explanation :

$$\text{Required ratio} = \frac{30}{45} = \frac{2}{3}$$

Question (74)

Direction (73-75) : The following bar diagram shows the percentage of Population A, B and C from year 2004 to 2007. Examine the bar diagram to answer the questions no. 73-75.

निर्देश (73-75) : निम्न दंड आरेख वर्ष 2004 से 2007 तक के वर्षों के दौरान A, B तथा C के जनसंख्या के प्रतिशत को दर्शाता है। आरेख का अध्ययन करें और प्रश्न संख्या 73-75 का उत्तर दें।



If the total population in 2004 was 5 lakhs, then the population of A and C in that year was-

यदि 2004 में कुल जनसंख्या 5 लाख थी, तो उस वर्ष A और C की आबादी थी-

- (A) 250000
- (B) 225000
- (C) 200000
- (D) 275000

Correct Option : D

Explanation :

$$\begin{aligned} \text{Given ratio} &= 30 : 45 : 25 \\ &= 6 : 9 : 5 \end{aligned}$$

$$6 + 9 + 5 = 20$$

$$\text{Also, } 6 + 5 = 11$$

$$\therefore 20 = 5 \text{ lakh}$$

$$\text{then, } 11 = \frac{5}{20} \times 11 \text{ lakh}$$

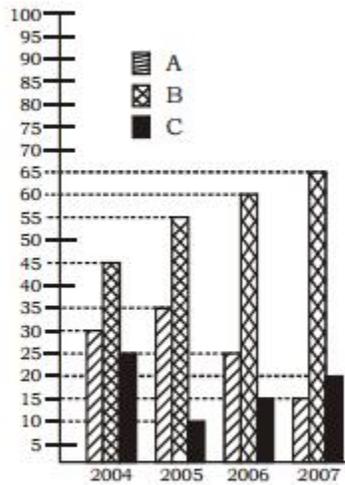
$$= 2.75 \text{ lakh}$$

$$= 2,75,000$$

Question (75)

Direction (73-75) : The following bar diagram shows the percentage of Population A, B and C from year 2004 to 2007. Examine the bar diagram to answer the questions no. 73-75.

निर्देश (73-75) : निम्न दंड आरेख वर्ष 2004 से 2007 तक के वर्षों के दौरान A, B तथा C के जनसंख्या के प्रतिशत को दर्शाता है। आरेख का अध्ययन करें और प्रश्न संख्या 73-75 का उत्तर दें।



If the total population of the state in 2005 was 5 million, then the population of A was-
[1 million = 10,00,000]

यदि 2005 में राज्य की कुल जनसंख्या 5 मिलियन थी, तो A की जनसंख्या थी-

[1 मिलियन = 10,00,000]

- (A) 1500000
- (B) 1750000
- (C) 2000000
- (D) 1250000

Activat

Correct Option : B

Explanation :

$\therefore 1 \text{ million} = 10 \text{ lakh}$
 $\backslash 5 \text{ million} = 50 \text{ lakh}$
Given ratio = 35 : 55 : 10
 = 7 : 11 : 2
As, $7 + 11 + 2 = 20$
It means 20 = 50 lakhs

then $7 = \frac{50}{20} \times 7 \text{ lakhs}$
= 17.5 lakh
= 17,50,000

Question (76)

Direction : In Question nos. 76 to 78 some part of the sentences have errors and some are correct. Find out which part of a sentence has an error and blacken the oval corresponding to the appropriate letter (A), (B), (C). If a sentence is free from error, blacken the oval corresponding to (D) in the Answer Sheet.

We go to school (A)/ with a view to (B)/ study. (C)/ No error (D)

Correct Option : C

Question (77)

The school's athletics (A)/ is all (B)/ for both boys and girls. (C)/ No error (D)

Correct Option : B

Question (78)

He turned out to be (A)/ no other than (B)/ my old friend. (C)/ No error (D)

Correct Option : B

Question (79)

Directions : In Question nos. 79 to 81, sentences given with blanks to be filled in with an appropriate word(s). Four alternatives are suggested for each question. Choose the correct alternative out of the four and indicate it by blackening the appropriate oval in the Answer Sheet.

When is the wedding coming _____? (A) on (B) up (C) of (D) off

Correct Option : D

Question (80)

Make haste _____ we shall miss the train. (A) either (B) or (C) else (D) lest

Correct Option : B

Question (81)

The police _____ on duty. (A) are (B) is (C) was (D) have

Correct Option : A

Question (82)

Directions : In question nos. 82 to 83, out of the four alternatives, choose the one which best expresses the meaning of the given word.

VALIANT (A) Courageous (B) Quarrelsome (C) Cheerful (D) Repulsive

Correct Option : A

Question (83)

OBSTREPEROUS (A) Lazy (B) Awkward (C) Sullen (D) Unruly

Correct Option : D

Question (84)

Directions : In question nos. 84 to 85, choose the word opposite in meaning to the given word.

DISSENT (A) Disagreement (B) Unacceptable (C) Agreement (D) Discord

Correct Option : C

Question (85)

CANDID (A) Ambiguous (B) Secretive (C) Uncertain (D) Misleading

Correct Option : B

Question (86)

Directions : In question nos. 86, four words are given in each question, out of which only one word is spelt correctly/wrongly out of them. Find the word spelt correct/wrong and mark your answer in the Answer Sheet.

(A) Tenasious (B) Tenacoius (C) Tenacious (D) Tenecious

Correct Option : C

Question (87)

Direction : In Question nos. 87 to 89, four alternative are given for the Idiom/Phrase in bold in below sentences . Choose the alternative which best expresses the meaning of the Idiom/Phrase and mark it in the Answer Sheet.

The representatives of the two states tried to enforce a treaty which was a **dead letter**.

- (A) not well-thought out
- (B) no longer in force
- (C) no longer relevant
- (D) not in keeping with the changing times

Correct Option :

Question (88)

Real Madrid **bore the palm** in the league matches.

- (A) played quite well
- (B) was victorious
- (C) was defeated
- (D) played a very boring match

Correct Option : B

Question (89)

Just **keep your wig on**. Everything will be alright.

- (A) hold on to your wig, so it won't fall off
- (B) get another hair cut
- (C) calm down
- (D) take off your wig

Correct Option : C

Question (90)

Direction: In Question nos. 90 to 92, a sentence/ a part of the sentence is italicised in underlined. Below are given alternatives to the italicised part at (A), (B), (C) which may improve the sentence. Choose the correct alternative. In case no improvement is needed your answer is (D). Mark your answer in the Answer Sheet.

Instead of being helpful, he was *being hindrance*.

- (A) hindering
- (B) hindrance
- (C) hindered
- (D) No improvement

Correct Option : A

Question (91)

By the time *she had finished* her work, I had nearly given up all hope of arriving at the party in time.

- (A) she was finishing
- (B) she finished
- (C) she will finish
- (D) No improvement

Correct Option : B

Question (92)

He was *accused for* stealing an expensive watch.

- (A) accused with
- (B) accused of

- (C) accused upon
- (D) No improvement

Correct Option : B

Question (93)

Direction : In Question nos. 93 to 95, in the following question, out of the four alternatives, choose the one which can be substituted for the given sentence.

Science of printing

- (A) Calligraphy
- (B) Typography
- (C) Topography
- (D) Cryptography

Correct Option : B

Question (94)

Contempt of God

- (A) Atheism
- (B) Nihilism
- (C) Blasphemy
- (D) Agnosticism

Correct Option : C

Question (95)

Responsible according to law

- (A) Liable
- (B) Eligible
- (C) Legalised
- (D) Legitimate

Correct Option : D

Question (96)

Direction (Q. No- 96 - 100) : In these question you have two brief passages with six questions following the passage. Read the passage carefully and choose the best answer to each question out of the four alternatives.

Passage – 1

Although Indians spend less money on allopathic medicines than people in most Asian countries, more than 40,000 drug formulations are available here. All manufacturers are required by law to provide information about their product either on the packaging or in a pamphlet inside. But, in many cases, this information is very meagre and hard to understand. Many doctors, too, do not tell their patients anything about the drugs they prescribe.

What should we be concerned about when we take drugs? There are two areas: (1) Side effects: Many people taking a drug will notice an undesirable reaction, usually minor. But even the mildest drugs can do harm if taken improperly, long enough or in excessive doses. And everyone responds to a drug differently. (2) Failure to follow directions : Many of us disobey prescription and instructions on how much to take and when. It is easy to fall into thinking that more of the drug will speed up the healing. It is more common, however, for people to stop taking a drug when they begin to feel better. This, too, can be dangerous. What are the steps to be taken for safety? (1) Take a drug only as recommended on the label or by the doctor. (2) If you feel ill after taking a drug, check it with doctor. (3) Do not mix drug. (4) Check whether any food or activities are to be avoided.

Which one of the following statements is true?

- (A) Indians use more than 40,000 allopathic drugs.
- (B) Indians hate allopathic medicines.
- (C) Other Asian countries do not have allopathic medicines.
- (D) Indians cannot afford allopathic drugs.

Correct Option : A

Question (97)

Although Indians spend less money on allopathic medicines than people in most Asian countries, more than 40,000 drug formulations are available here. All manufacturers are required by law to provide information about their product either on the packaging or in a pamphlet inside. But, in many cases, this information is very meagre and hard to understand. Many doctors, too, do not tell their patients anything about the drugs they prescribe.

What should we be concerned about when we take drugs? There are two areas: (1) Side effects: Many people taking a drug will notice an undesirable reaction, usually minor. But even the mildest drugs can do harm if taken improperly, long enough or in excessive doses. And everyone responds to a drug differently. (2) Failure to follow directions : Many of us disobey prescription and instructions on how much to take and when. It is easy to fall into thinking that more of the drug will speed up the healing. It is more common, however, for people to stop taking a drug when they begin to feel better. This, too, can be dangerous. What are the steps to be taken for safety? (1) Take a drug only as recommended on the label or by the doctor. (2) If you feel ill after taking a drug, check it with doctor. (3) Do not mix drug. (4) Check whether any food or activities are to be avoided.

How are drug users to be instructed by the manufacturers?

- (A) Doctors should give a manual of instructions.
- (B) The chemist should issue an instruction manual.
- (C) Information should be printed on the carton or in a pamphlet kept inside it.
- (D) Patients should keep in touch with drug manufacturers.

Correct Option : C

Question (98)

Although Indians spend less money on allopathic medicines than people in most Asian countries, more than 40,000 drug formulations are available here. All manufacturers are required by law to provide information about their product either on the packaging or in a pamphlet inside. But, in many cases, this information is very meagre and hard to understand. Many doctors, too, do not tell their patients anything about the drugs they prescribe.

What should we be concerned about when we take drugs? There are two areas: (1) Side effects: Many people taking a drug will notice an undesirable reaction, usually minor. But even the mildest drugs can do harm if taken improperly, long enough or in excessive doses. And everyone responds to a drug differently. (2) Failure to follow directions : Many of us disobey prescription and instructions on how much to take and when. It is easy to fall into thinking that more of the drug will speed up the healing. It is more common, however, for people to stop taking a drug when they begin to feel better.

This, too, can be dangerous. What are the steps to be taken for safety? (1) Take a drug only as recommended on the label or by the doctor. (2) If you feel ill after taking a drug, check it with doctor. (3) Do not mix drug. (4) Check whether any food or activities are to be avoided.

Only one of the following sentences is right. Identify it.

- (A) All medicines produce reactions of various degrees in their users.
- (B) Even mild drugs are not always safe.
- (C) Medicines should be discontinued as soon as we feel better.
- (D) More than the prescribed dose brings quicker recovery.

Correct Option : B

Question (99)

Although Indians spend less money on allopathic medicines than people in most Asian countries, more than 40,000 drug formulations are available here. All manufacturers are required by law to provide information about their product either on the packaging or in a pamphlet inside. But, in many cases, this information is very meagre and hard to understand. Many doctors, too, do not tell their patients anything about the drugs they prescribe.

What should we be concerned about when we take drugs? There are two areas: (1) Side effects: Many people taking a drug will notice an undesirable reaction, usually minor. But even the mildest drugs can do harm if taken improperly, long enough or in excessive doses. And everyone responds to a drug differently. (2) Failure to follow directions : Many of us disobey prescription and instructions on how much to take and when. It is easy to fall into thinking that more of the drug will speed up the healing. It is more common, however, for people to stop taking a drug when they begin to feel better. This, too, can be dangerous. What are the steps to be taken for safety? (1) Take a drug only as recommended on the label or by the doctor. (2) If you feel ill after taking a drug, check it with doctor. (3) Do not mix drug. (4) Check whether any food or activities are to be avoided.

Drug manufacturers

- (A) do not give instructions
- (B) give all instructions necessary
- (C) give very little and unintelligible information
- (D) give information only when asked

Correct Option : C

Question (100)

Although Indians spend less money on allopathic medicines than people in most Asian countries, more than 40,000 drug formulations are available here. All manufacturers are required by law to provide information about their product either on the packaging or in a pamphlet inside. But, in many cases, this information is very meagre and hard to understand. Many doctors, too, do not tell their patients anything about the drugs they prescribe.

What should we be concerned about when we take drugs? There are two areas: (1) Side effects: Many people taking a drug will notice an undesirable reaction, usually minor. But even the mildest drugs can do harm if taken improperly, long enough or in excessive doses. And everyone responds to a drug differently. (2) Failure to follow directions : Many of us disobey prescription and instructions on how much to take and when. It is easy to fall into thinking that more of the drug will speed up the healing. It is more common, however, for people to stop taking a drug when they begin to feel better. This, too, can be dangerous. What are the steps to be taken for safety? (1) Take a drug only as recommended on the label or by the doctor. (2) If you feel ill after taking a drug, check it with doctor. (3) Do not mix drug. (4) Check whether any food or activities are to be avoided.

Which one of the following is true?

- (A) Throw away the drug that produces side effects and try another.
- (B) Drugs maybe taken with all kinds of foods.
- (C) Drugs do not inhibit our normal life style.
- (D) Drugs should be used only according to prescription.

Correct Option : D

Question (101)

Directions (1 – 3) : In each of the following questions, select the related letter/word/ number from the given alternatives.

निर्देश (1-3): निम्न प्रत्येक प्रश्न में दिए गए विकल्पों में से सम्बन्धित अक्षर/शब्द/संख्या को चुनिए।

Safe : Secure :: Careful : ?

सुरक्षित : सकुशल :: सावधान : ?

- (A) Converse/उल्टा

- (B) Sure/निश्चित
(C) Wary/एहतियात
(D) Lock/ताला

Correct Option : C

Explanation :

As Safe and Secure are synonyms of one another, similarly Careful and Wary are synonyms.

Question (102)

India : Rupee : : South Africa : ?

भारत : रुपए : : दक्षिण अफ्रीका : ?

- (A) Dinar/दीनार
(B) Rand/रैंड
(C) Leone/लियोन
(D) Koruna/कोरुणा

Correct Option : B

Question (103)

6 : 38 : : 11 : ?

- (A) 121 (B) 22
(C) 44 (D) 123

Correct Option : D

Explanation :

$$6 \rightarrow 6^2 + 2 = 38$$

$$11 \rightarrow 11^2 + 2 = \mathbf{123}$$

Question (104)

Directions (4-5) : In the following questions, a series is given with one terms missing. Choose the correct alternative from the given ones that will complete the series:

निर्देश (4-5): निम्नलिखित प्रश्नों में, एक अनुक्रम दिया गया है जिसमें एक पद लुप्त है। दिए गए विकल्पों में से वह सही विकल्प चुनिए जो अनुक्रम को पूरा करें।

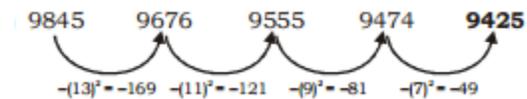
9845, 9676, 9555, 9474, ?

(A) 9438 (B) 9449

(C) 9425 (D) 9393

Correct Option : C

Explanation :



Question (105)

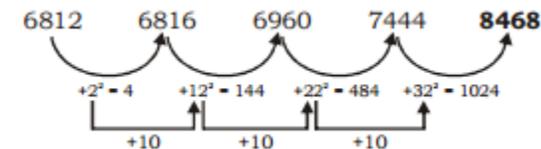
6812, 6816, 6960, 7444, ?

(A) 8446 (B) 8468

(C) 7298 (D) 6906

Correct Option : B

Explanation :



Question (106)

Which of the following diagrams indicates the best relation between Human, Monkey and Living being?

निम्न में से कौन-सी आकृति मानव, बंदर तथा सजीव प्राणी के बीच संबंध इंगित करती है?



Correct Option : C

Question (107)

Arrange the words given below in a meaningful sequence.

निम्न शब्दों को एक सार्थक क्रम में व्यवस्थित करें।

1. Site/स्थान
2. Plan/योजना
3. Rent/किराया
4. Money/धन
5. Building/इमारत
6. Construction/निर्माण

- (A) 1, 2, 3, 6, 5, 4
(B) 3, 4, 2, 6, 5, 1
(C) 4, 1, 2, 6, 5, 3
(D) 2, 3, 6, 5, 1, 4

Correct Option : C

Explanation :

4 @ 1 @ 2 @ 6 @ 5 @ 3

Question (108)

In certain code language if POSITION is written as KUQRLMGR then how PERSON will be written in the same code?

यदि किसी सांकेतिक भाषा में POSITION को KUQRLMGR लिखा जाता है, तो उसी सांकेतिक भाषा में PERSON को किस प्रकार लिखा जाएगा?

- (A) QESTPO (B) NOSREP
(C) PERSON (D) TGRLMQ

Correct Option : D

Explanation :

POS	IT	PER	SON
QUR	LMGR	TGR	LMQ
+2 +2 +2 +2	+2 +2 +2 +2	+2 +2 +2	+2 +2 +2

Question (109)

Select the combination to form a meaningful word from combination of these numbers.

उस वैकल्पिक समायोजन का चयन करें जिनके अक्षरों को व्यवस्थित करने पर एक अर्थपूर्ण शब्द का निर्माण हो।

C E L M S U

1 2 3 4 5 6

(A) 4 6 3 5 2 1 (B) 5 6 4 1 3 2

(C) 4 6 5 1 2 3 (D) 4 6 5 1 3 2

Correct Option : D

Explanation :

M U S C L E

4 6 5 1 3 2

Question (110)

At what time between 3 and 4'o clock the hands of a clock coincide?

3 और 4 बजे के बीच किस समय घड़ी की सुईयाँ आपस में मिलती हैं?

(A) $16\frac{4}{11}$ min past 3/3 बजकर $16\frac{4}{11}$ मिनट

(B) $15\frac{5}{6}$ min past 3/3 बजकर $15\frac{5}{6}$ मिनट

(C) $15\frac{5}{60}$ min past 3/3 बजकर $15\frac{5}{60}$ मिनट

(D) $16\frac{4}{11}$ min past 4/4 बजकर $16\frac{4}{11}$ मिनट

Correct Option : A

Explanation :

$$T = 3 + \frac{2}{11}(3 \cdot 30 + 0)$$
$$= 3 + \frac{180}{11} = \mathbf{3 \text{ past } 16\frac{4}{11} \text{ min}}$$

Question (111)

In which year, the Calendar of year 2024 will be used again?

वर्ष 2024 का कैलेंडर पुनः किस वर्ष प्रयोग में लाया जाएगा?

(A) 2048 (B) 2036

(C) 2052 (D) 2030

Correct Option : C

Explanation :

$$\text{As, } \frac{2024}{4} = 0 \text{ as a remainder}$$

So, Required year = 2024 + 28 = **2052**

Question (112)

Directions (12–14) : Find the odd word/letters/ number pair/number from the given

alternatives.

निर्देश (12-14): दिये गए विकल्पों में से विषम शब्द/अक्षर/संख्या युग्म/संख्या को चुनिए।

(A) File/फाइल (B) Diary/डायरी

(C) Letter/खत (D) Paper/कागज

Correct Option : D

Explanation :

We are using paper in file, diary and letter.

Question (113)

(A) 9612 (B) 1097

(C) 9413 (D) 4742

Correct Option : A

Explanation :

$$9612 = 9 + 6 + 1 + 2 = 18$$

$$1097 = 1 + 0 + 9 + 7 = 17$$

$$9413 = 9 + 4 + 1 + 3 = 17$$

$$4742 = 4 + 7 + 4 + 2 = 17$$

Question (114)

(A) Mustard/सरसों (B) Beet/चुकन्दर

(C) Radish/मूली (D) Gingelly/तिल

Correct Option : D

Explanation :

Only Gingelly is the Kharif crops.

Question (115)

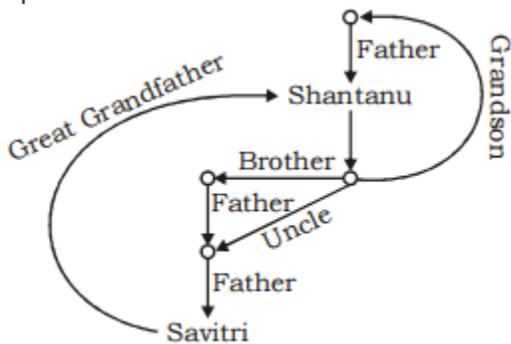
If paternal uncle of Savitri's father is grandson of father of Shantanu and Shantanu is the only child of his father, how Shantanu is related to Savitiri?

यदि सावित्री के पिता का चाचा शांतनु के पिता का पोता है तथा शांतनु अपने पिता की इकलौती संतान है, तो शांतनु का सावित्री से क्या संबंध है?

- (A) Great Grandfather/परदादा
- (B) Grandfather/दादा
- (C) Father/पिता
- (D) Uncle/चाचा

Correct Option : A

Explanation :

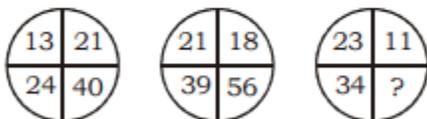


Shantanu is **Great Grandfather** of Savitri.

Question (116)

Direction (16-17) : In question no 16 to 17, select the missing number from the give responses.

निर्देश (16-17) : प्रश्न संख्या 16 से 17 में, दिए गए विकल्पों में से विलुप्त संख्या चुनिए।



- (A) 36
- (B) 48
- (C) 46
- (D) 54

Correct Option : B

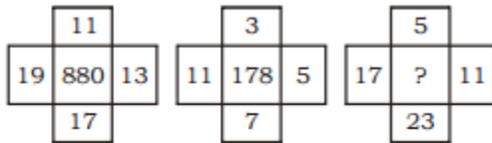
Explanation :

$$13 + 21 + 24 = 58 \triangleright 5 \times 8 = 40$$

$$21 + 18 + 39 = 78 \triangleright 7 \times 8 = 56$$

$$23 + 11 + 34 = 68 \triangleright 6 \times 8 = \mathbf{48}$$

Question (117)



(A) 872

(B) 908

(C) 442

(D) 726

Correct Option : B

Explanation :

As,

$$(11^2 + 13^2 + 17^2 + 19^2) - (11 + 13 + 17 + 19)$$

$$= 121 + 169 + 289 + 361 - 60 = 880$$

$$\text{and } (3^2 + 5^2 + 7^2 + 11^2) - (3 + 5 + 7 + 11)$$

$$= 9 + 25 + 49 + 121 - 26 = 178$$

Similarly,

$$(5^2 + 11^2 + 23^2 + 17^2) - (5 + 11 + 23 + 17)$$

$$= 25 + 121 + 529 + 289 - 56$$

$$= 908$$

Question (118)

Directions : In question no. 18, which one set of letters when sequentially placed at the gaps in the given letter series shall complete it?

निर्देश: प्रश्न न. 18 में, अक्षरों का कौन-सा समूह खाली स्थानों पर क्रमवार रखने से दी गई अक्षर श्रृंखला को पूरा करेगा?

_ E _ S I _ E W _ B _ _ T E

(A) R O K L R O (B) M K N J J M

(C) W B T E S I (D) A E P R O H

Correct Option : C

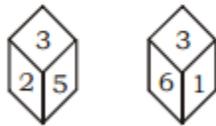
Explanation :

WE****B**S**I**T**E**W**E****B**S**I**T**E****

Question (119)

Two positions of a dice has been shown here.
Which digit will be at top when 3 is at bottom?

यहाँ पासे की दो अवस्थाओं को दर्शाया गया है। जब अंक 3 नीचे है, तो ऊपर कौन-सा अंक आएगा?



(A) 3
(C) 1

(B) 2
(D) 4

Correct Option : D

Explanation :

From both the dices, we can observe that digit 4 is missing, it means it is at bottom of 3

Question (120)

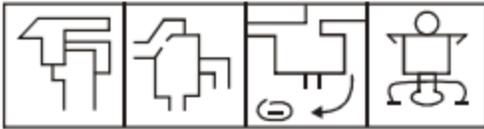
From the given answer figures, select the one in which the question figure is embedded.

दी गई उत्तर आकृतियों में से, उस आकृति को चुनिए जिसमें प्रश्न आकृति अन्तर्निहित है।

Question figure/प्रश्न आकृति:



Answer figures/उत्तर आकृतियाँ:



(A)

(B)

(C)

(D)

Correct Option : D

Question (121)

If a mirror is placed on the line, then which among the answers will be the right image?
यदि दर्पण को रेखा पर रखा जाए, तो इनमें से कौन सा उत्तर इसका सही प्रतिबिंब होगा?

MAGAZINE

(A) MAGAZINE

(B) ENIZAGAM

(C) MAGAZINE

(D) ENIZAGAM

Correct Option : D

Question (122)

If 6436 = 14 and 14416 = 16, then 324841 = ?
 यदि 6436 = 14 और 14416 = 16, तो 324841 = ?
 (A) 37 (B) 39
 (C) 47 (D) 43

Correct Option : C

Explanation :

$$\sqrt{64} + \sqrt{36} = 8 + 6 = 14$$

$$\sqrt{144} + \sqrt{16} = 12 + 4 = 16$$

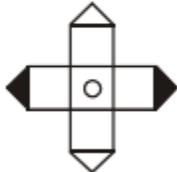
$$\sqrt{324} + \sqrt{841} = 18 + 29 = 47$$

Question (123)

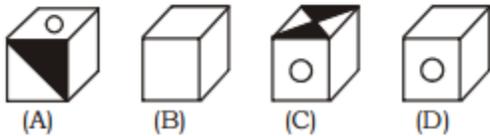
Choose from the four answer figures the figure that will be formed when the question figure is folded into a box.

दिए गए चार उत्तर आकृतियों में से उस आकृति का चयन करें, जब प्रश्न आकृति को एक बॉक्स के रूप में मोड़ा जाएगा।

Question figure/प्रश्न आकृति :



Answer figures/उत्तर आकृतियाँ :



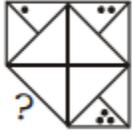
Correct Option : D

Question (124)

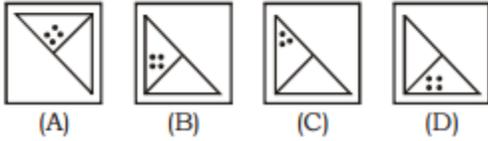
Identify the figure that will complete the pattern.

उस आकृति को पहचाने जो पैटर्न को पूरा करेगी।

Question figure/प्रश्न आकृति :



Answer figures/उत्तर आकृतियाँ :



Correct Option : D

Question (125)

A word is represented by only one set of numbers as given in any one of the alternatives. The sets of numbers given in the alternatives are represented by two classes of letters as in two matrices given below. The columns and rows of Matrix-I are numbered from 1 to 4 and that of Matrix-II are numbered from 5 to 8. A letter from these matrices can be represented first by its row and next by its column. E.g., 'S' can be represented by 13, etc., 'D' can be represented by 76 and 'M' can be represented by 57 etc. Similarly, you have to identify the set for the word 'MADAM'.

एक शब्द केवल एक संख्या-समूह द्वारा दर्शाया गया है, जैसा कि विकल्पों में से किसी एक में दिया गया है। विकल्पों में दिए गए संख्या-समूह अक्षरों के दो वर्गों द्वारा दर्शाए गए हैं, जैसा कि नीचे दिए गए दो आव्यूह में हैं। आव्यूह-I के स्तंभ और पंक्ति की संख्या 1 से 4 दी गई है और आव्यूह-II की 5 से 8। इन आव्यूहों से एक अक्षर को पहले उसकी पंक्ति और बाद में स्तंभ संख्या द्वारा दर्शाया जा सकता है। उदाहरण के लिए 'S' को 13, द्वारा दर्शाया जा सकता है, 'D' को 76, द्वारा दर्शाया जा सकता है तथा 'M' को 57 द्वारा दर्शाया जा सकता है। इसी तरह से, आपको शब्द 'MADAM' के लिए संख्या समूह को पहचानना है।

Matrix-I/आव्यूह-I **Matrix-II/आव्यूह-II**

	1	2	3	4		5	6	7	8
1	A	M	S	D	5	A	S	M	D
2	S	M	A	D	6	S	A	D	S
3	M	D	A	S	7	A	D	M	S
4	A	M	S	D	8	A	M	D	S

- (A) 12, 23, 65, 77, 55
 (B) 22, 57, 32, 31, 12
 (C) 12, 41, 14, 75, 57
 (D) 65, 88, 31, 56, 86

Correct Option : C

Question (126)

Which one of the following is not a lagoon lake?

निम्नलिखित में से कौन-सी एक लगून झील नहीं है?

- (A) Ashtamudi lake/अष्टमुड़ी झील
- (B) Chilka lake/चिल्का झील
- (C) Periyar lake/पेरियार झील
- (D) Pulicat lake/पुलीकट झील

Correct Option : C

Explanation :

Periyar Lake is not a lagoon. It is surrounded by mountain ridges of Andaman hills.

Question (127)

Galena an ore of lead is chemically known as-

गेलेना, सीसा का अयस्क, रासायनिक तौर पर है-

- (A) Lead carbonate/लेड कार्बोनेट
- (B) Lead oxide/लेड ऑक्साइड
- (C) Lead chloride/लेड क्लोराइड
- (D) Lead sulphide/लेड सल्फाइड

Correct Option : D

Explanation :

Galena, also known as Lead glance is the natural mineral form of Lead (II) sulphide

Question (128)

The Ravva, the offshore block with great potential for oil, is located in:

समुद्र तट से दूर स्थित क्षेत्र 'रावा' जहाँ बहुत अधिक तेल भंडार की संभावना है, स्थित है-

- (A) Krishna-Godavari basin/कृष्णा-गोदावरी बेसिन में

- (B) Cauvery basin/कावेरी बेसिन में
- (C) Mahanadi basin/महानदी बेसिन में
- (D) Palar-Pennar basin/पलार-पेन्नार बेसिन में

Correct Option : A

Explanation :

The Ravva offshore block is in KrishnaGodavari basin of Andhra Pradesh. It is the area of a great reserve of petroleum and natural gas.

Question (129)

Name the signals that inform the operating system that some activity has taken place-

उन संकेतो के क्या कहते जो ऑपरेटिंग सिस्टम को सूचित करते हैं कि कुछ गतिविधि हुई है?

- (A) Informers/इन्फार्मर्स
- (B) Interrupts/इन्टरप्ट्स
- (C) Events/इवेन्ट्स
- (D) Handlers/हैंडलर्स

Correct Option : D

Explanation :

In computer programming, an event handler is an asynchronous call back subroutine that handles inputs received in a program. Each event is a piece of application-level information from the underlying framework, typically the GUI. GUI events include the key presses, mouse movement.

Question (130)

What inspires the paintings of Ajantas?

अजंता की चित्रकला क्या प्रेरित करती है?

- (A) Compassionate Buddha/करुणामय बुद्ध

- (B) Radha-Krishan Leela/राधा-कृष्ण लीला
(C) Jain Thirthankaras/जैन तीर्थकर
(D) Mahabharata encounters/महाभारत युद्ध

Correct Option : A

Explanation :

The Ajanta Caves is in Aurangabad district of Maharashtra. The caves include paintings and sculptures considered to be masterpieces of Buddhist religious art (which depict the Jatak tales). The Ajanta cave paintings depict the life of Gautam Buddha

Question (131)

The concept of public Interest litigation originated in:

जनहित याचिका की अवधारणा का उद्गम हुआ है-

- (A) United Kingdom/यूनाइटेड किंगडम से
(B) Australia/ऑस्ट्रेलिया
(C) USA/संयुक्त राज्य अमेरिका से
(D) Canada/कनाडा से

Correct Option : C

Explanation :

PIL originated from USA. It seeks to protect and promote interest of the public at large.

Question (132)

Personal disposable income is:

व्यक्तिगत प्रयोज्य आय होती है-

- (A) Always equal to personal income/व्यक्तिगत आय के हमेशा बराबर
(B) Always more than personal income/व्यक्तिगत आय से हमेशा अधिक

(C) Equal to personal income minus indirect taxes/व्यक्तिगत आय और अप्रत्यक्ष कर के अंतर के बराबर

(D) Equal to personal income minus direct taxes/व्यक्तिगत आय और प्रत्यक्ष कर के अंतर के बराबर

Correct Option : D

Explanation :

Disposable income is total personal income minus personal current taxes. In national accounts definitions, personal income minus direct taxes equals disposable personal income.

Question (133)

Where are the headquarters of the International Energy Agency (IEA)?

अंतर्राष्ट्रीय ऊर्जा एजेंसी (आईईए) का मुख्यालय कहाँ पर स्थित है?

(A) Paris/पेरिस (B) Geneva/जिनेवा

(C) London/लन्दन (D) New York/न्यूयॉर्क

Correct Option : A

Explanation :

The International Energy Agency (IAE) is a Paris-based autonomous intergovernmental organization, which works to accelerate the global energy transition, providing research, statistics, in-depth analysis & policy recommendations. It was established in the framework of the Organisation for Economic Co-operation and Development (OECD) in 1974 in the wake of the 1973 oil crisis. Recently, it is in news because IAE will tie-up with India to implement its Unnat Jyoti by Affordable LEDs for All (UJALA) initiative globally for energy savings. The UJALA scheme is executed by the Energy Efficiency Services Limited (EESL), a joint venture of PSUs under the Union Ministry of Power.

Question (134)

Aaron Pryor, who passed away recently, was related to which sports?

आरून प्रायर, जिनका हाल ही में निधन हो गया है, वह किस खेल से संबंधित थे?

(A) Boxing/मुक्केबाजी (B) Badminton/बैडमिंटन

(C) Wrestling/कुश्ती (D) Swimming/तैराकी

Correct Option : A

Explanation :

Aaron Pryor (60), an American boxer, has recently passed away in Cincinnati, Ohio. He was known as "the Hawk" and was a crowd favorite who fought with a frenetic style

Question (135)

To whom can a case of dispute in the election of the President of India be referred to?

भारत में राष्ट्रपति के चुनाव संबंधी विवाद के मामले को निम्नलिखित में से किसके पास भेजा जाएगा?

- (A) Election commission/निर्वचन आयोग
- (B) Parliament/संसद
- (C) Supreme court of India/भारत का उच्चतम न्यायालय
- (D) Cabinet/मंत्रिमंडल

Correct Option : C

Question (136)

Which one of the following pairs is not correctly matched?

निम्न युग्मों में से कौन-सा युग्म सही सुमेलित नहीं है?

- (A) Jamnalal Bajaj-Satyagraha Ashram at Wardha/जमनालाल बजाज-सत्याग्रह आश्रम वर्धा में
- (B) Dadabhai Naoroji-Bombay Association/दादाभाई नौरोजी-बॉम्बे एसोसिएशन
- (C) Lala Lajpat Rai-National School at Lahore/लाला लाजपतराय-नेशनल स्कूल लाहौर में
- (D) Bal Gangadhar Tilak-Satya Shodhak Samaj/बाल गंगाधर तिलक-सत्य शोधक समाज

Correct Option : D

Explanation :

Satya Shodhak Samaj was founded by Jyotiba Phule in 1873.

Question (137)

The book "The Greatest Bengali Stories Ever Told" has been authored by whom?

पुस्तक "द ग्रेट्टेस्ट बंगाली स्टोरीज एवर टोल्ड" किसके द्वारा लिखी गई है?

- (A) Urmila Das/उर्मिला दास
- (B) Vijay Kumar/विजय कुमार
- (C) Amar Mitra/अमर मित्रा
- (D) Arunava Sinha/अरुनाव सिन्हा

Correct Option : D

Explanation :

The book "The Greatest Bengali Stories Ever Told" has been authored by Arunava Sinha.

Question (138)

Magnetic Resonance Imaging (MRI) makes use of:

चुंबकीय अनुनाद इमेजिंग (MRI) प्रयोग करते हैं-

- (A) High frequency sound waves/उच्च आवृत्ति ध्वनि तरंगों का
- (B) X-ray photon/X-किरण फोटॉन का
- (C) Radio frequency photon/आकाशवाणी आवृत्ति फोटॉन का
- (D) Beta particles/बीटा कण का

Correct Option : C

Explanation :

MRI scanners use strong magnetic fields, radio waves to form images of body.

Question (139)

The World's first-ever "Bionic Olympics" has started in which country?

विश्व का पहला "बायोनिक ओलंपिक" किस देश में शुरू किया गया है?

- (A) Malaysia/मलेशिया
- (B) Indonesia/इंडोनेशिया
- (C) China/चीन
- (D) Switzerland/स्विट्ज़रलैंड

Correct Option : D

Explanation :

The World's first-ever Cybathlon championship for disabled athletes has started at Zurich in Switzerland. The championship is popularly known as 'Bionic Olympics', it differs from the Paralympics as it sees participants compete against each other using the latest assistive technologies such as robotic prostheses, brain-computer interfaces and powered exoskeletons. It is organized by the Swiss Federal Institute of Technology ETH Zurich.

Question (140)

Asbestos is a silicate mineral of calcium and:

एस्बिस्टस (अदह) एक सिलिकेट खनिज है, कैल्शियम और-

- (A) K (potassium)/K (पौटेशियम)
- (B) Al (Aluminium)/Al (एल्यूमीनियम)
- (C) Ba (Barium)/Ba (बेरियम)
- (D) Mg (Magnesium)/Mg (मैग्नीशियम)

Correct Option : D

Question (141)

The most important element of weather affecting agriculture in India is

भारत में कृषि को प्रभावित करने वाला मौसम का मुख्य तत्व क्या है?

(A) Temperature/तापमान

(B) Humidity/आद्रता

(C) Wind/वायु

(D) Rainfall/वर्षा

Correct Option : D

Explanation :

Though temperature and humidity are key elements of weather crucial for a good harvest in Indian agriculture, it is said to be the handmaid of monsoon. This is on account of the lack of irrigational facilities across the country. A good monsoonal year often means a bumper harvest.

Question (142)

Which part of the Indian Constitution deals with 'Fundamental Rights' ?

भारतीय संविधान का कौन सा भाग 'मौलिक अधिकार' को संबोधित करता है?

(A) Part I/भाग-I (B) Part II/भाग-II

(C) Part III/भाग-III (D) Part IV/भाग-IV

Correct Option : C

Explanation :

'Part III - Fundamental Rights' is a charter of rights contained in the Constitution of India. It guarantees civil liberties such that all Indians can lead their lives in peace and harmony as citizens of India. These include individual rights which are common to most liberal democracies such as equality before law, freedom of speech, expression and peaceful assembly, freedom to practice one's own religion, and the rights by means of writs such as habeas corpus.

Question (143)

The normal RBC count in adult male is:

व्यस्क पुरुष में RBC की संख्या कितनी होती है?

- (A) 5.5 millions/5.5 मिलियन
- (B) 5.0 millions/5.0 मिलियन
- (C) 4.5 millions/4.5 मिलियन
- (D) 4.0 millions/4.0 मिलियन

Correct Option : B

Question (144)

Cloudy nights are warmer compare to general nights, because clouds mainly

सामान्य रातों की तुलना में मेघाच्छादित रातें गर्म होती हैं, क्योंकि मेघ मुख्यतः -

- (A) Absorb heat from the atmosphere and send it towards the earth/वायुमंडल की गर्मी को अवशोषित करता है और उसे पृथ्वी की तरफ भेज देता है
- (B) Prevent cold waves from the sky descending on earth/आकाश से शीतलहर को पृथ्वी पर उतरने से रोकता है
- (C) Reflect back the heat given by earth/पृथ्वी द्वारा दिए गए गर्मी को परावर्तित कर देता है
- (D) Produce heat and radiate it toward earth/गर्मी उत्पन्न करता है और उसे पृथ्वी की तरफ विकीर्णित करता है

Correct Option : C

Explanation :

It is because the night side of Earth will radiate infra-red radiation (heat) back into the space. When there is cloud cover, the clouds act like a blanket and trap the heat just like a blanket traps heat close to our body.

Question (145)

Select the correct answer using the code given below the lists:

सूची-I के साथ सूची-II का और नीचे दी गई सूचियों के प्रवृष्टियों में मौजूद कूट का उपयोग करके सही उत्तर का चयन करें।

List-I/सूची-I (Geographic feature) (भौगोलिक रूप)	List-II/सूची-II (Country) (देश)
a. Great Victoria Desert/ग्रेट विक्टोरिया डेजर्ट	1. Australia आस्ट्रेलिया
b. Grand Canyon/ ग्रैंड कैन्यन	2. Canada/कनाडा
c. Winnipeg Lake/ विन्निपेग झील	3. New Zealand/ न्यूजीलैंड
d. Southern Alps/ दक्षिण आलप्स	4. USA/ संयुक्त राज्य अमेरिका

Code/कूट:

	a	b	c	d
(A)	1	2	4	3
(B)	1	4	2	3
(C)	3	2	4	1
(D)	3	4	2	1

Correct Option : B

Question (146)

Darul-Uloom Deoband is associated with

दारुल-उलूम देवबंद किससे संबंधित है?

- (A) Parsis socio-cultural reforms/पारसी सामाजिक सांस्कृतिक सुधार
- (B) Satyagraha movement/सत्याग्रह आंदोलन
- (C) Muslim reform movement/मुस्लिम सुधार आंदोलन
- (D) Terrorist activities/आतंकवादी गतिविधियाँ

Correct Option : C

Explanation :

Darul Uloom Deoband is an Islamic school where the Deobandi Islamic Movement was started.

Deoband had opposed the Jinnah's Demand for the partition of British India into Muslim and Non-Muslim sections. The school advocates an orthodox version of Islam and has repeatedly distanced itself from religious extremism.

Question (147)

Vitamin E is particularly important for:

विटामिन E विशेषतः किसके लिए महत्वपूर्ण है?

(A) Development of teeth/
दांतों के विकास के लिए

(B) Carbohydrate metabolism/
कार्बोहाइड्रेट उपपाचय में

(C) Normal activity of sex glands/
लिंग ग्रंथियों की सामान्य क्रिया में

(D) General health of epithelial tissues/
उपकला (एपिथीलियम) उत्तकों के सामान्य स्वास्थ्य के लिए

Correct Option : C

Question (148)

The main source of the banks are :

बैंकों का मुख्य स्रोत है-

(A) Interest paid by them on deposits/जमा पर उनके द्वारा चुकाया गया ब्याज

(B) Interest earned by them on loans extended to people/लोगों को दिए गए ऋण पर उनके द्वारा अर्जित किया गया ब्याज

(C) Interest received by them from the government/सरकार से उनके द्वारा अर्जित किया गया ब्याज

(D) None of these/इनमें से कोई नहीं

Correct Option : B

Explanation :

The assets of the banks are the loans and advances given to the public. Banks earn interest on these loans and advance is the main source of income for the banks.

Question (149)

The "Residuary Powers" (not mentioned in the Union, State or Concurrent list of the constitution) are vested in:

“अवशिष्ट अधिकार” जिनका उल्लेख संघीय, राज्य आ समवर्ती सूचियों में नहीं किया गया है। निम्नलिखित में से किसमें निहित होते हैं?

- (A) President of India/भारत के राष्ट्रपति में
- (B) Both Rajya Sabha/राज्यसभा और लोकसभा दोनों में
- (C) State Legislature/राज्य विधानमंडलों में
- (D) Lok Sabha/लोकसभा में

Correct Option : B

Question (150)

Currency is accepted as a medium of exchange because:

मुद्रा को विनिमय के माध्यम के रूप में स्वीकार किया जाता है क्योंकि-

- (A) The currency is authorised by the government of the country/मुद्रा देश की सरकार द्वारा अधिकृत है।
- (B) It has the backing of the people/इसे लोगों का समर्थन प्राप्त है।
- (C) It is easy to handle/इसे संभालना आसान है।
- (D) None of the above/इनमें से कोई नहीं

Correct Option : A

Explanation :

A medium of exchange permits the value of goods to be assessed and rendered in terms of

intermediary. Most often, a form of currency widely accepted to buy any other goods.

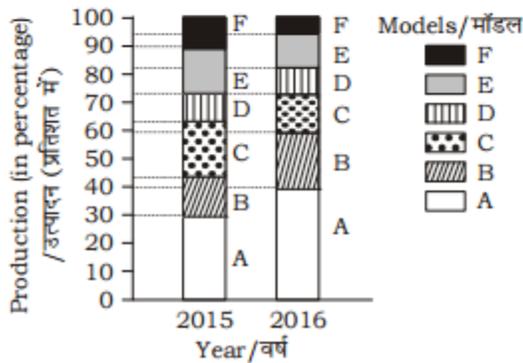
Question (151)

Directions (51 - 52): The bar chart given below shows the percentage distribution of the production of various models of a mobile by a manufacturing company in 2015 and 2016. The total production in 2015 was 35 lakh mobiles and in 2016 the production was 44 lakh. Study the chart and answer the following questions.

निर्देश (51 - 52) : नीचे दिए स्तंभ आरेख में एक मोबाइल निर्माता कंपनी द्वारा वर्ष 2015 तथा 2016 में विभिन्न मॉडलों के मोबाइल के वर्गीकरण प्रतिशत दर्शाया गया है। वर्ष 2015 में मोबाइल का कुल उत्पादन 35 लाख था और 2016 में वह 44 लाख था। आरेख का अध्ययन कर निम्नलिखित प्रश्नों के उत्तर दीजिए।

Percentage of six different types of mobiles manufactured by a company over two years

एक कंपनी द्वारा निर्मित छः भिन्न प्रकार के मोबाइल के दो वर्षों के प्रतिशत



For which models was the percentage variation in production from 2015 to 2016 the maximum?

वर्ष 2015 से 2016 तक किन मॉडलों के उत्पादन में प्रतिशत बदलाव अधिकतम था?

(A) B and/और C (B) C and/और D

(C) D and/और E (D) A and/और B

Correct Option : D

Explanation :

Percentage variation :

$$\text{Model A} \Rightarrow \frac{40 - 30}{30} \times 100 = 33\frac{1}{3}\%$$

$$\text{Model B} \Rightarrow \frac{20 - 15}{15} \times 100 = 33\frac{1}{3}\%$$

$$\text{Model C} \Rightarrow \frac{15 - 20}{20} \times 100 = -25\%$$

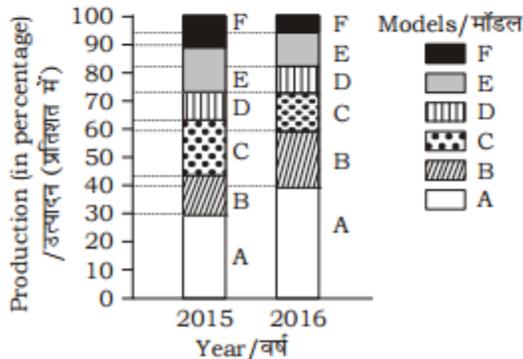
Question (152)

Directions (51 - 52): The bar chart given below shows the percentage distribution of the production of various models of a mobile by a manufacturing company in 2015 and 2016. The total production in 2015 was 35 lakh mobiles and in 2016 the production was 44 lakh. Study the chart and answer the following questions.

निर्देश (51 - 52) : नीचे दिए स्तंभ आरेख में एक मोबाईल निर्माता कंपनी द्वारा वर्ष 2015 तथा 2016 में विभिन्न मॉडलों के मोबाईल के वर्गीकरण प्रतिशत दर्शाया गया है। वर्ष 2015 में मोबाईल का कुल उत्पादन 35 लाख था और 2016 में वह 44 लाख था। आरेख का अध्ययन कर निम्नलिखित प्रश्नों के उत्तर दीजिए।

Percentage of six different types of mobiles manufactured by a company over two years

एक कंपनी द्वारा निर्मित छः भिन्न प्रकार के मोबाईल के दो वर्षों के प्रतिशत



If the percentage production of A type iphones in 2016 was same as that in 2015, then the number of A type iphones produced in 2016 would have been

यदि वर्ष 2016 में A प्रकार के आईफोन के प्रतिशत उत्पादन, वर्ष 2015 के बराबर होता, तो वर्ष 2016 में A प्रकार के

आईफोन का उत्पादन कितना होता?

- (A) 14,00,000 (B) 13,20,000
(C) 11,70,000 (D) 10,50,000

Correct Option : B

Explanation :

$$\begin{aligned} & \text{Required production} \\ &= \frac{44 \times 30}{100} \text{ lakhs} \\ &= \mathbf{1320000} \end{aligned}$$

Question (153)

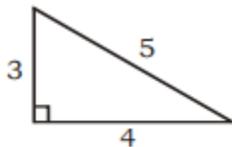
If $3 \sin \theta + 4 \cos \theta = 5$. Find the value of $4 \cos \theta - 3 \sin \theta$.

यदि $3 \sin \theta + 4 \cos \theta = 5$ तो $4 \cos \theta - 3 \sin \theta$ का मान निकाले।

- (A) 1.8 (B) 1.2
(C) 1.4 (D) 0.8

Correct Option : C

Explanation :



$$\text{Put } \sin q = \frac{3}{5}, \cos q = \frac{4}{5}$$

$$\text{then } 3 \sin q + 4 \cos q = 3 \times \frac{3}{5} + 4 \times \frac{4}{5} = \frac{25}{5} = 5$$

$$\text{So, } 4 \cos q - 3 \sin q = 4 \times \frac{4}{5} - 3 \times \frac{3}{5} = \frac{7}{5} = \mathbf{1.4}$$

Question (154)

What is the HCF of 3.0, 1.2 and 0.06.

3.0, 1.2 और 0.06 का म.स. क्या है?

(A) 0.06 (B) 0.03

(C) 0.09 (D) 0.12

Correct Option : A

Explanation :

HCF (3.0, 1.2, 0.06)

$$\text{HCF } \frac{30}{10}, \frac{12}{5}, \frac{6}{100} = \text{HCF } \frac{6}{50} = \mathbf{0.06}$$

Question (155)

A school has only four classes that contain 10, 20, 30 and 40 students respectively. The pass percentage of students of these classes are 20%, 30%, 60% and 100% respectively. Find the pass % of students the entire school.

एक विद्यालय में केवल चार कक्षाएं हैं जिनमें विद्यार्थियों की संख्या क्रमशः 10, 20, 30 तथा 40 हैं। उन कक्षाओं में विद्यार्थियों के सफलता का प्रतिशत क्रमशः 20%, 30%, 60% तथा 100% है। पूरे विद्यालय में विद्यार्थियों के सफलता का प्रतिशत ज्ञात करें।

(A) 56% (B) 76%

(C) 34% (D) 66%

Correct Option : D

Explanation :

The number of pass candidates are $2 + 6 + 18 + 40 = 66$ out of total 100.

Hence, Pass percentage = 66%

Question (156)

There was a leakage in the container of the refined oil. If 11 kg oil is leaked out per day then it would have lasted for 50 days, if the leakage was 15 kg per day, then it would have lasted for only 45 days. For how many days would the oil have lasted, if there was no leakage and it was completely used for eating purpose?

रिफाईंड तेल के पात्र में एक रिसाव था। जब प्रतिदिन 11 किलो तेल का रिसाव होगा, तो यह 50 दिनों तक चलेगा। अगर

रिसाव 15 किलो प्रति दिन होगा, तो यह केवल 45 दिनों तक चलेगा। यदि कोई रिसाव न हो तथा इसे खाने के उद्देश्य से इस्तेमाल किया जाए, तो तेल कितने दिनों तक चलेगा?

- (A) 80 days/दिन (B) 72 days/दिन
(C) 100 days/दिन (D) 120 days/दिन

Correct Option : B

Explanation :

(B) Let x kg of oil be used for the eating purpose, daily, then

$$(x + 11) \times 50 = (x + 15) \times 45$$

$$\Rightarrow x = 25$$

Thus, Total quantity of oil,

$$= (25 + 11) \times 50 = 1800$$

Hence, required number of days,

$$= \frac{1800}{25} = \mathbf{72 \text{ days.}}$$

Question (157)

Divide Rs.6000 into two parts so that simple interest on the first part for 2 years at 6% p.a. may be equal to the simple interest on the second part for 3 years at 8% p.a.

6000रु को दो भागों में इस प्रकार बांटे कि पहले भाग पर 2 वर्षों में 6% वार्षिक दर का साधारण ब्याज, दूसरे भाग पर 3 वर्षों में 8% वार्षिक दर के साधारण ब्याज के बराबर हो।

- (A) रु4000, रु2000 (B) रु5000, रु1000
(C) रु3000, रु3000 (D) None of these

Correct Option : A

Explanation :

Let 1st part is x and 2nd part is $(6000 - x)$.
ATQ,

$$\frac{x \times 2 \times 60}{100} = \frac{(6000 - x) \times 3 \times 80}{100}$$

$$12x = 144000 - 24x$$

$$\text{or, } 36x = 144000$$

$$\text{or, } x = \frac{144000}{36} = ₹ 4000$$

1st part = ₹ 4000

2nd part = ₹ 2000

Question (158)

To gain 10% on selling milk at the cost price of pure milk, the quantity of water to be mixed with 50 kg. of pure milk is:

शुद्ध दूध की लागत मूल्य पर दूध को बेचकर 10% लाभ कमाने के लिए 50 किलो शुद्ध दूध के साथ पानी की कितनी मात्रा को मिलाया जाए?

- (A) 2.5 kg/किग्रा.
- (B) 5 kg/किग्रा.
- (C) 7.5 kg/किग्रा.
- (D) 10 kg/किग्रा.

Correct Option : B

Explanation :

Let the quantity of water mixed be x kg.

Let CP of 1 kg of pure milk = ₹ 1.

$$\text{Hence, \% gain} = \frac{x \times 100}{50}$$

$$10 = \frac{100x}{50}$$

$$\text{or, } 2x = 10$$

$$\text{or, } x = 5 \text{ kg}$$

Quantity of water to be mixed = **5 kg**

Question (159)

The number of oranges in three basket are in the ratio 3 : 4 : 5. In what ratio the no. of oranges in first two basket must be increased, so that the new ratio becomes 5 : 4 : 3 ?

तीन टोकरियों के संतरों की संख्याओं का अनुपात 3:4:5 है। पहले दो टोकरियों में किस अनुपात में संतरों की संख्या बढ़ाई जाए, ताकि नया अनुपात 5:4:3 हो जाए?

(A) 3 : 4 (B) 2 : 3

(C) 1 : 3 (D) 2 : 1

Correct Option : D

Explanation :

Let, $B_1 : B_2 : B_3 = 3x : 4x : 5x$

Again, $B_1 : B_2 : B_3 = 5y : 4y : 3y$

Number of oranges remain constant in third basket as increase in oranges takes place only in first two baskets.

Hence, $5x = 3y$

and, $3x : 4x : 5x$

$$\Rightarrow \frac{9y}{5} : \frac{12y}{5} : \frac{15y}{5} = 9y : 12y : 15y$$

And, $5y : 4y : 3y \Rightarrow 25y : 20y : 15y$

\ Increment in first basket = 16

Increment in second basket = 8

$$\text{Thus, Required ratio} = \frac{16}{8} = 2 : 1$$

Question (160)

A dealer offers a cash discount of 20% and still makes a profit of 20%, when he further allows 16 articles for a dozen to a special customer. How much percent above the cost price were the articles listed?

एक व्यापारी 20% नकद छूट प्रदान करने के बाद भी 20% लाभ कमाता है, पुनः वह एक विशेष ग्राहक को एक दर्जन से स्थान पर 16 वस्तुओं की अनुमति देता है। उन वस्तुओं पर क्रय मूल्य से कितना प्रतिशत मूल्य अधिक अंकित किया गया था?

(A) 100% (B) 80%

(C) 75% (D) $66\frac{2}{3}\%$

Correct Option : A

Explanation :

Let the CP of the article be ₹ x , since he earns a profit of 20%, hence $SP = X + 20\%$ of $X = 1.2x$.

It is given that he incurs loss by selling 16 articles at the cost of 12 articles

[loss = $(16 - 12)/16 = 25\%$]

His selling price = $SP - 25\%$ of $SP = SP \times 0.75$;

Hence, $SP \times 0.75 = 1.2X$.

or, $SP = (1.2 \times x/0.75) = 1.6X$.

This SP is arrived after giving a discount of 20% on MP.

Let $MP = Y$.

$Y - 20\%$ of $Y = SP$

$0.80Y = 1.6X$.

$Y = 2X$.

It means that the article has been marked **100%** above the cost price.

Question (161)

Distance between two stations A and B is 778 km. A train covers the journey from A to B at 84 km/hr and returns back to A with a uniform speed of 56 km/hr. Find the average speed of train during the whole journey.

दो स्टेशन A तथा B के बीच की दूरी 778 किमी. है। एक रेलगाड़ी A से B तक की यात्रा 84 किमी./घण्टे की दर से तय करता है तथा 56 किमी./घण्टे की गति से A पर वापस आता है। पुरी यात्रा के दौरान रेलगाड़ी की औसत चाल ज्ञात करें।

- (A) 60 km/hr/किमी./घण्टा
- (B) 30.5 km/hr/किमी./घण्टा
- (C) 57 km/hr/किमी./घण्टा
- (D) 67.2 km/hr/किमी./घण्टा

Correct Option : D

Explanation :

$$\text{Average speed} = \frac{2xy}{x+y} \text{ km/hr}$$

$$= \frac{2(84 \cdot 56)}{84 + 56} \text{ km/hr}$$

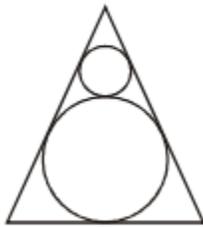
$$= \frac{2(84 \cdot 56)}{140} \text{ km/hr.}$$

$$= \mathbf{67.2 \text{ km/hr}}$$

Question (162)

Two circles are placed in an equilateral triangle as shown in the figure. What is the ratio of the area of the smaller circle to that of the equilateral triangle?

दो वृत्तों को एक समबाहु त्रिभुज में दर्शाए गए आकृति के अनुसार रखा गया है। छोटे वृत्त तथा समबाहु त्रिभुज के क्षेत्रफल का अनुपात क्या है?



(A) $\pi : 36\sqrt{3}$

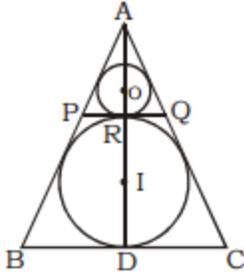
(B) $\pi : 18\sqrt{3}$

(C) $\pi : 27\sqrt{3}$

(D) $\pi : 42\sqrt{3}$

Correct Option : C

Explanation :



$$\text{In radius} = \frac{a}{2\sqrt{3}}$$

Now PQ is parallel to BC. AR is \perp to PQ. Triangle APQ is also an equilateral and AORID is a st. line.

$$AD = \frac{\sqrt{3}}{2}a, RD = \frac{a}{\sqrt{3}}, AR = \frac{\sqrt{3}}{2}a - \frac{a}{\sqrt{3}}$$

$$= \frac{a}{2\sqrt{3}} = \frac{1}{3}AD$$

$$\text{Radius of smaller circle} = \frac{1}{3} \times \text{radius of}$$

$$\text{larger circle} = \frac{1}{3} \times \frac{a}{2\sqrt{3}} = \frac{a}{6\sqrt{3}}$$

$$\text{Area of smaller circle} = \pi r^2$$

$$\pi \left(\frac{a}{6\sqrt{3}} \right)^2 = \frac{\pi a^2}{108}$$

$$\text{Area of triangle} = \frac{\sqrt{3}}{4}a^2$$

$$\therefore \text{Required ratio} = \frac{\pi a^2}{108} : \frac{\sqrt{3}a^2}{4} = \pi : 27\sqrt{3}$$

Question (163)

What is the least number of soldiers that can be arranged in troops of 12, 15, 18 and 20 soldiers and also in form of a solid square?

उन फौजियों की न्यूनतम संख्या क्या है जिन्हें 12, 15, 18 तथा 20 की टुकड़ियों में व्यवस्थित किया जा सके तथा जो एक ठोस वर्ग की रचना भी करते हों।

- (A) 900 (B) 400
(C) 1600 (D) 2500

Correct Option : A

Explanation :

In this type of question, We need to find out the LCM of the given numbers.

LCM of 12, 15, 18 and 20;

$$12 = 2 \times 2 \times 3$$

$$15 = 3 \times 5$$

$$18 = 2 \times 3 \times 3$$

$$20 = 2 \times 2 \times 5$$

$$\text{Hence, LCM} = 2 \times 2 \times 3 \times 5 \times 3$$

Since, the soldiers are in the form of a solid square.

Hence, LCM must be a perfect square. To make the LCM a perfect square, We have to multiply it by 5, hence, the required number of soldiers = $2 \times 2 \times 3 \times 3 \times 5 \times 5 = 900$.

Question (164)

A plane left half an hour later than the scheduled time and in order to reach its destination 1500 kms away in time, it had to increase its speed by 33.33 percent over its usual speed. Find its increased speed.

एक हवाई जहाज अपने निर्धारित समय से आधे घण्टे की देरी से 1500 किमी. के अपने गंतव्य स्थान के लिए निकलता है, उसे अपने पुराने वेग को 33.33 प्रतिशत बढ़ाना पड़ता है। बढ़ाया गया वेग ज्ञात करें।

- (A) 250 km/h/किमी./घण्टा
(B) 500 km/h/किमी./घण्टा
(C) 750 km/h/किमी./घण्टा
(D) 1000 km/h/किमी./घण्टा

Correct Option : D

Explanation :

By increasing the speed by 33.33%, it would be able to reduce the time taken for traveling by 25%.

But since this is able to overcome the time delay of 30 minutes, 30 minutes must be equivalent to 25% of the time originally taken.

Hence, the original time must have been 2 hours and the original speed would be 750 km/h.

Hence, the new speed would be **1000 km/h**.

Question (165)

The perimeter of a triangle with integer sides is equal to 15 units. How many such triangles are possible?

पूर्णांक भुजा वाले त्रिभुज का परिमाप 15 इकाई है। इस तरह के कितने त्रिभुज संभव हैं?

(A) 7 (B) 6

(C) 8 (D) 5

Correct Option : A

Explanation :

The sum of two sides should be greater than the third. Let us assume $a \leq b \leq c$.

$a = 1$, Possible triangle 1, 7, 7

$a = 2$, possible triangle 2, 6, 7

$a = 3$, possible triangles 3, 6, 6 and 3, 5, 7

$a = 4$, possible triangles 4, 4, 7 and 4, 5, 6

$a = 5$, possible triangle is 5, 5, 5

There are totally **7 triangles** possible.

Question (166)

In an institute, 60% of the students are boys and the rest are girls. Further 15% of the boys and 7.5% of the girls are getting a fee waiver. If the number of those getting a fee waiver is 90, find the total number of students getting 50% concessions if it is given that 50% of those not getting a fee waiver are eligible to get half fee concession?

किसी विद्यालय में 60% छात्र लड़के हैं तथा अन्य लड़कियाँ हैं। 15% लड़के तथा 7.5% लड़कियों को फीस में छूट मिला। यदि फीस में छूट मिलने वालों की संख्या 90 है, 50% रियायत पाने वाले विद्यार्थियों की संख्या ज्ञात करें, यदि यह दिया गया है कि 50% विद्यार्थी जिन्हें छूट नहीं मिला है, वे आधी फीस रियायत के लिए योग्य हैं?

- (A) 360 (B) 280
(C) 320 (D) 330

Correct Option : D

Explanation :

Let us assume there are 100 students in the institute.

Then, number of boys = 60

And, number of girls = 40

Further, 15% of boys get fee waiver = 9 boys

7.5 % of girls get fee waiver = 3 girls

Total = 12 students who gets fee waiver

But, here given 90 students are getting fee waiver. So we compare

$$12 = 90$$

$$\text{So, } 1 = \frac{90}{12} = 7.5$$

Now number of students who are not getting fee waiver = 51 boys and 37 girls.

50% concession = 25.5 boys and 18.5 girls (i.e. total 44).

Hence, required students = $44 \times 7.5 = 330$

Question (167)

The perimeter and the area of a Rhombus are 56 cms and 100 cm² respectively. Find the sum of the lengths of its diagonals.

किसी समचतुर्भुज का परिमाण तथा क्षेत्रफल क्रमशः 56 सेमी. तथा 100 सेमी.² है। उनके विकर्णों की लंबाई का योग क्या है?

- (A) 33.40 cm/सेमी. (B) 34.40 cm/सेमी.
(C) 31.20 cm/सेमी. (D) 32.30 cm/सेमी.

Correct Option : B

Explanation :

Perimeter = 56. Let the side of the rhombus be " a ", then $4a = 56 \Rightarrow a = 14$.

Area of Rhombus = Half the product of its diagonals. Let the diagonals be d_1 and d_2 respectively.

$$\frac{1}{2} \times d_1 \times d_2 = 100 \Rightarrow d_1 \times d_2 = 200.$$

By Pythagoras theorem, $(d_1)^2 + (d_2)^2 = 4a^2$

$$\Rightarrow (d_1)^2 + (d_2)^2 = 4 \times 196 = 784.$$

$$(d_1)^2 + (d_2)^2 + 2d_1 \times d_2 = (d_1 + d_2)^2 \\ = 784 + 2 \times 200 = 1184 \Rightarrow (d_1 + d_2)$$

$$= \sqrt{1184} = 34.40 \text{ cm}$$

Therefore, sum of the diagonals is equal to **34.40 cm.**

Question (168)

The charges per hour of internet surfing is increased by 25%, then find the percentage decrease in the time period of surfing user (a net savy) who can afford only 10% increase in expenditure:

इंटरनेट सर्फिंग के प्रति घंटे की दर में 25% की वृद्धि हुई, तो सर्फिंग उपयोगकर्ता (नेट सेवी) की समय अवधि में कितनी कमी की जाए जिससे वो खर्च में केवल 10% वृद्धि बर्दाश्त कर सके?

- (A) 22% (B) 12%
(C) 15% (D) 9.09%

Correct Option : B

Explanation :

Time \times Rate = total charges

$$100 \times 100 = 10000$$

$X \times 125 = 110$ [25% increase in rate, user can afford only 10% increase]

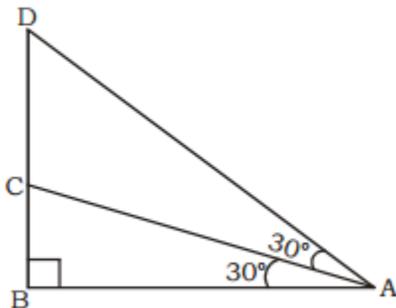
$$X = \frac{110}{125} \times 100 = 88\%$$

Thus, decrease in time period = $(100 - 88)\% = 12\%$

Question (169)

In the following figure, which of the following statements is true?

दिए गए आकृति में, निम्न में से कौन-सा कथन सत्य है?



- (A) $AB = BD$ (B) $AC = CD$
(C) $BC + CD$ (D) $AD < CD$

Correct Option : B

Explanation :

In $\triangle ABC$,

$$\angle A + \angle B + \angle C = 180^\circ$$

$$\text{or, } \angle C = 180^\circ - 90^\circ - 30^\circ = 60^\circ = \angle ACB$$

$$\text{also, } \angle ACB + \angle ACD = 180^\circ$$

$$\therefore \angle ACD = 180^\circ - 60^\circ = 120^\circ$$

Now, in $\triangle ACD$,

$$\angle A + \angle C + \angle D = 180^\circ$$

$$30^\circ + 120^\circ + \angle D = 180^\circ \therefore \angle D = 30^\circ$$

$$\text{As, } \angle CDA = \angle CAD = 30^\circ \therefore \mathbf{AC = CD}$$

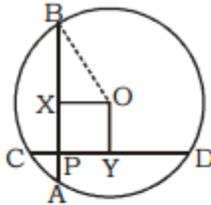
Question (170)

Two mutually perpendicular chords AB and CD intersect at P such that AP = 4 cm, PB = 6 cm and CP = 3 cm. Find radius of the circle.
 दो परस्पर लम्बवत् जीवाएँ AB तथा CD, P पर प्रतिच्छेद करते हैं जहाँ AP = 4 सेमी., PB = 6 सेमी. तथा CP = 3 सेमी. है। वृत्त की त्रिज्या ज्ञात करें।

- (A) $\sqrt{31.25}$ cm/सेमी. (B) $\sqrt{37.5}$ cm/सेमी.
 (C) $\sqrt{26}$ cm/सेमी. (D) $\sqrt{52}$ cm/सेमी.

Correct Option : A

Explanation :



When 2 chords AB and CD intersect at P then

$$AP \times PB = CP \times PD$$

$$\text{Hence } 4 \times 6 = 3 \times PD$$

$$\text{Thus, } PD = 8 \text{ cm}$$

$$\text{Now } AB = AP + PB = 10 \text{ cm}$$

$$\text{And } CD = CP + PD$$

$$\text{Thus, } CD = 11 \text{ cm } \Rightarrow DY = 5.5 \text{ cm}$$

$$\Rightarrow PY = 5.5 - 3 = 2.5 \text{ cm}$$

$$AB = 10 \text{ cm } \Rightarrow BX = 5 \text{ cm}$$

$$\Rightarrow OB = \sqrt{2.5^2 + 5^2} = \sqrt{31.25} \text{ cm}$$

$$\text{Thus radius} = \sqrt{31.25} \text{ cm}$$

Question (171)

A vessel of capacity 2 litres had 25% alcohol and another vessel of capacity 6 litre had 40% alcohol. The total liquid of two vessels was poured out in a vessel of capacity 10 litre and the rest part of the vessel was filled with the water. what is the new concentration of alcohol in new mixture?

2 लीटर क्षमता के एक बर्तन में 25% शराब और 6 लीटर क्षमता के दूसरे बर्तन में 40% शराब था। दोनों बर्तनों के तरल को 10 लीटर क्षमता वाले एक बर्तन में डाल दिया गया और इस तरह बर्तन का बाकी हिस्सा पानी से भर दिया गया। मिश्रण में अल्कोहल की नई सांद्रता क्या है?

- (A) 29% (B) 49%
 (C) 31% (D) 71%

Correct Option : A

Explanation :

Amount of alcohol in first vessel,
= 25% of 2 litre
= $0.25 \times 2 = 0.5$ litre
Amount of alcohol in second vessel,
= 40% of 6 litre
= $0.4 \times 6 = 2.4$ litre
Total amount of alcohol out of 10 litres of
mixture is, $0.5 + 2.4 = 2.9$ litre.
Thus, Concentration of alcohol in the
mixture is,

$$\frac{(2.9 \cdot 100)}{10} = \mathbf{29\%}$$

Question (172)

If $x = 2 - 2^{\frac{1}{3}} + 2^{\frac{2}{3}}$, then find the value of
 $x^3 - 6x^2 + 18x + 24$.

यदि $x = 2 - 2^{\frac{1}{3}} + 2^{\frac{2}{3}}$, तो $x^3 - 6x^2 + 18x + 24$ का
मान निकालें।

- (A) 28 (B) 39
(C) 46 (D) 51

Correct Option : C

Explanation :

$$x = 2 - 2^{\frac{1}{3}} + 2^{\frac{2}{3}}$$

$$\Rightarrow x - 2 = 2^{\frac{2}{3}} - 2^{\frac{1}{3}}$$

$$\Rightarrow (x - 2)^3 = 2^2 - 2^1 - 3 \cdot 2^{\frac{2}{3}} \cdot 2^{\frac{1}{3}} + 2^{\frac{1}{3} \cdot 3}$$

$$\Rightarrow x^3 - 6x^2 + 12x - 8 = 4 - 2 - 6(x - 2)$$

$$\Rightarrow x^3 - 6x^2 + 12x - 8 = 2 - 6x + 12$$

$$\Rightarrow x^3 - 6x^2 + 18x - 22 = 0$$

$$\Rightarrow x^3 - 6x^2 + 18x - 22 + 46 = 46$$

$$\Rightarrow x^3 - 6x^2 + 18x + 24 = \mathbf{46}$$

Question (173)

A group of men decided to do a job in 4 days. But since 20 men dropped out every day, the job completed at the end of the 7th day. How many men were there at the beginning?

कुछ व्यक्तियों ने किसी काम को 4 दिनों में खत्म करने का निर्णय लिया। किन्तु प्रतिदिन 20 व्यक्ति निकाले गए, कार्य 7वें दिन के अंत में समाप्त हुआ। प्रारंभ में कितने व्यक्ति थे?

- (A) 240 (B) 140
(C) 280 (D) 150

Correct Option : B

Explanation :

Let x be the initial number of men then,

ATQ,

$$4x = x + (x - 20) + (x - 40) + (x - 60) + (x - 80) + (x - 100) + (x - 120)$$

$$\Rightarrow 4x = 7x - 420$$

$$\Rightarrow 3x = 420$$

$$\Rightarrow x = \frac{420}{3}$$

$$\Rightarrow x = 140 \text{ men}$$

So, initially there were **140** members.

Question (174)

A, B and C rent a pasture. A puts 10 oxen for 7 months, B puts 12 oxen for 5 months and C puts 15 oxen for 3 months for grazing. If the rent of the pasture is ₹ 175, how much must C pay as his share of rent?

A, B तथा C ने एक चारागाह किराए पर लिया। A ने 10 बैलों को 7 महीने के लिए, B ने 12 बैलों को 5 महीने के लिए तथा C ने 15 बैलों 3 महीने के लिए घास चरने के लिए रखा। यदि चारागाह का किराया ₹ 175 है, तो C को किराए के हिस्से के रूप में कितने रूपये देने चाहिए?

- (A) ₹ 45 (B) ₹ 50
(C) ₹ 55 (D) ₹ 60

Correct Option : A

Explanation :

$$A : B : C = (10 \times 7) : (12 \times 5) : (15 \times 3)$$

$$= 70 : 60 : 45 = 14 : 12 : 9$$

$$C's \text{ rent} = ₹ \frac{175 \times 90}{35} = ₹ 45$$

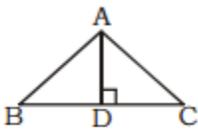
Question (175)

- In $\triangle ABC$, if $AD \perp BC$, then
 $\triangle ABC$ में, यदि $AD \perp BC$, तो-
- (A) $AB^2 - BD^2 = AC^2 - CD^2$
 - (B) $AB^2 + BD^2 = AC^2 - CD^2$
 - (C) $AB^2 - BD^2 = AC^2 + CD^2$
 - (D) $AB^2 - AC^2 = BD^2 + CD^2$

Correct Option : A

Explanation :

In right angle $\triangle ADB$,



$$AB^2 = AD^2 + BD^2$$

In Right angled $\triangle ADC$,

$$AC^2 = AD^2 + CD^2$$

By (i) - (ii)

$$AB^2 - AC^2 = BD^2 - CD^2$$

$$\mathbf{AB^2 - BD^2 = AC^2 - CD^2}$$

Question (176)

Direction : In Question nos. 76 to 78 some part of the sentences have errors and some are correct. Find out which part of a sentence has an error and blacken the oval corresponding to the appropriate letter (A), (B), (C). If a sentence is free from error, blacken the oval corresponding to (D) in the Answer Sheet.

These sort of men (A)/ attain success by hook or by crook (B) so they do not deserve any applause. (C)/ No error (D)

Correct Option : A

Question (177)

The officers who were on inspection (A)/ in this factory were discovered (B)/ many discrepancies. (C)/ No error (D)

Correct Option : C

Question (178)

If motorists do not observe the traffic regulations, (A)/ they will be stopped, ticketed (B)/ and have to pay a fine. (C)/ No error (D)

Correct Option : C

Question (179)

Directions : In Question nos. 79 to 81, sentences given with blanks to be filled in with an appropriate word(s). Four alternatives are suggested for each question. Choose the correct alternative out of the four and indicate it by blackening the appropriate oval [] in the Answer Sheet.

This man was an accomplice _____ the thief.

(A) of (B) in

(C) with (D) from

Correct Option : A

Question (180)

In the tragic incident, none of the Asian passengers _____.

(A) is surviving (B) could survive
(C) were survived (D) have survived

Correct Option : B

Question (181)

The farmers _____ their farms, if they had known that a thunderstorm was approaching.

(A) will leave (B) would leave
(C) will have left (D) would have left

Correct Option : C

Question (182)

Directions : In question nos. 82 to 83, out of the four alternatives, choose the one which best expresses the meaning of the given word.

POIGNANT

(A) Showy (B) Sad
(C) Silly (D) Snobbish

Correct Option : B

Question (183)

REVERIE

(A) Determination (B) Day-dream
(C) Reality (D) Realization

Correct Option : B

Question (184)

Directions : In question nos. 84 to 85, choose the word opposite in meaning to the given word.

COMPASSIONATE

- (A) Indecisive (B) Unlawful
(C) Heartless (D) Untrustworthy

Correct Option : C

Question (185)

WITHER

- (A) Wilt (B) Shine
(C) Bloom (D) Excel

Correct Option : C

Question (186)

Directions : In question nos. 86, four words are given in each question, out of which only one word is spelt correctly/wrongly out of them. Find the word spelt correct/wrong and mark your answer in the Answer Sheet.

- (A) Liesone (B) Liazone
(C) Lieison (D) Liaison

Correct Option : D

Question (187)

Direction : In Question nos. 87 to 89, four alternative are given for the Idiom/Phrase in bold in below sentences. Choose the alternative which best expresses the meaning of the Idiom/Phrase and mark it in the Answer Sheet.

Now I am really ***in the soup***, just broke my father's spectacles.

- (A) in an unusual situation
- (B) in deep trouble
- (C) in rough waters
- (D) in a funny situation

Correct Option : B

Question (188)

While talking to her parents, she ***let the cat out of the bag***.

- (A) fed the cat
- (B) set the cat free
- (C) discussed the issue
- (D) exposed a secret

Correct Option : D

Question (189)

It is no use ***splitting hair*** now when we have bigger tasks to accomplish.

- (A) fighting with each other
- (B) sitting calmly
- (C) discussing over the loss
- (D) disputing over petty points

Correct Option : D

Question (190)

Direction: In Question nos. 90 to 92, a sentence/ a part of the sentence is italicised in underlined. Below are given alternatives to the italicised part at (A), (B), (C) which may improve the sentence. Choose the correct alternative. In case no improvement is needed your answer is (D). Mark your answer in the Answer Sheet.

Monies have been collected and handed to the women's welfare society.

- (A) Money has being collected
- (B) Money have been collected
- (C) Money collected
- (D) No improvement

Correct Option : D

Question (191)

I bade him to submit all the important documents before he left the job.

- (A) I bade to him to submit
- (B) I bade him submitting
- (C) I bade him submit
- (D) No improvement

Correct Option : C

Question (192)

A seminar was organised by KD Campus in which ***little*** quantity of food was wasted.

- (A) few (B) small
- (C) some (D) No improvement

Correct Option : B

Question (193)

Direction : In Question nos. 93 to 95, in the following question, out of the four alternatives, choose the one which can be substituted for the given sentence.

A person who moves from one place to another especially in order to find work

- (A) Domicile (B) Vagrant
(C) Migrant (D) Immigrant

Correct Option : C

Question (194)

Pertaining to or of the nature of unreal

- (A) Chimerical (B) Traditional
(C) Comical (D) Factual

Correct Option : A

Question (195)

To give up the throne or other office of dignity

- (A) Abdicate (B) Depose
(C) Dethrone (D) Usurp

Correct Option : A

Question (196)

Direction (Q. No- 96 - 100) : In these question you have two brief passages with six questions following the passage. Read the passage carefully and choose the best answer to each question out of the four alternatives.

Passage – 1

Although speech is the most advanced form of communication, there are many ways of communicating without using speech. Signals, signs, symbols and gestures may be found in every known culture. The basic function of a signal is to impinge upon the environment in such a way that it attracts attention, as, for example, the dots and dashes of a telegraph circuit. Coded to refer to speech, the potential for communication is very great. Less adaptable to the codification of words, signs also contain meaning in and of themselves. A stop sign, for example, conveys meaning quickly and conveniently. Symbols are more difficult to describe than either signals or signs because of their intricate relationship with the receiver's cultural perceptions. In some cultures, applauding in a theatre provides performers with an auditory symbol of approval. Gestures such as waving and handshaking also communicate certain cultural messages. Although signals, signs, symbols and gestures are very useful, they do have a major disadvantage. They usually do not allow ideas to be shared without the sender being directly adjacent to the receiver. As a result, means of communication intended to be used for long distances and extended periods are based upon speech. Radio, television and the telephone are only a few of such means.

According to the passage, what is signal?

- (A) A type of communication that interrupts the environment
- (B) A complicated form of communication to describe
- (C) A form of communication used across long distances
- (D) The cultural perception of communication

Correct Option : A

Question (197)

Although speech is the most advanced form of communication, there are many ways of communicating without using speech. Signals, signs, symbols and gestures may be found in every known culture. The basic function of a signal is to impinge upon the environment in such a way that it attracts attention, as, for example, the dots and dashes of a telegraph circuit. Coded to refer to speech, the potential for communication is very great. Less adaptable to the codification of words, signs also contain meaning in and of themselves. A stop sign, for example, conveys meaning quickly and conveniently. Symbols are more difficult to describe than either signals or signs because of their intricate relationship with the receiver's cultural perceptions. In some cultures, applauding in a theatre provides performers with an auditory symbol of approval. Gestures such as waving and handshaking also communicate certain cultural messages. Although signals, signs, symbols and gestures are very useful, they do have a major disadvantage. They usually do not allow ideas to be shared without the sender being directly adjacent to the receiver. As a result, means of communication intended to be used for long distances and extended periods are based upon

speech. Radio, television and the telephone are only a few of such means.

Choose the most appropriate title for the passage.

- (A) Speech variations
- (B) Means of communication
- (C) Signs and signals
- (D) Gestural communication

Correct Option : B

Question (198)

Although speech is the most advanced form of communication, there are many ways of communicating without using speech. Signals, signs, symbols and gestures may be found in every known culture. The basic function of a signal is to impinge upon the environment in such a way that it attracts attention, as, for example, the dots and dashes of a telegraph circuit. Coded to refer to speech, the potential for communication is very great. Less adaptable to the codification of words, signs also contain meaning in and of themselves. A stop sign, for example, conveys meaning quickly and conveniently. Symbols are more difficult to describe than either signals or signs because of their intricate relationship with the receiver's cultural perceptions. In some cultures, applauding in a theatre provides performers with an auditory symbol of approval. Gestures such as waving and handshaking also communicate certain cultural messages. Although signals, signs, symbols and gestures are very useful, they do have a major disadvantage. They usually do not allow ideas to be shared without the sender being directly adjacent to the receiver. As a result, means of communication intended to be used for long distances and extended periods are based upon speech. Radio, television and the telephone are only a few of such means.

Why were the telephone, radio and TV invented?

- (A) It was difficult to understand symbols.
- (B) People wanted to communicate across long distances.
- (C) To provide new forms of entertainment.
- (D) It was believed that signs, signals and symbols were obsolete.

Correct Option : B

Question (199)

Although speech is the most advanced form of communication, there are many ways of communicating without using speech. Signals, signs, symbols and gestures may be found in every known culture. The basic function of a signal is to impinge upon the environment in such a way that it attracts attention, as, for example, the dots and dashes of a telegraph circuit. Coded to refer to speech, the potential for communication is very great. Less adaptable to the codification of words, signs also contain meaning in and of themselves. A stop sign, for example, conveys meaning quickly and conveniently. Symbols are more difficult to describe than either signals or signs because of their intricate relationship with the receiver's cultural perceptions. In some cultures, applauding in a theatre provides performers with an auditory symbol of approval. Gestures such as waving and handshaking also communicate certain cultural messages. Although signals, signs, symbols and gestures are very useful, they do have a major disadvantage. They usually do not allow ideas to be shared without the sender being directly adjacent to the receiver. As a result, means of communication intended to be used for long distances and extended periods are based upon speech. Radio, television and the telephone are only a few of such means.

This passage explains that

- (A) significance of waving and handshaking is different in different cultures.
- (B) different cultures have different signs and symbols.
- (C) symbols are the easiest to interpret.
- (D) signals, signs, symbols and gestures are forms of communication.

Correct Option : D

Question (200)

Although speech is the most advanced form of communication, there are many ways of communicating without using speech. Signals, signs, symbols and gestures may be found in every known culture. The basic function of a signal is to impinge upon the environment in such a way that it attracts attention, as, for example, the dots and dashes of a telegraph circuit. Coded to refer to speech, the potential for communication is very great. Less adaptable to the codification of words, signs also contain meaning in and of themselves. A stop sign, for example, conveys meaning quickly and conveniently. Symbols are more difficult to describe than either signals or signs because of their intricate relationship with the receiver's cultural perceptions. In some cultures, applauding in a theatre provides performers with an auditory symbol of approval. Gestures such as waving and handshaking also communicate certain cultural messages. Although signals, signs, symbols and gestures are very useful, they do have a major disadvantage. They usually do not allow ideas to be shared without the sender being directly adjacent to the receiver. As a result, means of communication intended to be used for long distances and extended periods are based upon speech. Radio, television and the telephone are only a few of such means.

Choose the correct statement:

- (A) Speech is the basis for communication to occur.
- (B) Speech is dependent upon the advances made by inventors.
- (C) Speech is the most advanced form of communication.
- (D) Speech is the real form of communication.

Correct Option : C