

**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/संख्या को चुनिए।

Horse : Mare :: ?

घोडा : घोड़ी :: ?

(A) Fox : Vixen/फॉक्स : विकसन

(B) Duck : Geese/बत्तख : कलहंस

(C) Dog : Puppy/कुत्ता : पिल्ला

(D) Donkey : Pony/गधा : टट्टू

Correct Option : A

Explanation :

Second is the feminine gender of the first.

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**Question (2)**

Oceans : Deserts :: Waves : ?

महासागर : रेगिस्तान :: लहरें : ?

(A) Dust/धूल

(B) Sand Dunes/रेत का टीला

(C) Ripples/लहर

(D) Sea/सागर

Correct Option : B

Explanation :

There are waves in the oceans and sand dunes in the desert.

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**Question (3)**

38 : 144 :: 54 : ?

(A) 80 (B) 178

(C) 100 (D) 52

Correct Option : C

Explanation :

$$(C) 38 \div 3 \times \frac{8}{2} = 12 \div 12^2 = 144$$

$$54 \div 5 \times \frac{4}{2} = 10 \div 10^2 = \mathbf{100}$$

**Question (4)**

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

(A) Vapour/वाष्प (B) Mist/धुंध

(C) Hailstone/ओला (D) Fog/कोहरा

Correct Option : A

Explanation :

All except Vapour are different forms of Precipitation.

**Question (5)**

(A) Mew/म्याऊ (B) Howl/हाउल

(C) Bark/भौंकना (D) Shout/चिल्लाना

Correct Option : D

Explanation :

Except Shout, others are sound related to animals.

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**Question (6)**

- (A) EDUCATION (B) BEHAVIOUR  
(C) LAZINESS (D) REMUNERATION

Correct Option : C

Explanation :  
Except LAZINESS, the other words contain all vowels.

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**Question (7)**

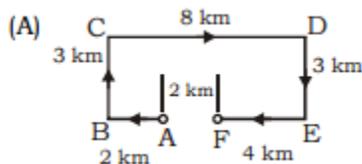
Sheela walks from A to B which is 2 km away, turns right at  $90^\circ$  and walks for 3 kms to point C, turns right at  $90^\circ$  and walks to D which is 8 km away, turns  $90^\circ$  right and goes 3 km to point E. Then, once again she turns right,  $90^\circ$  and walks 4 km to point F. How far is it from A to F?

शीला A से B जो कि 2 किमी. दूर है, चलकर जाती है, दाएं ओर  $90^\circ$  पर मुड़ती है तथा बिन्दु C की ओर 3 किमी. जाती है,  $90^\circ$  पर दाएं ओर मुड़ती है तथा D की ओर चलती है जो कि 8 किमी. दूर है,  $90^\circ$  पर दाएं ओर मुड़ती है तथा 3 किमी. E की ओर जाती है। उसके बाद फिर से वो दाएं ओर  $90^\circ$  मुड़ती है तथा F की ओर 4 किमी. जाती है। A से F तक की दूरी क्या है?

- (A) 2 km/किमी.  
(B) 4 km/किमी.  
(C) 6 km/किमी.  
(D) 8 km/किमी.

Correct Option : A

Explanation :



□ Required distance =  $8 - (4 + 2) = 2 \text{ kms}$

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### Question (8)

If clock is called television, television is called radio, radio is called oven, oven is called grinder and grinder is called iron, in what will a lady bake?

यदि घड़ी को टेलीविज़न कहा जाता है, टेलीविज़नको रेडियो कहा जाता है, रेडियो को ओवन कहा जाता है, ओवन को ग्राइंडर कहा जाता है तथा ग्राइंडर को लोहा कहा जाता है, तो महिला सेंकने का काम किसमें करेगी?

(A) Radio/रेडियो (B) Oven/ओवन

(C) Grinder/ग्राइंडर (D) Iron/लोहा

Correct Option : C

Explanation :

Lady will bake in an oven and oven is called grinder.

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### Question (9)

A, B, C, D, E, F and G are members of a family consisting of four adults and three children. Two of the family members, F and G are girls. A and D are brothers and A is a doctor. E is an engineer married to one of the brothers and has two children, a boy and girl. B is married to D and G is their child. Who is C?

A, B, C, D, E, F तथा G किसी परिवार के सदस्य हैं, जिसमें चार व्यस्क तथा तीन बच्चे हैं। परिवार के दो सदस्य F तथा G लड़कियाँ हैं। A तथा D भाई हैं तथा A डॉक्टर है। E एक इंजिनियर है, जो की उनमें से किसी भाई से विवाहित है तथा उनके दो बच्चे हैं, एक लड़का और एक लड़की। B, D से विवाहित है और G उनके बच्चे हैं। C कौन है?

(A) E's daughter/E की बेटी

(B) F's father/F का पिता

(C) G's brother/G का भाई

(D) A's son/A का बेटा

Correct Option : D

Explanation :

From the given data we can find that (A, E) are the couple and has two child F and C. Also (B, D) are the couple with G as their child. As it is given that there are three children in the family, in which F is a girl, so C will definitely be a boy to satisfy one boy and one girl condition. So we can say that C is A's son.

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**Question (10)**

Suresh is 7 ranks ahead of Ashok in the class of 39 students. If Ashok's rank is 17th from the last, then what is Suresh's rank from the start?

39 छात्रों वाले किसी वर्ग में, स्थान के आधार पर सुरेश अशोक से 7 ऊपर हैं। यदि अशोक का स्थान अंत से 17वां है, तो सुरेश का प्रारंभ से कितना स्थान है?

(A) 16th/वां (B) 23rd/वां

(C) 24th/वां (D) 15th/वां

Correct Option : B

Explanation :

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**Question (11)**

**Directions (11-13) :** 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 (11-13): 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।

BXJ, ETL, HPN, KLP, \_\_\_\_\_

(A) NHR (B) MHQ

(C) MIP (D) NIR

Correct Option : A

Explanation :

The first, second and third letters move three steps forward, four steps backward and two steps forward respectively. So, the required answer is NHR.

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**Question (12)**

M, N, O, L, R, I, V, \_\_\_\_\_

- (A) A (B) E  
(C) F (D) H

Correct Option : B

Explanation :

The series consists of two groups (M, O, R, V) and (N, L, I, ?). The letters in the first group move 2, 3, 4, ... steps forward. The letters in the second group move 2, 3, 4, ... steps backward. So E is the required answer.

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### Question (13)

2, 1, 2, 4, 7.5, \_\_\_\_\_

- (A) 13.5 (B) 14.25  
(C) 14.75 (D) 15.25

Correct Option : C

Explanation :

$$2 \times 0.25 + 0.5 = 1$$

$$1 \times 0.5 + 1.5 = 2$$

$$2 \times 0.75 + 2.5 = 4$$

$$4 \times 1 + 3.5 = 7.5$$

$$7.5 \times 1.25 + 4.5 = 14.75$$

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### Question (14)

Arrange the words given below in a meaningful sequence.

निम्न शब्दों को एक सार्थक क्रम में व्यवस्थित करें।

1. Publish/प्रकाशन
2. Imagine/विचार करना
3. Write/लिखना
4. Proof read/प्रूफ शोधन

5. Print/छपाई

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

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

Correct Option : D

Explanation :

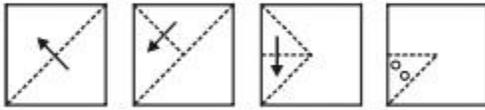
**2 3 5 4 1**

### Question (15)

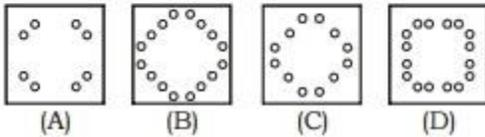
A square sheet of paper has been folded and punched as shown below. How will it appear when opened?

कागज के एक वर्गाकार शीट को नीचे दर्शाए अनुसार मोड़ा तथा पंच किया जाता है। खोलने पर यह कैसा दिखेगा?

**Question figures/प्रश्न आकृतियाँ :**



**Answer figures/उत्तर आकृतियाँ :**



Correct Option : B

### Question (16)

From the given alternative words, select the words which can't be formed by using the letters of the given word.

दिए गए वैकल्पिक शब्दों में से, उस शब्द का चयन करें, जो दिए गए शब्द के अक्षरों का प्रयोग कर नहीं बनाए जा सकते हैं।

DISSEMINATION

- (A) INDIA
- (B) MENTION
- (C) NATIONS
- (D) ACTION

Correct Option : D

Explanation :

There is no C in DISSEMINATION.

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**Question (17)**

Which of the following numbers is wrong in the given series?

दिए गए श्रृंखला में निम्न में से कौन-सी संख्या गलत है?

21, 28, 33, 35, 37, 36

- (A) 21 (B) 36
- (C) 33 (D) 35

Correct Option : D

Explanation :

The sequence in the differences of the numbers is 7, 5, 3, 1, -1. Substituting 35 instead of 36 will satisfy the sequence.

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**Question (18)**

**Direction (18-20) :** In question no 18 to 20, select the missing number from the give responses.

निर्देश (18-20) : प्रश्न संख्या 18 से 20 में, दिए गए विकल्पों में से विलुप्त संख्या चुनिए।

1	2	1	4	4
2	5	6	2	5
1	9	3	?	1
1	7	2	8	9

- (A) 9                      (B) 4  
(C) 5                      (D) 6

Correct Option : D

Explanation :

(D)  $12^2 = 144$   
 $25^2 = 625$   
 $19^2 = 361$   
 $17^2 = 289$

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**Question (19)**

2	3	4	21
1	3	5	15
3	4	2	?

- (A) 29                      (B) 45  
(C) 56                      (D) 51

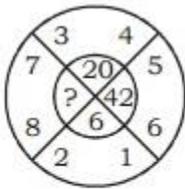
Correct Option : B

Explanation :

(B)  $2^3 + 3^2 + 4^1 = 21$   
 $1^3 + 3^2 + 5 = 15$   
 $3^3 + 4^2 + 2 = 45$

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**Question (20)**



- (A) 72  
(C) 56

- (B) 80  
(D) 70

Correct Option : A

Explanation :

(A)  $(3 + 2) \times 4 = 20$   
 $(5 + 2) \times 6 = 42$   
 $(1 + 2) \times 2 = 6$   
 $(7 + 2) \times 8 = 72$

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**Question (21)**

If "Behind every successful man there is a woman" can be coded as "63520019052401052", then what is the code of "Empty vessels makes much noise"?

यदि "Behind every successful man there is a woman" को "63520019052401052" से कूटित किया जा सकता है, तो "Empty vessels makes much noise" का कूट क्या है?

- (A) 5261529452  
(B) 6268264862  
(C) 6226482462  
(D) 5294526152

Correct Option : D

Explanation :

(D)

Words	No. of letters (A)	(A) <sup>2</sup>	Reverse of (A) <sup>2</sup>
Behind	6	36	63
Every	5	25	52
Successful	10	100	001
Man	3	09	90
There	5	25	52
is	2	04	40
a	1	01	10
Woman	5	25	52

□ Behind every successful man there is a woman = 63520019052401052

Words	No. of letters (A)	(A) <sup>2</sup>	Reverse of (A) <sup>2</sup>
Empty	5	25	52
Vessels	7	49	94
Makes	5	25	52
Much	4	16	61
Noise	5	25	52

□ Empty vessels makes much noise = **5294526152**

### Question (22)

If  $12 \times 7 = 408$ ,  $9 \times 8 = 207$  then  $13 \times 7 = ?$

यदि  $12 \times 7 = 408$ ,  $9 \times 8 = 207$  है, तो  $13 \times 7 = ?$

- (A) 91
- (B) 190
- (C) 901
- (D) 109

Correct Option : D

Explanation :

(D)  $12 \times 7 = 84 \square 804 \frac{3}{4} \frac{3}{4} \frac{3}{4} \frac{3}{4} \textcircled{D} 408$

$9 \times 8 = 72 \square 702 \frac{3}{4} \frac{3}{4} \frac{3}{4} \frac{3}{4} \textcircled{D} 207$

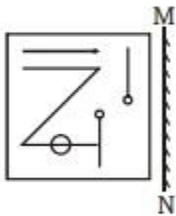
$13 \times 7 = 91 = 901 \frac{3}{4} \frac{3}{4} \frac{3}{4} \frac{3}{4} \textcircled{D} 109$

**Question (23)**

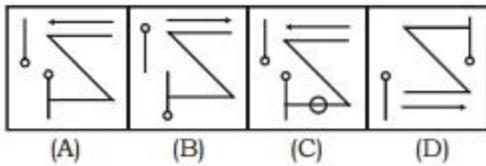
If a mirror is placed on the line MN, then which of the answer figures will be the right image of the question figure?

यदि दर्पण को रेखा MN पर रखा जाए, तो उत्तर आकृतियों में से कौन, प्रश्न आकृति का सही प्रतिबिंब होगा?

**Question figure/प्रश्न आकृति:**



**Answer figures/उत्तर आकृतियाँ:**

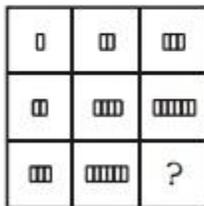


Correct Option : C

**Question (24)**

Select a suitable figure from the four alternatives that would complete the given figure.

चार विकल्पों में से उचित आकृति का चयन करें, जो दिए गए आकृति को पूरा करेगी।



- (A) □□□□□□  
 (B) □□□□□□□  
 (C) □□□□□□□  
 (D) □□□□□□□□

Correct Option : B

Explanation :

1,  $1 \times 2$ ,  $1 \times 3 \square 1 \ 2 \ 3$

2,  $2 \times 2$ ,  $2 \times 3 \square 2 \ 4 \ 6$

3,  $3 \times 2$ ,  $3 \times 3 \square 3 \ 6 \ 9$

So, 9 box is the required answer.

### Question (25)

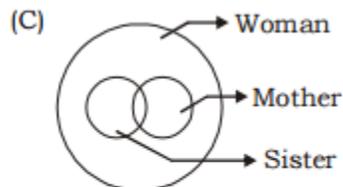
Which of the following diagrams indicates the best relation between Sister, Woman and Mother ?

निम्न में से कौन-सी आकृति बहन, औरत तथा माता के बीच संबंध इंगित करती है?



Correct Option : C

Explanation :



Some sister may be mother and vice-versa. Also, some mothers may not be sisters and vice-versa. But all sisters and mothers belong to woman group.

### Question (26)

Who gave the title of "Mahamana" to Madan Mohan Malviya?

मदन मोहन मालवीय को "महामना" की पदवी किसने दी थी?

(A) Dada Bhai Naoroji/दादाभाई नौरोजी

(B) Gopal Krishna Gokhale/गोपाल कृष्ण गोखले

(C) Mahatma Gandhi/महात्मा गाँधी

(D) Bal Gangadhar Tilak/बाल गंगाधर तिलक

Correct Option : C

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### Question (27)

Antigen is a substance which:

प्रतिजन एक पदार्थ है जो-

(A) Destroys harmful bacteria/

हानिकारक जीवाणुओं को नष्ट करता है

(B) Is used to treat poisoning/

विषाक्तकरण के उपचार के लिए प्रयोग होता है

(C) Lowers body temperature/

शरीर के तापमान को कम करता है

(D) Stimulates formation of antibody/

प्रतिरक्षी के निर्माण को उत्तेजित करता है

Correct Option : D

Explanation :

Antigen is a foreign molecule, which invade the body of an organism, and induce immune response to stimulate antibody.

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### Question (28)

Which committee has been constituted to convert 100% Government – Citizen Transactions to the digital platform?

किस समिति का गठन सरकार नागरिक लेन-देन को डिजिटल प्लेटफार्म पर 100 प्रतिशत में बदलने के ली गठित की गई है?

(A) Piyush Goyal committee/पियूष गोयल समिति

- (B) Arun Jaitely committee/अरुण जेटली समिति
- (C) Kirti Parekh committee/कीर्ति पारेख समिति
- (D) Amitabh Kant committee/अमिताभ कांत समिति

Correct Option : D

Explanation :

The Government of India (GoI) has constituted a committee of officers to enable 100 % conversion of Government - Citizen Transactions to the digital platform. The committee, under the leadership of NITI Aayog CEO Amitabh Kant, will identify and operationalize various digital payment systems appropriate to different sectors of the economy and coordinate efforts to make them accessible and user-friendly. The committee will also identify and access infrastructural and bottlenecks affecting the access and utility of digital payment options.

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### Question (29)

Which one of the following has the highest fuel value?

निम्न में से किस ईंधन का उच्चतम मान है?

- (A) Hydrogen/हाइड्रोजन
- (B) Charcoal/चारकोल
- (C) Natural gas/प्राकृतिक गैस
- (D) Gasoline/पेट्रोल

Correct Option : A

Explanation :

Fuel value can be expressed in terms of calorific value of fuel. The calorific value of a fuel is the amount of heat produced by burning 1 kg of fuel. Hydrogen has the highest calorific value of (141,790 KJ/kg) thus have highest fuel value. Calorific value of charcoal, natural gas and gasoline are (29,600; 43,000; 47,300 kJ/ kg) respectively. Natural gas mainly consists of Methane.

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### Question (30)

A Mughal Queen whose name was written on all the Mughal Farmans and inscribed on the coins

was

एक मुगल महारानी जिसका नाम सभी मुगल फरमानों पर लिखा जाता था और सिक्कों पर उसका नाम खुदा था?

- (A) Maham Anana/महम अनना
- (B) Nurjahan/नूरजहाँ
- (C) Mumtaz Mahal/मुमताज महल
- (D) Mariam Makani/मरियम मकानी

Correct Option : B

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### Question (31)

Regarding the atom of a chemical element, the magnetic quantum number refers to-

रासायनिक तत्व के एक परमाणु के संबंध में चुंबकीय क्वांटम संख्या दर्शाता है-

- (A) Orientation/दिशानिर्देश
- (B) Shape/आकार
- (C) Size/परिणाम
- (D) Spin/झुकाव

Correct Option : A

Explanation :

Magnetic quantum number represents the number of orbital's present in the subshell magnetic quantum number about the orientation of the orbital.

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### Question (32)

Two wires have their lengths, diameters and resistivities all in the ratio of 1 : 2. If the resistance of the thinner wire is 10 ohm, the resistance of the thicker wire is:

दो तारों की लंबाई, व्यास और प्रतिरोधकता का अनुपात 2:1 है। यदि पतले तार का प्रतिरोध 10 ओम है तो मोटे तार का प्रतिरोध होगा-

- (A) 5 ohm/ओम      (B) 10 ohm/ओम  
(C) 20 ohm/ओम    (D) 40 ohm/ओम

Correct Option : B

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### Question (33)

Which of the following has become the India's first e-assembly constituency?

निम्न में से कौन-सा भारत का पहला ई-विधानसभा क्षेत्र बन गया है?

- (A) Dharamshala assembly constituency/धर्मशाला विधानसभा क्षेत्र  
(B) Palampur assembly constituency/पालमपुर विधानसभा क्षेत्र  
(C) Rinchenpong assembly constituency/रिन्चेपोंग विधानसभा क्षेत्र  
(D) Chujachen assembly constituency/चुजर्चे विधानसभा क्षेत्र

Correct Option : B

Explanation :

The Palampur Assembly Constituency has become the India's first e-assembly constituency at Kangra district in Himachal Pradesh. Now, the resident of constituency would not only know about the development works going on by one click on computer but they would also send their requirement about funds for different schemes in their respective areas online. This system would be introduced in other 67 constituencies of the state in next 6 months.

---

### Question (34)

What is the theme of 2016 International Day for the Elimination of Violence against Women?

महिलाओं के खिलाफ हिंसा के उन्मूलन के लिए अंतर्राष्ट्रीय दिवस 2016 का विषय (थीमा) क्या है?

- (A) Orange your neighborhood/औरेंज योर नेबरहुड  
(B) Orange the world/औरेंज दी वर्ल्ड  
(C) Orange the life/औरेंज दी लाइफ

(D) Orange the people/औरेंज दी पीपल

Correct Option : B

Explanation :

The 2016 International Day for the Elimination of Violence against Women is observed every year on November 25 to raise public awareness of violence against women. The 2016 theme is "Orange the World - raise funds to end violence against women" in which orange colour designated the UNiTE campaign to symbolize a brighter future without violence.

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### Question (35)

The book "Banaras City of Light" has been authored by whom?

पुस्तक "बनारस सिटी ऑफ लाईट" किसके द्वारा लिखी गई है?

(A) Vrinda Grover/वृंदा गोवर

(B) Diana Eck/डायना ईक

(C) Mini Kapoor/मिनी कपूर

(D) Sanjaya Baru/संजय बारू

Correct Option : B

Explanation :

The book "Banaras City of Light" has been authored by Diana L. Eck. It is about the spiritual and historical aspects of the city.

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### Question (36)

With reference to the evolution of living organisms, which one of the following sequence is correct?

सजीव प्राणी के उत्पत्ति के संदर्भ में, निम्न में से एक सही क्रम है?

(A) Octopus-Dolphin-Shark/

ऑक्टोपस-डॉलफिन-शार्क

(B) Pangolin-Tortoise-Hawk/

छिपकली-कछुआ-बाज

(C) Salamander-Python-Kangaroo/

सालामेंडर-अजगर-कंगारू

(D) Frog-Crab-Prawn/

मेंढक-केकड़ा-झींगा

Correct Option : C

Explanation :

According to evolution of living organisms Salamander-Python-Kangaroo, because the evolution started from amphibians 350 million years ago, reptiles appeared 300 million years ago and 200 million years ago first small mammals appeared.

---

### Question (37)

Which of the following entities has launched India's first payment bank?

निम्नलिखित में से किस संस्था ने भारत का पहला भुगतान बैंक का शुभारंभ किया है?

(A) Reliance Industries/रिलायंस इंडस्ट्रीज

(B) Airtel M Commerce Services/एयरटेल एम कॉमर्स सर्विसेज

(C) Vodafone M-Pesa/वोडाफोन एम-पैसा

(D) FINO PayTech/एफआईएनओ पेटेक

Correct Option : B

Explanation :

Airtel Payments Bank Limited (or Airtel Bank), a subsidiary of Bharti Airtel Limited has launched India's first payment bank with 7.25% interest on savings accounts as a pilot basis of its banking services in Rajasthan. Airtel Bank's services can be accessed by Airtel customers on their mobile phones through the Airtel Money app, through USSD by dialing \*400#; or via a simple IVR by dialing 400. Both the USSD & IVR options are available in Hindi and English language and work on simple feature phones as well. The non-Airtel customers can access Airtel Bank's services by dialing 8800688006.

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### Question (38)

Consider the following:

निम्न पर विचार करें\_

1. Carbon dioxide/कार्बन डाइऑक्साइड
2. Oxides of nitrogen/नाइट्रोजन ऑक्साइड
3. Oxides of sulphur/सल्फर ऑक्साइड

Which of the above is/are the emissions from coal combustion at thermal power plants?

ताप विद्युत संयंत्रों में कोयला दहन से निम्नलिखित में से किस का स्खलन होता 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 : D

Explanation :

By-products of thermal power plant operation need to be considered in both design and operation. Waste heat due to the finite efficiency of the power cycle must be released to the atmosphere, using a cooling tower, or river or lake water as a cooling medium. The gas from combustion of the fossil fuels is discharged to the air; this contains carbon dioxide and water vapour, as well as other substances such as nitrogen, nitrogen oxides, sulphur oxides, and (in the case of coal-fired plants) fly ash, mercury and traces of other metals.

---

### Question (39)

Which one of the following stars is nearest to the Earth?

निम्नलिखित तारों में से पृथ्वी के सबसे नजदीक है-

- (A) Polaris/पोलारिस स्टार
- (B) Alpha Centauri/अल्फा सेंचुरी
- (C) Sun/सूर्य
- (D) Sirius/लुब्धक स्टार

Correct Option : C

Explanation :

Sun is the star nearest to the earth. It is 150 million kilometers away from earth. Sun has

temperature of over 15 million °C.

---

**Question (40)**

Cryogenic engines have applications in:

क्रायोजनिक इंजन का इस्तेमाल किया जाता है\_

- (A) Submarine propulsion/पनडुब्बी प्रणोदन में
- (B) Frost-free refrigerators/ठंड मुक्त रेफ्रीजरेटर में
- (C) Rocket technology/रॉकेट प्रौद्योगिकी में
- (D) Research in superconductivity/अतिचालकता के अन्वेषण में

Correct Option : C

Explanation :

A cryogenic rocket engine is a rocket engine that uses a cryogenic fuel or oxidiser, that is, its fuel or oxidizers (or both) are gases liquefied and stored at very low temperatures. Notably, these engines were one of the main factors of the ultimate success in reaching the Moon by the Saturn V rocket. Various cryogenic fuel-oxidizer combinations have been tried, but the combination of liquid hydrogen fuel and the liquid oxygen oxidizer is one of the most widely used.

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**Question (41)**

The waterfall 'Victoria' is associated with the river:

“विक्टोरिया” जलप्रपात किस नदी से संबंधित है?

- (A) Amazon/अमेजन नदी
- (B) Missouri/मिसौरी नदी
- (C) St. Lawrence/सेंट लॉरेन्स नदी
- (D) Zambezi/जेम्बेजी नदी

Correct Option : D

Explanation :

One of the greatest attractions in Africa and one of the most spectacular waterfalls in the world, Victoria Falls is located on the Zambezi River, the fourth largest river in Africa, which is also defining the border between Zambia and Zimbabwe.

---

**Question (42)**

Which one of the following is printed on a commonly used fluorescent tube light?

निम्न में से कौन-सा आमतौर पर इस्तेमाल की जाने वाली प्रतिदीप्ति ट्यूब लाइटों पर छपा होता है?

- (A) 220 K (B) 273 K  
(C) 6500 K (D) 9000 K

Correct Option : C

Explanation :

A fluorescent lamp or fluorescent tube is a gas-discharge lamp that uses electricity to excite mercury vapour. The excited mercury atoms produce shortwave ultraviolet light that then causes a phosphor to fluoresce, producing visible light. 6500 K is usually printed on a used fluorescent tubelight.

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**Question (43)**

Match the items in List-I with items in List-II and select the correct answer using the codes given below.

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

- | <b>List-I/सूची-I</b>         | <b>List-II/सूची-II</b>  |
|------------------------------|---|
| a. Adrenaline/<br>एड्रिनेलिन | 1. Anger, fear, danger/<br>क्रोध, भय, खतरा  |
| b. Estrogen/<br>एस्ट्रोजेन   | 2. Attracting partners<br>through sense of<br>smell/गंध की भावना के<br>जरिए सहभागी को आकर्षित<br>करना |
| c. Insulin/इंसुलिन           | 3. Females/महिला  |
| d. Pheromones/<br>फेरोमोनस   | 4. Glucose/ग्लूकोज  |

**Codes/कूट:**

- |     | <b>a</b> | <b>b</b> | <b>c</b> | <b>d</b> |
|-----|----------|----------|----------|----------|
| (A) | 3        | 1        | 4        | 2        |
| (B) | 1        | 3        | 2        | 4        |
| (C) | 1        | 3        | 4        | 2        |
| (D) | 3        | 1        | 2        | 4        |

Correct Option : C

Explanation :

Adrenaline is the hormone that prepares the body to deal with anger, fear and danger. Estrogen hormone is released from ovary of female. Insulin controls the level of glucagon in blood. Pheromones attract partners through sense of smell.

---

**Question (44)**

The tribal population in Andaman and Nicobar islands belongs to the:

अंडमान और निकोबार द्वीप समूह के आदिवासी संबंधित है-

- (A) Australoid race/ऑस्ट्रेलॉयड प्रजाति से
- (B) Caucasoid race/यूरोपीय प्रजाति से
- (C) Mongoloid race/मंगोलॉयड रेस से
- (D) Negroid race/नेग्रॉयड प्रजाति से

Correct Option : A

Explanation :

The tribal population of Andaman and Nicobar belong to Negroid race. A small population of Shompen and Nicobars are Mongoloid descent.

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**Question (45)**

As income increases the demand for interior goods:

आय में वृद्धि होने पर निकुष्ट वस्तुओं की मांग-

- (A) increases/बढ़ेगी
- (B) remains constant/स्थिर रहती है
- (C) fluctuates/अस्थिर रहती है
- (D) decreases/घटेगी

Correct Option : D

---

**Question (46)**

The term of the Lok Sabha:

लोकसभा का कार्यकाल-

- (A) Cannot be extended under any circumstances/किसी भी परिस्थिति में बढ़ाया नहीं जा सकता
- (B) Can be extended by six months at a time/एक समय में छह महीने के लिए नहीं बढ़ाया जा सकता।
- (C) Can be extended by one year at a time during the proclamation of emergency/ आपातकाल घोषणा की स्थिति में एक समय पर एक साल तक बढ़ाया जा सकता है
- (D) Can be extended for two years at a time during the proclamation of emergency/ आपातकाल घोषणा की स्थिति में एक समय पर दो साल तक बढ़ाया जा सकता है

Correct Option : C

Explanation :

The term of the LS can be extended by not more than one year at a time during the proclamation of national emergency under Article 352.

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**Question (47)**

When Cripps Mission came to India, who among the following was Viceroy of India?

जब क्रिप्स मिशन भारत आया तो निम्नलिखित में से कौन भारत का वायसराय था?

- (A) Lord Irwin/लॉर्ड इरविन
- (B) Lord Linlithgo/लॉर्ड लिनलिथगो
- (C) Lord Wavell/लॉर्ड वैवेल
- (D) Lord Willingdon/लॉर्ड विलिंगडन

Correct Option : B

---

#### Question (48)

In the case of election to the Lok Sabha, the amount of Security deposited for general category candidates and SC/ST category candidates respectively is:

लोकसभा के चुनाव की स्थिति में समान्य वर्ग और अनुसूचित जाति/अनुसूचित जनजाति वर्ग के उम्मीदवारों के लिए क्रमशः कितनी जमानत राशि जमा की जाती है?

- (A) Rs.5,000 and/और रु 2,500
- (B) Rs.10,000 and/और रु 2,500
- (C) Rs.10,000 and/और रु 5,000
- (D) Rs.15,000 and/और रु 7,500

Correct Option : C

---

#### Question (49)

Which Bollywood actor has won the "Best Performance by an Actor" award at the 2016 Asia Pacific Screen Awards?

किस बॉलीवुड अभिनेता ने 2016 एशिया प्रशांत स्क्रीन अवार्ड्स में "एक अभिनेता के द्वारा सर्वश्रेष्ठ अभिनय" का पुरस्कार जीता है?

- (A) Manoj Bajpayee/मनोज बाजपेयी
- (B) Johnny Lever/जोनी लीवर
- (C) Danny Denzongpa/डैनी डैनजॉनग्पा
- (D) Nawazuddin Siddiqui/नवाजुद्दीन सिद्दीकी

Correct Option : A

Explanation :

The Bollywood actor Manoj Bajpayee has won the "Best Performance by an Actor" at the 10th edition of Asia Pacific Screen Awards (APSA) for his performance as Professor Siras in "Aligarh" directed by Hansal Mehta. The 10th APSA is recognizing and promoting cinematic excellence and cultural diversity of the world's fastest growing film region.

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**Question (50)**

Which one among the following is the top processor of the computer in the world?

निम्नलिखित में से कौन दुनिया में कंप्यूटर के टॉप प्रोसेसर में से एक है?

(A) Intel/इंटेल

(B) Optron/ओप्ट्रोन

(C) Consly/कॉन्सली

(D) None of these/इनमें से कोई नहीं

Correct Option : A

---

**Question (51)**

Given  $x = y + 37437 \times 37439$ . Find the value of  $y$  for which the square root of number  $x$  is possible.

$x = y + 37437 \times 37439$  दिया गया है।  $y$  का मान ज्ञात करें, जिससे संख्या  $x$  का वर्गमूल निकलना संभव हो।

(A) 1 (B) 2

(C) 3 (D) 4

Correct Option : A

Explanation :

$$(A) x = \sqrt{y + 373437 \cdot 37439}$$

$$x = \sqrt{y + (37438 - 1)(37438 + 1)}$$

$$x = \sqrt{y + 37438^2 - 1^2}$$

For  $y = 1$ , the value of  $x$  is possible to find.

$$\text{As, } x = \sqrt{1^2 + 37438^2 - 1^2} = \sqrt{37438^2} = 37438$$

---

### Question (52)

If  $2^x \cdot 2^y = 8$  and  $9^x \cdot 3^y = 81$ , then the value of  $x^2 + y^2 - 2xy + 1$ .

यदि  $2^x \cdot 2^y = 8$  तथा  $9^x \cdot 3^y = 81$  है, तो  $x^2 + y^2 - 2xy + 1$  का मान है-

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

Correct Option : B

Explanation :

$$\begin{aligned} \text{(B) } 2^x \cdot 2^y &= 8 \quad \square \quad 2^{x+y} = 8 \quad \square \quad x + y = 3 \\ 9^x \cdot 3^y &= 81 \quad \square \quad 3^{2x+y} = 81 \quad \square \quad 2x + y = 4 \\ \text{So } (x, y) &= (1, 2) \\ \text{So, } x^2 + y^2 - 2xy + 1 &= 1^2 + 2^2 - 2 \times 1 \times 2 + 1 \\ &= 6 - 4 = 2 \end{aligned}$$

### Question (53)

A student can solve more than 50, but less than 90 tricky questions in an hour. The number of questions is 3 more than a multiple of 5. It is also 2 more than a multiple of 6. How many question is he solving in an hour.

एक विद्यार्थी एक घंटे में 50 से ज्यादा एवं 90 से कम कठिन प्रश्नों का हल निकल सकते हैं प्रश्नों की संख्या 5 से गुणनफल से 3 अधिक है। यह 6 की गुणनखंड से भी 2 अधिक है। वह एक घंटे में कितने प्रश्नों को हल कर रहा है ?

- (A) 58 (B) 88  
(C) 68 (D) 54

Correct Option : C

Explanation :

(C)

3 more than multiple of 5	53	58	63	<b>68</b>	73	78	83	88
2 more than multiple of 6	56	62	<b>68</b>	74	80	86		

$\square$  Required no. of questions = 68

**Question (54)**

Find the area of shaded region, if radius of a circle is 2 cm.

छायांकित क्षेत्र का क्षेत्रफल ज्ञात करें। यदि वृत्त की त्रिज्या 2 सेमी. हो।



(A)  $2\sqrt{3} - \pi \text{ cm}^2/\text{सेमी}^2$

(B)  $\frac{2}{\sqrt{3}} - \frac{\pi}{2} \text{ cm}^2/\text{सेमी}^2$

(C)  $4\sqrt{3} - 2\pi \text{ cm}^2/\text{सेमी}^2$

(D)  $\frac{4 - \pi}{\sqrt{3}} \text{ cm}^2/\text{सेमी}^2$

Correct Option : C

Explanation :

(C)



Draw an equilateral triangle after connecting the centers

Area =  $\frac{\sqrt{3}}{4} a^2$  where  $a$  is side of triangle

=  $\frac{\sqrt{3}}{4} \square 4^2$  [  $a = 2r = 4$  ]

=  $4\sqrt{3} \text{ cm}^2$

As, the 3 sectors of a triangle will form a

semi-circle and its area =  $\frac{1}{2} \times 4\sqrt{3} r^2 = \frac{1}{2} 4\sqrt{3} \times 2^2$

=  $2\sqrt{3}$

□ Required area of shaded region

=  $(4\sqrt{3} - 2\sqrt{3}) \text{ cm}^2$

**Question (55)**

In a equation  $3x + 5y = 93$ . How many different value of  $x$  is possible, if  $x$  and  $y$  are some natural numbers.

समीकरण  $3x + 5y = 93$  में  $x$  के कितने मान संभव हैं, यदि  $x$  तथा  $y$  कोई प्राकृतिक संख्या हो?

(A) 5 (B) 6

(C) 7 (D) 8

Correct Option : B

Explanation :

$(x, y) = \{(1, 18) (6, 15) (11, 12) (16, 3) (21, 6) (26, 3)\}$

The number of possible value of  $x = 6$  .

---

**Question (56)**

Rs.100 is doubled in 5 years, when compounded annually. How many more years will it take now to get Rs.200 more as compound interest.

वार्षिक चक्रवृद्धि ब्याज से रु.100 पञ्च साल में दुगना हो जाता है। रु.200 और चक्रवृद्धि ब्याज होने के लिए अब कितने वर्ष और लगेंगे?

(A) 5 yrs/वर्ष

(B) 7.5 yrs/वर्ष

(C) 8 yrs/वर्ष

(D) 10 yrs/वर्ष

Correct Option : A

Explanation :

Rs.100 invested in CI becomes 200 in 5 yr Amount gets doubled again in 5 yr

It means new amount = Rs.400 in another 5 yr So, we can say that in another 5 yr 200 interest will be earned

---

**Question (57)**

In  $\triangle ABC$ ,  $\frac{\cos A}{a} = \frac{\cos B}{b} = \frac{\cos C}{c}$ , then what can be said about the given triangle?

यदि  $\triangle ABC$  में  $\frac{\cos A}{a} = \frac{\cos B}{b} = \frac{\cos C}{c}$  हो, तो दिए गए त्रिभुज के विषय में क्या कहा जा सकता है?  
(A) Right angled triangle / समकोण त्रिभुज  
(B) Isosceles triangle / समद्विबाहु त्रिभुज  
(C) Equilateral triangle / समबाहु त्रिभुज  
(D) Can't be determined / पता नहीं लगा सकते

Correct Option : C

Explanation :

(C) By sine rule of  $\triangle$

$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C} = K$$

$$\square a = K \sin A, b = K \sin B, c = K \sin C$$

$$\text{So, } \frac{\cos A}{K \sin A} = \frac{\cos B}{K \sin B} = \frac{\cos C}{K \sin C}$$

$$\square \cot A = \cot B = \cot C$$

$$\square A = B = C$$

So, It is equilateral  $\triangle$ .

---

### Question (58)

20% of the men are more than 25 years old and 80% of the men are less than or equal to 50 years old. 20% of all men play football. If 20% of the men above the age of 50 play football, what percentage of the football

20% व्यक्ति 25 वर्ष से अधिक उम्र के हैं तथा 80% व्यक्ति 50 से कम या उसके बराबर उम्र के हैं। सभी व्यक्तियों में से 20% व्यक्ति फुटबॉल खेलते हैं। यदि 50 से अधिक उम्र के 20% व्यक्ति फुटबॉल खेलते हों, तो कितने प्रतिशत फुटबॉल खिलाड़ी 50 से कम या उसके बराबर उम्र के हैं?

- (A) 15%      (B) 20%  
(C) 80%      (D) 70%

Correct Option : C

Explanation :

(C) 20% of the men are above the age of 50 years. 20% of these men play football.

It means, 20% of 20% of 4% of the total men are football players above the age of 50 years.

20% of the men are football players.

Therefore, 16% of the men are football players below the age of 50 years.

Therefore, the % of men who are football players and below the age of 50

$$= \frac{16}{20} \times 100 = 80\%$$

---

### Question (59)

If the price of petrol increases by 25% and Simran intends to spend only an additional 15% on petrol, by how much % will she have to reduce the quantity of petrol purchased?

यदि पेट्रोल की कीमत 20% बाद जाती है तथा सिमरन अपने खर्च में केवल 15%की बढ़ोतरी करने को इच्छुक है,तो उसे पेट्रोल के खर्च में कितने % की कमी करनी होगी?

- (A) 10%    (B) 12%  
(C) 8%    (D) 12.5%

Correct Option : C

Explanation :

(C) Required percentage

$$= \frac{1}{1} - \frac{115}{125} \times 100 = \frac{1}{1} - \frac{23}{25} \times 100$$

$$= \frac{2}{25} \times 100 = 8\%$$

---

### Question (60)

A merchant mixes three varieties of rice costing ` Rs.20/kg, `Rs. 24/kg and ` Rs.30/kg and sells the mixture at a profit of 20% at the rate of ` Rs.30/ kg. How many kgs of the second variety will be in the mixture, if 2 kgs of the third variety is there in the mixture?

एक दुकानदार रु.20 प्रति किग्रा., रु.24 प्रति किग्रा, तथा रु.30 प्रति किग्रा.के चावल को मिला देता है तथा उसे 20% के मुनाफे पर रु.30 प्रति किग्रा. की दर से बेच देता है।यदि मिले हुए चावल में तीसरे प्रकार का 2 किग्रा. चावल हो,तो मिश्रण

में दुसरे प्रकार का कितने मिश्रण है?

- (A) 1 kg/किग्रा.
- (B) 5 kg/किग्रा.
- (C) 3 kg/किग्रा.
- (D) 6 kg/किग्रा.

Correct Option : B

Explanation :

$$\begin{aligned} \text{(B) SP} &= 30 \text{ profit} = 20\% \text{ then CP of mixture} \\ &= \frac{30}{1.2} = 25 \end{aligned}$$

$$\text{By Alligation rule, } \frac{QA}{QC} = \frac{30 - 25}{25 - 20} = \frac{5}{5} = 1$$

$$\text{Also, } \frac{QB}{QC} = \frac{30 - 25}{25 - 24} = \frac{5}{1}$$

$$\square QA : QB : QC = 1 : 5 : (1 + 1) = 1 : 5 : 2$$

$$\square \text{ Required weight of the rice} = 5 \text{ kg}$$

### Question (61)

In a 1 kilometre race, A gives B a start of 100 m or 15 seconds. How long does A take to complete the race?

एक किमी. के किसी रेस में A, B को 100 मी. या 15 सेकण्ड की प्रारंभिक छुट देता है। A को रेस खत्म करने में कितना समय लगेगा?

- (A) 150 sec/सेकण्ड
- (B) 165 sec/सेकण्ड
- (C) 135 sec/सेकण्ड
- (D) 180 sec/सेकण्ड

Correct Option : C

Explanation :

In a 1000 metre race A gives B a start of 100 m or 15 seconds.

B takes 15 seconds to run 100 m.

B will take 150 seconds to run the stretch of 1000 metres.

As, 1000 m = 10 times 100 m

The time taken will also be 10 times 15 seconds = 150 seconds.

As, A gives B a start of 15 seconds, which means A obviously takes 15 seconds less than B to complete the race.

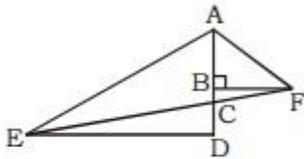
Hence, A will take 135 seconds to run the 1000 m.

---

### Question (62)

In the diagram given below,  $CD = BF = 10$  units and  $\angle CED = \angle BAF = 30^\circ$ . What would be the area of triangle AED?

दिए गए निम्न आकृति में  $CD = BF = 10$  इकाई तथा  $\angle CED = \angle BAF = 30^\circ$  है। त्रिभुज AED का क्षेत्रफल क्या होगा?



(A)  $100 \times (\sqrt{2} + 3)$  units/इकाई

(B)  $\frac{100}{(\sqrt{2} + 3)}$  units/इकाई

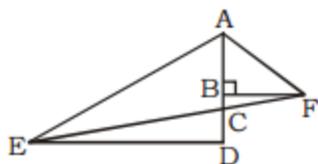
(C)  $\frac{50}{(\sqrt{3} + 4)}$  units/इकाई

(D)  $50 \times (\sqrt{3} + 4)$  units/इकाई

Correct Option : D

Explanation :

(D)



Given  $CD = BF = 10$  unit

$\angle CED = \angle BAF = 30^\circ$

In  $\triangle CDE$ ,

$$\tan 30^\circ = \frac{CD}{ED} \Rightarrow \frac{1}{\sqrt{3}} = \frac{CD}{ED}$$

$$\Rightarrow ED = \sqrt{3} CD = 10\sqrt{3}$$

In  $\triangle ABF$

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

$$\Rightarrow AB = \sqrt{3} BF = 10\sqrt{3}$$

Also,  $\angle BFC = \angle CED = 30^\circ$

So, In  $\triangle BFC$

$$\tan 30^\circ = \frac{BC}{BF} \Rightarrow \frac{1}{\sqrt{3}} = \frac{BC}{BF} \Rightarrow BC = \frac{10}{\sqrt{3}}$$

$$AD = AB + BC + CD = 10\sqrt{3} + \frac{10}{\sqrt{3}} + 10$$

$$= 10 \left( \sqrt{3} + \frac{1}{\sqrt{3}} + 1 \right) = 10 \left( \frac{\sqrt{3} + 1 + \sqrt{3}}{\sqrt{3}} \right)$$

$$= \frac{2\sqrt{3} + \sqrt{3} + 10}{\sqrt{3}} = \frac{3\sqrt{3} + 10}{\sqrt{3}}$$

$$\square \text{ Area of } \triangle AFD = \frac{1}{2} \times AD \times ED$$

$$= \frac{1}{2} \times 10 \left( \frac{3\sqrt{3} + 10}{\sqrt{3}} \right) \times 10\sqrt{3} = 50(4 + \sqrt{3})$$

### Question (63)

Two boys begin together to write out a booklet containing 535 lines. The first boy starts with the first line, writing at the rate of 100 lines an hour and the second starts writing with the last line, then writes line 534 and then proceeds so on, backward proceeding at the rate of 50 lines an hour. At what line will they meet?

दो बच्चे साथ में 535 पंक्तियों की एक किताब लिखना प्रारंभ करता है। पहला बच्चा, पहले पंक्ति से 100 पंक्ति प्रति घंटे

की दर से लिखना प्रारंभ करते हैं तथा दूसरा बच्चा आखिरी पंक्ति से लिखना प्रारंभ करता है, फिर पंक्ति 534 लिखता है तब इसी प्रकार से 50 पंक्ति प्रति घंटे की दर से पीछे की ओर बढ़ता है। किस पंक्ति पर वे दोनों मिलेंगे?

(A) 356 (B) 277

(C) 357 (D) 267

Correct Option : C

Explanation :

(C) Writing ratio = 100 : 50 = 2 : 1

As equal quantities are taken, in a given time, first boy will be writing the line number

$$= \frac{2}{3} \times 535 = 356\frac{2}{3} \text{ or the 357th line}$$

Hence, both of them shall meet on 357th line.

#### Question (64)

If  $(x + 2)^2 = 9$  and  $(y + 3)^2 = 25$ , then the

maximum value of  $\frac{x}{y}$  is:

यदि  $(x + 2)^2 = 9$  तथा  $(y + 3)^2 = 25$ , तो  $\frac{x}{y}$  का

अधिकतम मान क्या है?

(A)  $\frac{1}{2}$

(B)  $\frac{5}{2}$

(C)  $\frac{5}{8}$

(D)  $\frac{1}{8}$

Correct Option : C

Explanation :

(C)  $(x + 2)^2 = 9$   
 $\square x + 2 = \pm 3$   
 $\square x = 1 \text{ or } -5$   
 and  $(y + 3)^2 = 25$   
 $\square y + 3 = \pm 5$   
 $\square y = 2 \text{ or } -8$

Therefore, maximum value of  $\frac{x}{y} = \frac{-5}{-8} = \frac{5}{8}$

---

### Question (65)

There were P people in a room, when a meeting started. Q people left the room during the first hour and R people entered the room during the next hour. The number of people present currently in the room is what percent of the number of people present during the first hour after some people left.

जब बैठक प्रारंभ हुआ, तो कमरे में P लोग थे। Q लोग प्रथम घण्टे में कमरे को छोड़कर चले गए तथा R लोग अगले घण्टे में कमरे में दाखिल हुए। वर्तमान में मौजूद व्यक्तियों की संख्या कमरे में प्रथम घण्टे में कुछ लोगों के जाने के पश्चात् मौजूद व्यक्तियों की संख्या का कितना प्रतिशत है?

(A)  $\frac{(P+Q)}{(P-Q+R)}$  (B)  $100 \times \frac{(P-Q+R)}{(P-Q)}$

(C)  $100 \times \frac{(P-Q)}{(P-Q+R)}$  (D)  $100 \times \frac{(P+R)}{(P-Q)}$

Correct Option : B

Explanation :

(B) The meeting started with P people. Q left the room during the first hour. So, (P - Q) people have been in the room during first hour since the meeting started. Another R joined the group in the next hour. So, the number of people in the room currently = P - Q + R.

$$\text{Required expression} = \frac{P - Q + R}{P - Q} \times 100$$

### Question (66)

Ram completes 60% of a work in 15 days and then takes help of Rahim and Russel. Rahim is 50% as efficient as Ram and Russel is 50% as efficient as Rahim. In how many more days will they complete the work?

किसी कार्य को 60% राम 15 दिनों में पूरा करता है एवं फिर रहीम तथा रसेल की मदद लेता है। रहीम, राम से 50% कुशल है तथा रसेल, रहीम से 50% कुशल है। कितने और दिनों में वे कार्य को पूरा कर लेंगे?

(A) 40/7 (B) 48/7

(C) 46/9 (D) None/कोई नहीं

Correct Option : A

Explanation :

(A) Ram completes 60% of the task in 15 days.

He completes 4% of the task in a day.

Rahim is 50% as efficient as Ram is.

Therefore, Rahim will complete 2% of the task in a day.

Russel is 50% as efficient as Rahim.

□ Russel will complete 1% of the task in a day.

Together, Ram, Rahim and Russel will complete (4 + 2 + 1) = 7% of the work in a day.

They have another 40% of the task to be completed.

Therefore, they will take  $\frac{40}{7}$  more days to

complete the task.

---

**Question (67)**

'a' and 'b' are the lengths of the base and height of a right angled triangle with hypotenuse as 'h'. If the values of 'a' and 'b' are positive integers, then which of the following cannot be a value of the square of its hypotenuse?

a तथा b किसी समकोण त्रिभुज के आधार तथा ऊँचाई की लंबाई है। यदि a तथा b का मान एक धनात्मक पूर्णक है, तो निम्न में से कौन इसके कर्ण के वर्ग का मान नहीं हो सकता?

- (A) 13    (B) 23  
(C) 37    (D) 41

Correct Option : B

Explanation :

(B) The value of the square of the hypotenuse  
 $= h^2 = a^2 + b^2$ .

Here 23 cannot be expressed as the sum two numbers.

Rest ( $13 = 2^2 + 3^2$ ), ( $37 = 1^2 + 6^2$ ) and ( $41 = 4^2 + 5^2$ ) can be written as the sum of the squares of positive integer.

□ Choice 2 is the answer.

---

**Question (68)**

The marks scored by a student in three subjects are in the ratio of 4 : 5 : 6. The candidate scored 60% of the aggregate of maximum marks in three subjects which is equal to marks scored by the candidate in the three subjects. In how many subjects did he score more than or equal to 60%?

किसी विधार्थी दुआर तिन विषयों के प्राप्तांक का अनुपात 4:5:6 है। विधार्थी ने तीनों विषयों के अधिकतम अंक का 60% अंक प्राप्त किया जो की तीनों विषयों में प्राप्त किए गए अंकों के योग के सामान है। कितने विषयों में उसने 60% से अधिक या उसके बराबर अंक प्राप्त किए?

- A) 1    (B) 2  
(C) 3    (D) 0

Correct Option : B

Explanation :

Let the maximum marks in each of the three subjects be 100.

Aggregate score of the candidate = 60% of  $3 \times 100 = 60\%$  of 300 marks = 180 marks. ∴

Let the marks scored in the three subjects be  $4x$ ,  $5x$  and  $6x$ .

Then,  $4x + 5x + 6x = 180$

$15x = 180$  or  $x = 12$ .

Marks scored by the candidate in the three subjects are  $4 \times 12$ ,  $5 \times 12$  and  $6 \times 12 = 48$ , 60 and 72. ∴

Hence, the candidate has scored more than or equal to 60% in two subjects.

---

### Question (69)

If the length of the sides of a triangle is 72 cm, 75 cm and 21 cm, then what will be the length of its in-radius?

यदि किसी त्रिभुज के भुजाओं की लंबाई 72 सेमी., 75 सेमी. तथा 21 सेमी. हो, तो इसके अंतःत्रिज्या की लंबाई क्या होगी?

(A) 37.5 cm/सेमी.

(B) 24 cm/सेमी.

(C) 9 cm/सेमी.

(D) 15 cm/सेमी.

Correct Option : C

Explanation :

(C) For a right angled triangle,

The length of in-radius

$$= \frac{\text{(Product of perpendicular sides)}}{\text{(Perimeter of triangle)}}$$

$$= \frac{(72 \cdot 21)}{(72 + 21 + 75)} = \frac{1512}{168} = 9 \text{ cm}$$

---



### Question (71)

Yana and Gupta leave from points x and y towards y and x respectively simultaneously and travel in the same route. After meeting each other on the way, Yana takes 4 hours to reach her destination, while Gupta takes 9 hours to reach his destination. If the speed of Yana is 48 km/hr, then what is the speed of Gupta?

याना तथा गुप्ता बिंदु x तथा y से क्रमशः y तथा x के लिए एक साथ निकलते हैं तथा एक ही मार्ग में यात्रा करते हैं | रस्ते में एक दुसरे से मिलने के पश्चात् याना अपने गंतव्य स्थान पर पहुंचने में 4 घंटे लेती है जबकि गुप्ता अपने गंतव्य स्थान पर पहुंचने में 9 घंटे लेती है | यदि याना की चाल 48किमी./घंटा है,तो गुप्ता की चाल क्या है?

- (A) 72 km/hr/किमी./घंटा
- (B) 30 km/hr/किमी./घंटा
- (C) 20 mile/hr/किमी./घंटा
- (D) 32 mile/hr/किमी./घंटा

Correct Option : C

Explanation :

(C) Let the time taken by them from the moment they started be  $x$  hrs and  $y$  hrs respectively.

So, Yana would take  $(x + 4)$  hrs  
as Gupta would take  $(x + 9)$  hrs

By time Yana and Gupta meet, Yana would have traveled  $48x$  kms in 9 hr.

$$\square \text{ Gupta's speed} = \frac{48x}{9}$$

$$\text{Yana's speed} : \text{Gupta's speed} = 1 : \frac{x + 4}{x + 9}$$

$$\square 48 : \frac{48x}{9} :: 1 : \frac{x + 4}{x + 9} \quad \square \frac{x}{9} = \frac{x + 4}{x + 9}$$

$$\square x^2 + 9x = 9x + 36 \quad \square x = 6 \text{ hrs}$$

$$\square \text{ Speed of Gupta} = \frac{48x}{9} = \frac{48 \cdot 6}{9} = 32 \text{ km/hr}$$
$$= 20 \text{ mile/hr}$$

### Question (72)

If both  $11^2$  and  $3^3$  are factors of the number  $a \times 4^3 \times 6^2 \times 13^{11}$ , then what is the smallest possible value of  $a$ ?

यदि  $11^2$  तथा  $3^3$  दोनों, संख्या  $a \times 4^3 \times 6^2 \times 13^{11}$  का गुणनखण्ड है, तो  $a$  का न्यूनतम संभव मान क्या है?

- (A) 121 (B) 3267  
(C) 363 (D) 33

Correct Option : C

Explanation :

(C)  $11^2$  is a factor of the given number.

In the given expression,  $a \times 4^3 \times 6^2 \times 13^{11}$  none of the other factors, viz., 4, 6 or 13 is either a power or multiple of 11.

Hence, if  $a \times 4^3 \times 6^2 \times 13^{11}$  is divisible by  $11^2$ , 'a' should necessarily include  $11^2$ .

The question states that  $3^3$  is a factor of the given number.  $6^2$  is a part of the number.

$6^2$  can be expressed as  $3^2 \times 2^2$ .

i.e.,  $a \times 4^3 \times 6^2 \times 13^{11}$  has  $3^2$  in it.

It needs a  $3^3$  in it for the number to be divisible by  $3^3$ .

Therefore, a will have to provide one more 3 to  $a \times 4^3 \times 6^2 \times 13^{11}$ .

□ 'a' should be at least  $11^2 \times 3 = 363$ , if the given number has to have  $11^2$  and  $3^3$  as its factors

---

### Question (73)

If ABC is a right angle triangle with  $\angle A = 90^\circ$  and  $2s = a + b + c$ , where  $a > b > c$ , then which one of the following is correct?

यदि ABC एक समकोण त्रिभुज है जिसमें  $\angle A = 90^\circ$  है तथा  $2s = a + b + c$  है, जहाँ  $a > b > c$  है, तो निम्न में से कौन सत्य है?

- (A)  $(s - b)(s - c) > s(s - a)$   
(B)  $(s - a)(s - c) > s(s - b)$   
(C)  $(s - a)(s - b) < s(s - c)$   
(D)  $4s(s - a)(s - b)(s - c) = bc$

Correct Option : C

Explanation :

(C) Let  $a = 5$ ,  $b = 4$  &  $c = 3$

$\therefore$  It is a right angle triangle and (3, 4, 5) is a Pythagorean triplet.

$$s = \frac{(a+b+c)}{2} = \frac{12}{2} = 6$$

Substitute these values and check which condition satisfies.

Let us take choice(3)

$$\text{L.H.S } (s - a)(s - b) = (6 - 5)(6 - 4) = 2.$$

$$\text{R.H.S } s(s - c) = 6(6 - 3) = 18.$$

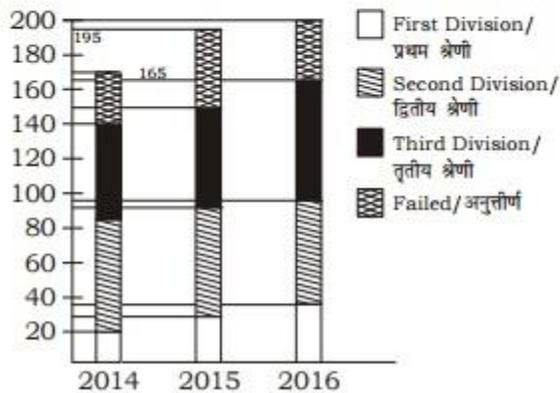
$$\text{L.H.S} < \text{R.H.S}$$

It satisfies the given condition hence Choice(3) is the right answer.

### Question (74)

**Directions (74-75) :** The following bar graph depicts the result of B.Sc. students of a college for three years. Read the graph and answer the questions based on this graph.

निर्देश (74-75) : निम्नलिखित बार ग्राफ एक कॉलेज के छात्रों के 3 वर्षों के बी.एस.सी. के परिणाम को दर्शाता है। ग्राफ को पढ़ें तथा इस ग्राफ के आधार पर प्रश्नों के उत्तर दें।



The aggregate pass percentage during the three years was-

तीन वर्षों के दौरान कुल पास प्रतिशत था-

(A)  $82\frac{44}{113}\%$       (B)  $82\frac{55}{113}\%$

(C)  $80\frac{60}{113}\%$       (D)  $77\frac{29}{113}\%$

Correct Option : C

Explanation :

$$(C) \text{ Total passed students,} \\ = 140 + 150 + 165 = 455$$

Total students

$$= 170 + 195 + 200 = 565$$

∴ Required percentage

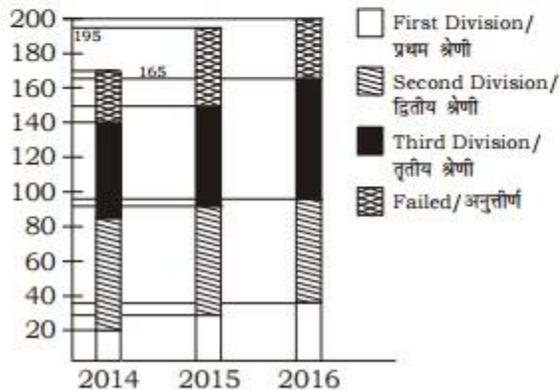
$$= \frac{455}{565} \times 100$$

$$= \frac{9100}{113} = 80 \frac{60}{113} \%$$

Question (75)

**Directions (74-75) :** The following bar graph depicts the result of B.Sc. students of a college for three years. Read the graph and answer the questions based on this graph.

निर्देश (74-75) : निम्नलिखित बार ग्राफ एक कॉलेज के छात्रों के 3 वर्षों के बी.एस.सी. के परिणाम को दर्शाता है। ग्राफ को पढ़ें तथा इस ग्राफ के आधार पर प्रश्नों के उत्तर दें।



The percentage of students passed in 1st division in 2014 was-

2014 में प्रथम श्रेणी में पास करने वाले छात्रों का प्रतिशत था-

- (A) 20%                      (B) 34%  
(C)  $14 \frac{2}{7} \%$                       (D)  $11 \frac{13}{17} \%$

Correct Option : D

Explanation :

(D) Required percentage

$$= \frac{20}{170} \times 100$$
$$= \frac{200}{17} = 11\frac{13}{17}\%$$

---

**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.

It is important to (A)/ take pride of (B)/ whatever we do on life. (C)/ No error (D)

Correct Option : B

---

**Question (77)**

The (A)/ desert (B)/ was delicious (C)/. No error (D)

Correct Option : B

---

**Question (78)**

They used strong (A)/ ropes to went (B)/ down the cliff. (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.

The employees work hard not because of the \_\_\_\_\_, but because of their inner urge.

- (A) Energy (B) Drive  
(C) Incentive (D) Desire

Correct Option : C

---

**Question (80)**

It is \_\_\_\_\_ for us to abide by the laws of the land.

- (A) Obligatory (B) Optional  
(C) Expected (D) Meant

Correct Option : A

---

**Question (81)**

The judge used his \_\_\_\_\_ in settling the matter of his court.

- (A) Brains (B) Know  
(C) Bias (D) Discretion

Correct Option : D

---

**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.

OCCULT

- (A) Latent      (B) Fathomable  
(C) Intelligible      (D) Transparent

Correct Option : A

---

**Question (83)**

QUELL

- (A) Exacerbate      (B) Agitate  
(C) Subdue      (D) Foment

Correct Option : C

---

**Question (84)**

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

FEEBLE

- (A) Unbreakable      (B) Strong  
(C) Intense      (D) Preserved

Correct Option : B

---

**Question (85)**

FRAIL

- (A) Massive      (B) Rich  
(C) Civilised      (D) Robust

Correct Option : D

---

**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) Playrite      (B) Playright  
(C) Playwright      (D) Playwrite

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.

During the exam, the students use to read the complete book **out and out**.

- (A) no more  
(B) in favour of  
(C) deadly against  
(D) thoroughly

Correct Option : D

---

**Question (88)**

The culprits could be easily arrested because the police were **tipped off in** a advance.

- (A) Toppled over  
(B) Given advance information

- (C) Bribed
- (D) Threatened

Correct Option : B

---

**Question (89)**

In the organised society of today no individual or nation can *plough a lonely furrow*.

- (A) do without the help of others
- (B) survive in isolation
- (C) remain unaffected
- (D) remain non-aligned

Correct Option : A

---

**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.

Her speech was optimistic, but at the end of it, she *stroke a note of caution*.

- (A) striked a note of caution
- (B) stroke a note of caution
- (C) struck a note of caution
- (D) No improvement

Correct Option : C

---

**Question (91)**

In our country women **have opportunities to rise** to top in every walk of life.

- (A) have had opportunities
- (B) have been having opportunities
- (C) have opportunities to rise
- (D) No improvement

Correct Option : D

---

**Question (92)**

India's outlook on the world **is composing of** these various elements

- (A) is composed of
- (B) is composed by
- (C) is composed with
- (D) No improvement

Correct Option : A

---

**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.**

In a state of tension or anxiety or suspense

- (A) On tenterhooks
- (B) Depressed
- (C) Diffused
- (D) Off balance

Correct Option : A

---

**Question (94)**

Habitually silent or talking little

- (A) Unequivocal (B) Synoptic  
(C) Taciturn (D) Servile

Correct Option : C

---

**Question (95)**

Expressing oneself clearly or effectively

- (A) Professional (B) Dilettante  
(C) Articulate (D) Amateur

Correct Option : C

---

**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**

Just as some men like to play football or cricket, similarly some men like to climb mountains. This is often very difficult to do, for mountains are not just big hills. Paths are usually very steep. Some mountain sides are straight up and down, so it may take many hours to climb as little as one hundred feet. There is always the danger that you may fall off and be killed or injured. Men talk about conquering a mountain. It is a wonderful feeling to reach the top of a mountain after climbing for hours and may be, even days. You look down and see the whole country below you. You feel god-like. Two Italian prisoners of war escaped from a prison camp in Kenya during the war. They did not try to get back to their own country, for they knew that was impossible. Instead, they climbed to the top of Mount Kenya, and then they came down again and gave themselves up. They had wanted to get that feeling of freedom that one has, after climbing a difficult mountain.

Some men like to climb mountains because

- (A) they do not like to play football or cricket

- (B) they want to have a wonderful feeling
- (C) they know the trick of climbing
- (D) they like to face danger

Correct Option : C

---

### Question (97)

Just as some men like to play football or cricket, similarly some men like to climb mountains. This is often very difficult to do, for mountains are not just big hills. Paths are usually very steep. Some mountain sides are straight up and down, so it may take many hours to climb as little as one hundred feet. There is always the danger that you may fall off and be killed or injured. Men talk about conquering a mountain. It is a wonderful feeling to reach the top of a mountain after climbing for hours and may be, even days. You look down and see the whole country below you. You feel god-like. Two Italian prisoners of war escaped from a prison camp in Kenya during the war. They did not try to get back to their own country, for they knew that was impossible. Instead, they climbed to the top of Mount Kenya, and then they came down again and gave themselves up. They had wanted to get that feeling of freedom that one has, after climbing a difficult mountain.

To climb mountains is often difficult because

- (A) mountains are big hills
- (B) it consumes more time
- (C) prisoners often escape from camps and settle there
- (D) paths are steep and uneven

Correct Option : D

---

### Question (98)

Just as some men like to play football or cricket, similarly some men like to climb mountains. This is often very difficult to do, for mountains are not just big hills. Paths are usually very steep. Some mountain sides are straight up and down, so it may take many hours to climb as little as one hundred feet. There is always the danger that you may fall off and be killed or injured. Men talk about conquering a mountain. It is a wonderful feeling to reach the top of a mountain after climbing for hours and may be, even days. You look down and see the whole country below you. You feel god-like. Two Italian prisoners of war escaped from a prison camp in Kenya during the war. They did not try to get back to their own country, for they knew that was impossible. Instead, they climbed to the top of Mount Kenya, and then they came down again and gave themselves up. They had wanted

to get that feeling of freedom that one has, after climbing a difficult mountain.

What does 'It' refer to in "It is a wonderful feeling" used in the passage?

- (A) the steep path
- (B) the mountain
- (C) the prisoner
- (D) mountaineering

Correct Option : B

---

### Question (99)

Just as some men like to play football or cricket, similarly some men like to climb mountains. This is often very difficult to do, for mountains are not just big hills. Paths are usually very steep. Some mountain sides are straight up and down, so it may take many hours to climb as little as one hundred feet. There is always the danger that you may fall off and be killed or injured. Men talk about conquering a mountain. It is a wonderful feeling to reach the top of a mountain after climbing for hours and may be, even days. You look down and see the whole country below you. You feel god-like. Two Italian prisoners of war escaped from a prison camp in Kenya during the war. They did not try to get back to their own country, for they knew that was impossible. Instead, they climbed to the top of Mount Kenya, and then they came down again and gave themselves up. They had wanted to get that feeling of freedom that one has, after climbing a difficult mountain.

Two Italian prisoners escaped from the camp and climbed on the top of Mount Kenya

- (A) to get the feeling of freedom
- (B) to escape to Italy
- (C) to gain fame as mountaineers
- (D) none of the above

Correct Option : A

---

### Question (100)

Just as some men like to play football or cricket, similarly some men like to climb mountains. This is often very difficult to do, for mountains are not just big hills. Paths are usually very steep. Some mountain sides are straight up and down, so it may take many hours to climb as little as one hundred feet. There is always the danger that you may fall off and be killed or injured. Men talk

about conquering a mountain. It is a wonderful feeling to reach the top of a mountain after climbing for hours and may be, even days. You look down and see the whole country below you. You feel god-like. Two Italian prisoners of war escaped from a prison camp in Kenya during the war. They did not try to get back to their own country, for they knew that was impossible. Instead, they climbed to the top of Mount Kenya, and then they came down again and gave themselves up. They had wanted to get that feeling of freedom that one has, after climbing a difficult mountain.

Mountaineering is not a very popular sport like football or cricket because

- (A) it may take many hours or days
- (B) there are no spectators in this sport
- (C) people do not want to enjoy a god-like feeling
- (D) none of the above

Correct Option : A

**Question (101)**

**Directions (1 – 4) :** In each of the following questions, select the related letter/word/ number from the given alternatives.

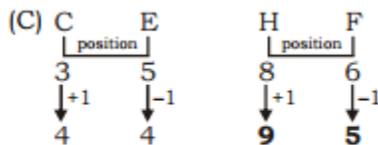
**निर्देश(1-4):** निम्न प्रत्येक प्रश्न में दिए गए विकल्पों में से सम्बन्धित अक्षर/शब्द/संख्या को चुनिए।

CE : 44 :: HF : ?

- (A) 84      (B) 76
- (C) 95      (D) 58

Correct Option : C

Explanation :



**Question (102)**

Ramcharitmanas : Tulsidas : : Mahabharat : ?

रामचरितमानसःतुलसीदासःमहाभारतः ?

- (A) Surdas/सूरदास      (B) Kabirdas/कबीरदास  
(C) Ganesh/गणेश      (D) Vedvyas/वेदव्यास

Correct Option : D

Explanation :

Ramcharitmanas was written by Tulsidas and Mahabharat was written by Vedvyas.

---

**Question (103)**

52 : 200 : : 43 : ?

- (A) 148    (B) 432  
(C) 184    (D) 392

Correct Option : B

Explanation :

$$(B) 52 \square 5^2 \times 2^3 = 25 \times 8 = 200$$
$$43 \square 4^2 \times 3^3 = 16 \times 27 = \mathbf{432}$$

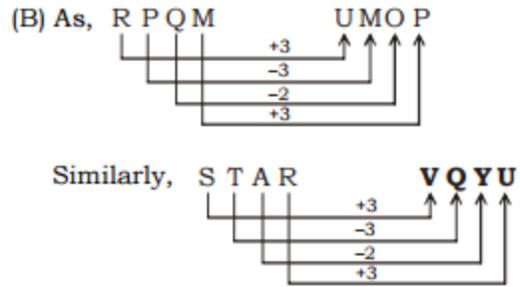
**Question (104)**

RPQM : UMOP : : STAR : ?

- (A) UYQV    (B) VQYU  
(C) UVYR    (D) RVUY

Correct Option : B

Explanation :



**Question (105)**

**Directions (5 – 8) : Find the odd word/letters/ number pair/number from the given alternative**

दिए गए विकल्पों में से विषम अक्षर/शब्द/संख्या/ युग्म/ संख्या को चुनिए।

- (A) 1728 (B) 2197  
(C) 4913 (D) 576

Correct Option : D

Explanation :  
Except (D), others are perfect cube.

**Question (106)**

- (A) Tortoise/कछुआ (B) Crab/केकड़ा  
(C) Frog/मेंढक (D) Fish/मछली

Correct Option : D

Explanation :  
Except fish, other lives on both land and water.

**Question (107)**

- (A) 81, 83 (B) 100, 121

(C) 144, 169 (D) 25, 36

Correct Option : A

Explanation :

Except (A), In others the two given numbers are squares of consecutive natural number.

---

**Question (108)**

(A) PSQ (B) MPN

(C) ILH (D) VYW

Correct Option : C

Explanation :

First letter moves 3 step forward and second letter moves 2 step backward.

---

**Question (109)**

If RED is coded as 6720, then how GREEN would be coded?

यदि RED का कूट 6720 है, तो GREEN का कूट क्या होगा

(A) 9207716 (B) 1677199

(C) 1677209 (D) 16717209

Correct Option : C

Explanation :

---

**Question (110)**

Sheena is taller than Meena. Reena is taller than Chitra, but shorter than Beena. Meena is shorter than Chitra. Chitra is taller than Sheena. Who is the shortest?

शीना, मीना से लंबी है | रीना चित्रा से लंबी है, किन्तु बीना से छोटी है | मीना चित्रा से छोटी है | चित्रा, शीना से लंबी है | सबसे छोटा कौन है ?

(A) Sheena/शीना (B) Meena/मीना

(C) Reena/रीना (D) Beena/बीना

Correct Option : B

---

### Question (111)

Arrange the words given below in a meaningful sequence.

निम्न शब्दों को एक सार्थक क्रम में व्यवस्थित करें।

1. Flesh/माँस 2. Hair/बाल

3. Skin/त्वचा 4. Marrow/अस्थि-मज्जा

5. Bone/हड्डी

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

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

Correct Option : D

---

### Question (112)

Radha travelled 17 km to the east. She turned left and went 15 km. She again turned left and went 17 km. How far is she from the starting point?

राधा पूर्व की ओर 17 किमी. की यात्रा करती है। वह बाएं मुड़ी तथा 15 किमी. गयी। दोबारा वह बाएं मुड़ी तथा 17 किमी. गयी। वह प्रारंभिक बिंदु से कितनी दूर है?

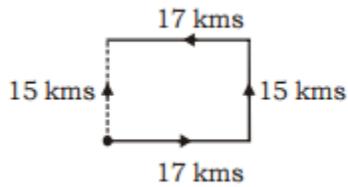
(A) 17 km/किमी. (B) 2 km/किमी.

(C) 15 km/किमी. (D) 32 km/किमी.

Correct Option : C

Explanation :

(C)



---

**Question (113)**

B is D's mother and C is D's brother. H is E's daughter whose wife is D. How are E and C related?

B, D का माता है तथा C, D का भाई है | H, E की बेटी है, जिसकी पत्नी D है | E तथा C किस प्रकार संबंधित है?

(A) Father-in-law/ससुर

(B) Brother-in-law/साला

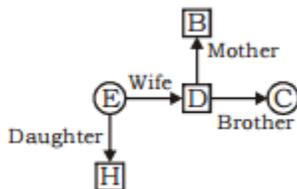
(C) Uncle/चाचा

(D) Brother/भाई

Correct Option : B

Explanation :

(B)



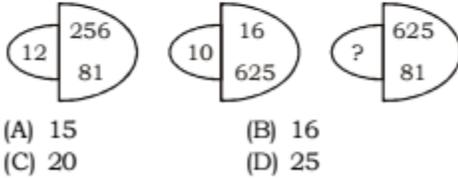
C is **brother-in-law** of E.

---

**Question (114)**

**Direction (14-15) :** In question no 14 to 15, select the missing number from the give responses.

निर्देश (14-15) : प्रश्न संख्या 14 से 15 में, दिए गए विकल्पों में से विलुप्त संख्या चुनिए।



Correct Option : A

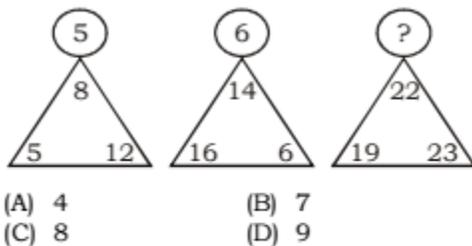
Explanation :

$$(A) \sqrt{\sqrt{256 \cdot 81}} = \sqrt{16 \cdot 9} = 12$$

$$\sqrt{\sqrt{16 \cdot 625}} = \sqrt{4 \cdot 25} = 10$$

$$\sqrt{\sqrt{625 \cdot 81}} = \sqrt{25 \cdot 9} = \mathbf{15}$$

**Question (115)**



Correct Option : C

Explanation :

$$(C) \sqrt{8+5+12} = \sqrt{25} = 5$$

$$\sqrt{14+16+6} = \sqrt{36} = 6$$

$$\sqrt{22+19+23} = \sqrt{64} = \mathbf{8}$$

---

**Question (116)**

Which one set of letters sequentially placed at the gaps in the given letters series shall completed?

अक्षरों का कौन सा समूह खली स्थानों पर क्रमवार रखने से दिए गए अक्षर श्रृंखला को पूरा करेगा?

a \_ n \_ b \_ \_ ncb \_ \_ ncb

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

Correct Option : A

Explanation :

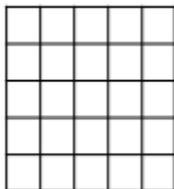
**a b/n c b/ a b/ n c b/ a b/ n c b**

---

**Question (117)**

Count the number of squares in the given figure.

दिए गए आकृति में वर्गों की संख्या ज्ञात करें।



- (A) 44                      (B) 52  
(C) 55                      (D) 48

Correct Option : C

Explanation :

Number of squares =  $1^2 + 2^2 + 3^2 + 4^2 + 5^2 = 55$

---

### Question (118)

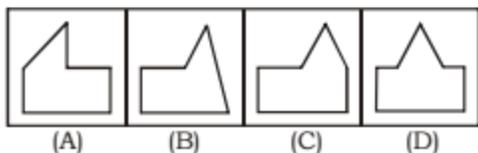
Find out which of the figures (A), (B), (C) and (D) can be formed from the pieces given in question figure.

आकृतियाँ (A), (B), (C) तथा (D) में से उसका चयन करें, जो प्रश्न आकृति में दिए गए टुकड़ों से बनाया जा सकता है।

**Question figures/प्रश्न आकृतियाँ :**



**Answer figures/उत्तर आकृतियाँ :**



Correct Option : B

### Question (119)

**Directions (19-21) :** 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(19-21): 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 करे।

13, 15, 18, 23, 30, 41, \_\_\_\_\_

(A) 54 (B) 56

(C) 58 (D) None/कोई नहीं

Correct Option : A

Explanation :

(A) 13 15 18 23 30 41 54  
+2 +3 +5 +7 +11 +13

---

**Question (120)**

13, 15, 33, \_\_\_\_\_, 1093

(A) 132 (B) 136

(C) 142 (D) 148

Correct Option : B

Explanation :

(B)  $13 \times 1 + 2 = 15$

$15 \times 2 + 3 = 33$

$33 \times 4 + 4 = 136$

**$136 \times 8 + 5 = 1093$**

---

**Question (121)**

225, 625, 1225, 2025, 3025, \_\_\_\_\_

(A) 3825 (B) 4325

(C) 4225 (D) 4825

Correct Option : C

Explanation :

(C)  $225 \quad 625 \quad 1225 \quad 2025 \quad 3025 \quad \mathbf{4225}$

$15^2 \quad 25^2 \quad 35^2 \quad 45^2 \quad 55^2 \quad 65^2$

$\underbrace{\hspace{1em}}_{+10} \quad \underbrace{\hspace{1em}}_{+10} \quad \underbrace{\hspace{1em}}_{+10} \quad \underbrace{\hspace{1em}}_{+10} \quad \underbrace{\hspace{1em}}_{+10}$

---

**Question (122)**

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।

M BK50RP62 N

- (A) BK20K693 (B) BK20K6e3  
(C) BK20K6e3 (D) BK50K6e3

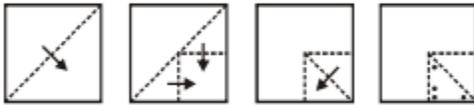
Correct Option : B

Question (123)

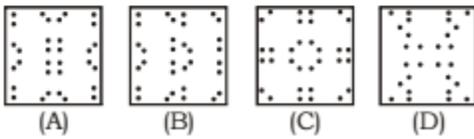
A square sheet of paper has been folded and punched as shown below. How will it appear when opened?

कागज के एक वर्गाकार शीट को नीचे दर्शाए अनुसार मोड़ा तथा पंच किया जाता है। खोलने पर यह कैसा दिखेगा?

Question figure/प्रश्न आकृति:

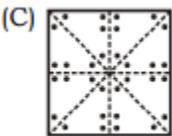


Answer figures/उत्तर आकृतियाँ:



Correct Option : C

Explanation :



Question (124)

If DHARAM VEER = 1636 OH MY GOD = 944 TUM BIN = 99 then ROCK ON = ?

यदि DHARAM VEER = 1636 OH MY GOD = 944 TUM BIN = 99 तो ROCK ON = ?

(A) 1382 (B) 416

(C) 818 (D) 924

Correct Option : B

Explanation :

$$\begin{array}{cc} \text{(B) } \underline{\text{DHARAM}} & \underline{\text{VEER}} \\ 6 & 4 \\ \downarrow 6^2 & \downarrow 4^2 \\ 36 & 16 = 3616 \xrightarrow{\text{reverse}} 1636 \end{array}$$

$$\begin{array}{ccc} \underline{\text{OH}} & \underline{\text{MY}} & \underline{\text{GOD}} \\ 2 & 2 & 3 \\ \downarrow 2^2 & \downarrow 2^2 & \downarrow 3^2 \\ 4 & 4 & 9 = 449 \xrightarrow{\text{reverse}} 944 \end{array}$$

$$\begin{array}{cc} \underline{\text{TUM}} & \underline{\text{BIN}} \\ 3 & 3 \\ \downarrow 3^2 & \downarrow 3^2 \\ 9 & 9 = 99 \xrightarrow{\text{reverse}} 99 \end{array}$$

$$\begin{array}{cc} \underline{\text{ROCK}} & \underline{\text{ON}} \\ 4 & 2 \\ \downarrow 4^2 & \downarrow 2^2 \\ 16 & 4 = 164 \xrightarrow{\text{reverse}} 416 \end{array}$$

---

Question (125)

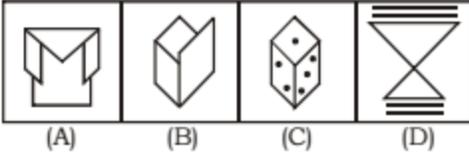
From the given answer figures, select the one in which the question figure is embedded.

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

**Question figures/प्रश्न आकृतियाँ :**

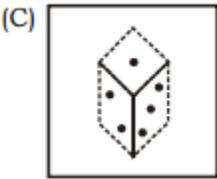


**Answer figures/उत्तर आकृतियाँ :**



Correct Option : C

Explanation :



### Question (126)

Which of the following has been named as the world's fastest supercomputer, as per recently released Top 500 list of supercomputers?

निम्नलिखित में से हाल ही में जारी की गई कंप्यूटर की सूची के अनुसार 'शीर्ष 500' में से किसे दुनिया का सबसे तेज सुपर कंप्यूटर नामांकित किया गया है ?

- (A) Tianhe-2/टियान-2
- (B) Sunway Taihulight/सनवे टिहूलाइट
- (C) IBM Sequoia/आईबीएम सिकोइया
- (D) Cori/कोरी

Correct Option : B

Explanation :

Sunway Taihulight has been named as the world's fastest supercomputer title, as per recently

released semiannual Top 500 list of supercomputers. It is developed by the China's National Research Centre of Parallel Computer Engineering and Technology (NRCPC). Taihulight can perform 93 quadrillions calculations per second (petaflop/s). It is intended for use in research and engineering including climate, weather, life sciences, advanced manufacturing and data analytics. The TOP 500 list is considered as one of the most authoritative rankings of the world's supercomputers. It is compiled on the basis of the machines' performance on the Linpack benchmark by experts from U.S. and Germany.

---

### Question (127)

The Consultative Committee of Members of Parliament for Railway Zones is constituted by the:

रेलवे क्षेत्रों के लिए संसद के सदस्यों की सलाहकार समिति किसके द्वारा गठित की जाती है ?

- (A) President of India/भारत के राष्ट्रपति
- (B) Ministry of Railways/रेल मंत्रालय
- (C) Ministry of Parliamentary Affairs/संसदीय मामलों का मंत्रालय
- (D) Ministry of Transport/परिवहन मंत्रालय

Correct Option : C

Explanation :

Main purpose of these Committees is to provide a forum for informal discussions between the Government and Members of Parliament on policies and programmes of the Government and the manner of their implementation.

---

### Question (128)

The technique used to transmit audio signals in television broadcasts is:

टेलीविजन प्रसारण में ऑडियो संकेतों के संचारण के लिए किस तकनीक का इस्तेमाल किया जाता है ?

- (A) Amplitude Modulation/आयाम मांड्युलेशन
- (B) Frequency Modulation/आवृत्ति मांड्युलेशन
- (C) Pulse Code Modulation/पल्स कोड मांड्युलेशन

(D) Electromagnetic/विद्युत चुम्बकीय

Correct Option : B

Explanation :

Frequency Modulation: It is a process in which the frequency of the carrier is varied in accordance with the instantaneous value of modulating voltage. In telecommunications and signal processing, frequency modulation (FM) conveys information over a carrier wave by varying its instantaneous frequency. FM is most commonly used for radio and television broadcasting.

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### Question (129)

The 2016 Great Indian Film and Literature Festival (GIFLIF) will be held in which state?

ग्रेट इंडियन फिल्म और साहित्य महोत्सव (GIFLIF) 2016, किस राज्य में आयोजित किया जाएगा?

(A) Uttar Pradesh/उत्तर प्रदेश

(B) Maharashtra/महाराष्ट्र

(C) Assam/असम

(D) Haryana/हरियाणा

Correct Option : D

Explanation :

The 2016 Great Indian Film and Literature Festival (GIFLIF) will be held at DLF Cyber Hub in Gurugram, Haryana from December 2 to showcase the vernacular spirit of Indian film and literature. The three day festival will include panel discussions on an array of themes ranging from filmmaking, digital media, advertising, publishing, literature, script writing and film screenings, besides a play and a music concert.

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### Question (130)

With reference to the United Nations Convention on the Rights of the Child, consider the following:

बच्चों के अधिकारों पर संयुक्त राष्ट्र संधि सम्मेलन के संदर्भ में, निम्नलिखित पर विचार करें

1. The Rights of Development/ विकास का अधिकार

2. The Right to Expression/ अभिव्यक्ति के लिए अधिकार

3. The Right to Recreation/ मनोरंजन के लिए अधिकार

Which of the above is/are the Rights of the child?

उपरोक्त में से कौन-सा/से बच्चों के अधिकार है ?

(A) 1 only/केवल 1

(B) 1 and 3/1 और 3

(C) 2 and 3/2 और 3

(D) 1, 2 and 3/1, 2 और 3

Correct Option : D

Explanation :

The Convention on the Rights of the Child (adopted on Nov. 20, 1989) is the first legally binding international instrument to incorporate the full range of human rights i.e. civil, cultural, economic, political and social rights.

---

### Question (131)

Which Amendment Act is referred as mini constitution ?

कौन-सा संशोधन अधिनियम लघु संविधान के रूप में जाना जाता है ?

(A) 7th Constitutional Amendment Act, 1956/7वां संविधान संशोधन अधिनियम, 1956

(B) 24th Constitutional Amendment Act, 1971/24वां संविधान संशोधन अधिनियम, 1971

(C) 42nd Constitutional Amendment Act, 1976/42वां संविधान संशोधन अधिनियम, 1976

(D) 44th Constitutional Amendment Act, 1978/44वां संविधान संशोधन अधिनियम, 1978

Correct Option : C

---

### Question (132)

The book "A Season of Ghosts" has been authored by whom?

पुस्तक " ए सीजन ऑफ़ घोस्ट्स" किसके द्वारा लिखा गया है ?

- (A) Amrishi Tripathi/अमरीश त्रिपाठी
- (B) Chetan Anand/चेतन आनंद
- (C) Ruskin Bond/रुस्किन बाण्ड
- (D) Milan Ganguly/मिलन गांगुली

Correct Option : C

Explanation :

The book "A Season of Ghosts" has been authored by Ruskin Bond. It is an entertaining book, which includes interesting short stories about the mists and mellow magic of Bond's beloved mountains.

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### Question (133)

Dharambir Singh is associated with which sports?

धर्मबीर सिंह किस खेल के साथ जुड़े हुए है?

- (A) Sprint/स्प्रिंट
- (B) Football/फुटबॉल
- (C) Cricket/क्रिकेट
- (D) Boxing/मुक्केबाजी

Correct Option : A

Explanation :

Haryana sprinter Dharambir Singh is in news because he has been slapped an eight year ban by the National Anti-Doping Agency (NADA) because of his second dope-related offence. Earlier, he was barred from representing India in the 2016 Rio Olympics at the last minute for failing a dope test.

---

### Question (134)

Which among the following National Highway routes is the longest?

निम्नलिखित मांगों में से कौन-सा सबसे लंबा राष्ट्रीय राजमार्ग है?

- (A) From Hazira to Kolkata/ हजीरा से कोलकता तक
- (B) From Cuttack to Chennai/ कटक से चेन्नई
- (C) From Pathankot to Samakhiali/ पठानकोट से समख्याली
- (D) From Delhi to Dankuni/ दिल्ली से दनकुनी

Correct Option : A

Explanation :

The second national highway of Indian NH-6 is the major project of National Highway network of India. NH-6 run through the west to east corner of India via 6 states as well as many cities and towns. Length of KolkataHajira NH - 1949 km.

---

### Question (135)

The religion of early Vedic Aryans was primarily of:

प्रारंभिक (प्राचीनकाल) में वैदिक आर्यों के धर्म में मुख्य रूप से किया जाता है?

- (A) Bhakti/भक्ति
- (B) Image worship and Yajnas/ मूर्ति पूजा और यज्ञ
- (C) Worship of nature and Yajnas/ प्रकृति की पूजा और यज्ञ
- (D) Worship of nature and Bhakti/ प्रकृति की पूजा और भक्ति

Correct Option : C

---

### Question (136)

Which one among the following covers the highest percentage of forest area in the world?

निम्न में से कौन-सा क्षेत्र दुनिया के सर्वाधिक फीसदी (प्रतिशतता) हिस्से में फैले हुए है?

- (A) Temperate coniferous forests/ समशीतोष्ण शंकुधारी वन
- (B) Temperate deciduous forests/ समशीतोष्ण पतझड़ी वन
- (C) Temperate monsoon forests/ समशीतोष्ण मानसून वन

(D) Tropical rain forests/ उष्णकटिबंधीय वर्षा वन

Correct Option : A

Explanation :

Temperature coniferous forests covers the highest percentage of forest area in the world

---

### Question (137)

Where is the headquarters of the Central Drugs Standard Control Organization (CDSCO)?

केन्द्रीय औषध मानक नियंत्रण संगठन (CDSCO)का मुख्यालय कहाँ है?

A) Bangaluru/बेंगलुरु

(B) Chennai/चेन्नई

(C) New Delhi/नई दिल्ली

(D) Pune/पुणे

Correct Option : C

Explanation :

Recently, the Ministry of AYUSH has decided to set up a central regulatory structure for AYUSH drugs as a part of Central Drugs Standard Control Organization (CDSCO) to enforce the provisions for Ayurvedic, Siddha, Unani and Homoeopathic drugs in coordination with the State regulatory authorities. The CDSCO is the national regulatory body for Indian pharmaceuticals and medical devices and its headquarters is located at New Delhi.

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### Question (138)

The 2016 World Travel Market (WTM) has started in which city?

वर्ल्ड ट्रेवल मार्केट (WTM) किस शहर में शुरू किया जा रहा है ?

(A) London/लंदन

(B) New Delhi/नई दिल्ली

(C) Geneva/जिनेवा

(D) Berlin/बर्लिन

Correct Option : A

Explanation :

The 2016 World Travel Market (WTM), the leading global event for the travel industry, has started in London, United Kingdom (UK). The 3-day business-to-business exhibition for the worldwide travel and tourism industry will be attended by almost 50,000 senior travel industry professionals, government ministers and international press. Ministry of Tourism, Government of India (GoI) has participated as Official Premier Partner at WTM London 2016.

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### Question (139)

Optical fiber works on the principle of:

ऑप्टिकल फाइबर किस सिद्धांत पर काम करता है ---

(A) Total internal reflection/पूर्ण आंतरिक परावर्तन

(B) Refraction/अपवर्तन

(C) Scattering/फैलना

(D) None of these/इनमें से कोई नहीं

Correct Option : A

Explanation :

An optical fiber is a thin, flexible, transparent fiber that acts as a wave guide or "light pipe" to transmit light between the two ends of the fiber. An optical fiber transmits light along its axis, by the process of total internal reflection. When light traveling in a dense medium hits a boundary at an angle larger than the "critical angle" for the boundary, the light will be completely reflected. This effect is used in optical fibers to confine light in the core.

---

### Question (140)

The resolution for removing the VicePresident of India can be moved in the:

भारत में अपराष्ट्रपति को हटाने के लिए प्रस्ताव प्रस्तुत किया जाता है ?

(A) Lok Sabha alone/अकेले लोकसभा में

(B) Either House of Parliament/संसद के किसी भी सदन में

(C) Joint Sitting of Parliament/संसद के संयुक्त सत्र में

(D) Rajya Sabha alone/ अकेले राज्यसभा में

Correct Option : D

Explanation :

Article 67(b) in the Constitution of India states that a Vice President may be removed from his office by a resolution of the council of States passed by a majority of all the members of the council and the House of the People, but no resolution for the purpose of this clause shall be moved unless atleast fourteen days notice has been given of the intention to move the resolution.

---

### Question (141)

Which of the following organisms can serve as a bio fertilizer for rice crop?

निम्नलिखित में से कौन से जीव चावल की फसल में जैव उर्वरक के रूप में मदद करता है ?

- (A) Blue-green algae/नीली हरी शैवल
- (B) Rhizobium species/राइजोबियम प्रजाति
- (C) Mycorrhizal fungi/सहजीवी संबंध फफूंद
- (D) Azotobacter species/एजोटोबैक्टर प्रजाति

Correct Option : A

Explanation :

Blue green algae is used as a biofertilizer in rice crop. Blue green algae has the nitrogen fixing ability which enhances the production of rice.

---

### Question (142)

Haemophilia is a genetic disorder which leads to:

तिमोफिलिया एक आनुवांशिक बीमारी है। यह होता है----

- (A) Decrease in haemoglobin level/हिमोग्लोबिन के स्तर में कमी के कारण
- (B) Rheumatic heart disease/गठिया रोग संबंधित हृदय रोग के कारण
- (C) Decrease in WBC/ सफ़ेद रक्त कोशिका में कमी के कारण

(D) non-clotting of blood/रक्त थक्का का नहीं बनना

Correct Option : D

Explanation :

Haemophilia is a sex-linked recessive disorder. Clotting of blood is abnormally delayed in such a way that even a simple or small cut will result non stop bleeding in affected individual.

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### Question (143)

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 मौजूदा कूटों का उपयोग करके सही उत्तर का चयन करें।

<b>List-I/सूची-I</b>	<b>List-II/सूची-II</b>
a. 1556	1. Battle of Haldi Ghati/ हल्दी घाटी की लड़ाई
b. 1600	2. Nadir Shah's capture of Delhi/दिल्ली पर नादिरशाह का कब्जा
c. 1686	3. Death of Shivaji/शिवाजी की मृत्यु
d. 1739	4. Grant of Charter to East India Company/ईस्ट इंडिया कंपनी को चार्टर की अनुमति
	5. Accession of Akbar/ अकबर का राज्याभिषेक

**Codes/कूट:**

	<b>a</b>	<b>b</b>	<b>c</b>	<b>d</b>
(A)	3	4	2	1
(B)	5	4	3	2
(C)	5	2	1	4
(D)	1	5	3	2

Correct Option : B

Explanation :

The Battle of Haldighati was fought between the Mughal Empire and the forces of Mewar on June 21, 1576 at Haldighati in Rajasthan, India. It was a decisive victory for the Mughal Emperor Jalal ud-Din Muhammad Akbar's general Raja Man Singh against the Maharana Pratap Singh of Mewar. Akbar was 14 years old when he was crowned at Kalanaur in 1556.

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### Question (144)

In 1930, Mahatma Gandhi started Civil Disobedience Movement from:

महात्मा गाँधी ने सविनय अवज्ञा आंदोलन 1930 में शुरू किया था-

- (A) Sevagram/सेवाग्राम
- (B) Dandi/दांडी से
- (C) Sabarmati/साबरमती में
- (D) Wardha/वर्धा से

Correct Option : C

Explanation :

On 12 March, 1930, Gandhi started his civil disobedience movement by starting Dandi March from Sabarmati Ashram in Gujarat and reached Dandi on 6 April 1930 and broke the salt law.

---

#### Question (145)

Value of a commodity expressed in terms of money is called

मुद्रा के रूप में व्यक्त वस्तु के मूल्य को क्या कहते हैं ?

- (A) Price/मूल्य
- (B) Demand/मांग
- (C) Utility/उपयोगिता
- (D) Money value/मुद्रा मूल्य

Correct Option : A

---

#### Question (146)

Which of the following elements provide colours to fireworks?

निम्नलिखित में से कौन-सा तत्व आतिशबाजी करने के लिए रंग प्रदान करता है ?

- A) Zinc and sulphur/जिंक और सल्फर
- (B) Potassium and mercury/पोटैशियम और पारा

(C) Strontium and barium/स्ट्रॉन्टियम और बेरियम

(D) Chromium and nickel/क्रोमियम और निकिल

Correct Option : C

Explanation :

Creating firework colours is a complex endeavour, requiring considerable art and application of physical science. Strontium and barium both are alkaline earth metal and are extremely reactive. They both impart characteristic colour to flame. Strontium salts impart a red color to fireworks. Strontium compounds are also important for stabilizing fireworks mixtures. Barium is used to create green colors in fireworks, and it can also help stabilize other volatile elements.

---

### Question (147)

How much Minimum Support Price (MSP) has been hiked in wheat by the Union Government for 2016-17?

केंद्र सरकार द्वारा 2016-17 में गेहूँ के लिए कितनी "न्यूनतम समर्थन मूल्य (MSP)", में बढ़ोतरी की गई है?

(A) Rs. 60 per quintal/60 रु प्रति क्विंटल

(B) Rs. 100 per quintal/100 रु प्रति क्विंटल

(C) Rs. 200 per quintal/200 रु प्रति क्विंटल

(D) Rs. 150 per quintal/150 रु प्रति क्विंटल

Correct Option : B

Explanation :

The Union Government has hiked Rs. 100 per quintal in wheat Minimum Support Price (MSP) to Rs. 1,625 per quintal for the 2016-17 and pulses by up to Rs. 550 per quintal to boost the output of these rabi (winter- sown) crops and check prices. Apart from this, MSP on Gram has been hiked to Rs. 4,000 per quintal including bonus, from 3,500 rupees per quintal, while MSP of Masur has been raised to Rs. 3,950 per quintal from Rs. 3,400. The support price on Mustard and safflower has been hiked to Rs. 3,700 per quintal each. On Barley the support price has been increased to Rs. 1,325 from Rs. 1,225 per quintal. To incentivize cultivation of pulses and oilseeds, CCEA also announced a bonus on these crops over and above MSP. The MSP is the rate at which government buys the grain from farmers.

---

**Question (148)**

Which one of the following is another name of RDX?

निम्नलिखित में से आरडीएक्स का दूसरा नाम क्या है-

- (A) Dextran/डेक्सट्रेन
- (B) Cyclohexane/साइक्लोहेक्सेन
- (C) Cyclonite/साइक्लोनाइट
- (D) Cyanohydrin/साइनोहाइड्रिन

Correct Option : D

Explanation :

RDX, initialism for Research Department Explosive, is an explosive nitroamine widely used in military and industrial applications. It is also known less commonly as cyclonite. Its chemical name is cyclotrimethylene trinitramine.

---

**Question (149)**

Oil rises up the wick in a lamp because

दीपक में तेल बाती से ऊपर बढ़ता है क्योंकि

- (A) Oil is very light/तेल हल्का होता है
- (B) Of the diffusion of oil through the wick/ बाती के माध्यम से तेल प्रसारित होती है
- (C) Of the surface tension phenomenon/ पृष्ठ तनाव के कारण
- (D) Of the capillary action phenomenon/ केशिका प्रक्रिया के कारण

Correct Option : D

---

**Question (150)**

Selling cost is an element of which competition ?

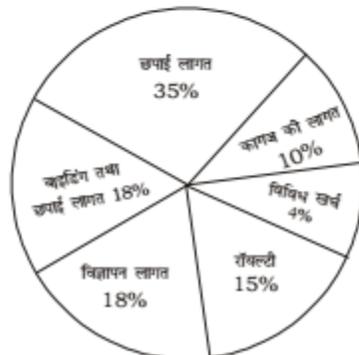
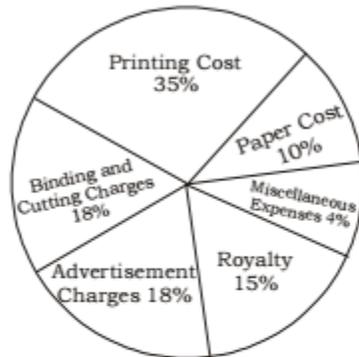
बिक्री मूल्य किस स्पर्धा का तत्व है ?

- (A) Monopolistic Competition/एकाधिकार प्रतिस्पर्धा
- (B) Perfect Competition/उत्तम प्रतिस्पर्धा
- (C) Pure Competition/शुद्ध प्रतिस्पर्धा
- (D) Monopoly/ एकाधिकार

Correct Option : A

Question (151)

**Directions (51-52): The following questions are based on the pie-chart given below. Study the pie-chart and answer the following questions.**  
निर्देश (51-52): निम्न प्रश्न नीचे दिये गए पाई चार्ट के आधार पर हैं। पाई चार्ट का अध्ययन करें तथा निम्न प्रश्नों का उत्तर दें।



What is the value of central angle for the sector of "Advertisement Charges" ?

“विज्ञापन लागत” के लिए केन्द्रीय कोण का मान क्या है ?

(A)  $22\frac{1}{2}^\circ$

(B)  $26^\circ$

(C)  $64.8^\circ$

(D)  $37.5^\circ$

Correct Option : C

Explanation :

(C)  $100\% = 360^\circ$

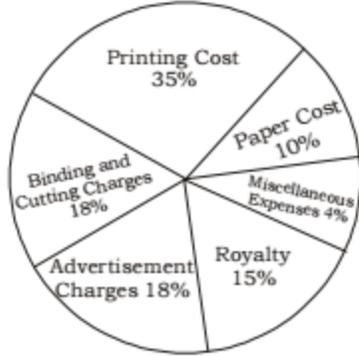
$$\therefore 1\% = \frac{360^\circ}{100}$$

$$\therefore 18\% = \frac{360^\circ \times 18}{100} = 64.8^\circ$$

---

Question (152)

**Directions (51-52):** The following questions are based on the pie-chart given below. Study the pie-chart and answer the following questions.  
निर्देश (51-52): निम्न प्रश्न नीचे दिये गए पाई चार्ट के आधार पर हैं। पाई चार्ट का अध्ययन करें तथा निम्न प्रश्नों का उत्तर दें।



If the "miscellaneous expenses" are Rs. 2360, then how much more are "binding and cutting charges" than "Royalty"?

यदि विविध खर्च रु2360 है, तो " रॉयल्टी" से बाइंडिंग तथा कटिंग लागत" कितना अधिक है ?

- (A) Rs.1680    (B) Rs. 1770  
(C) Rs. 1960    (D) Rs. 2140

Correct Option : B

Explanation :

(B) Difference in percent cost of 'binding and cutting charges' and 'royalty'

$$= (18 - 15)\% = 3\%$$

Now,  $\therefore$  4% of total cost = ₹ 2360

$$\therefore 3\% \text{ of total cost} = ₹ \frac{2360 \times 3}{4} = ₹ 1770$$

---

**Question (153)**

C is 20% less than B. D is 40% more than C. A is 40% less than C. D is \_\_\_\_ % more than A.

C, B से 20% कम है। D, C से 40% अधिक है। A, C से 40% कम है। D, A से \_\_\_\_ % अधिक है।

- (A)  $133\frac{1}{3}$                       (B)  $66\frac{2}{3}$   
(C)  $33\frac{1}{2}$                         (D) None/कोई नहीं

Correct Option : A

Explanation :

(A) A	B	C	D
48	100	80	112

$$\begin{aligned}\square \text{ Required percentage} &= \frac{(112 - 48) \cdot 100}{48} \\ &= \frac{64 \cdot 100}{48} = \frac{400}{3} = 133\frac{1}{3}\%\end{aligned}$$

---

**Question (154)**

A person deposited Rs. 400 for 2 years, Rs. 550 for 4 years and Rs. 1200 for 6 years. He received the total simple interest of Rs. 255. The rate of interest per annum is

एक व्यक्ति ने रु 400, 2 वर्ष के लिए, रु.550, 4 वर्ष के लिए तथा रु 1200, 6 वर्ष के लिए जमा किया | उसे कुल साधारण ब्याज रु.255 प्राप्त हुआ | वार्षिक ब्याज की दर क्या है ?

- (A) 4.5%    (B) 5%  
(C) 2.5%    (D) 2%

Correct Option : C

Explanation :

(C) Let the annual rate = R%

ATQ,

$$\frac{400 \times 2 \times R}{100} + \frac{550 \times 4 \times R}{100} + \frac{1200 \times 6 \times R}{100}$$

$$= ₹ 255$$

$$\Rightarrow 8R + 22R + 72R = ₹ 255$$

$$\Rightarrow 102R = 255 \Rightarrow R = \frac{255}{102} = 2.5\%$$

### Question (155)

A man buys pencils at the rate of 3 for Rs. 5 and sells them at 5 for Rs. 3. His profit or loss percent is:

एक व्यक्ति रु5 में 3 के भाव से पेंसिल खरीदता है तथा रु3 में 5 के भाव से बेचता है | उसका लाभ या हानी प्रतिशत क्या है ?

(A) 45%      (B) 64%

(C) 50%      (D) 54%

Correct Option : B

Explanation :

(B) Let the no. of pencils bought by person = 15

(as L.C.M. of 3 & 5 is 15)

C.P. of 3 pencils = ₹ 5

$$\text{C.P. of 15 pencils} = \frac{5}{3} \times 15 = ₹ 25$$

S.P. of 5 pencils = ₹ 3

$$\text{S.P. of 15 pencils} = \frac{3}{5} \times 15 = ₹ 9$$

$$\therefore \text{Loss} = ₹ (25 - 9) = ₹ 16$$

$$\text{Loss percent} = \frac{16}{25} \times 100 = 64\%$$

### Question (156)

If  $3 \sec A - 2 \cos B = \sqrt{3}$  and  $\angle B = 30^\circ$ , then the value of  $\cos(A - B) \sin(A + B)$  is  
 यदि  $3 \sec A - 2 \cos B = \sqrt{3}$  तथा  $\angle B = 30^\circ$  है, तो  $\cos(A - B) \sin(A + B)$  का मान क्या है?

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

Correct Option : B

Explanation :

$$\begin{aligned} \text{(B) } 3 \sec A - 2 \cos B &= \sqrt{3} \\ \Rightarrow 3 \sec A - 2 \cos 30^\circ &= \sqrt{3} \\ \Rightarrow 3 \sec A - 2 \cdot \frac{\sqrt{3}}{2} &= \sqrt{3} \\ \Rightarrow 3 \sec A &= 2\sqrt{3} \\ \Rightarrow \sec A &= \frac{2}{\sqrt{3}} = \sec 30^\circ \\ \Rightarrow A &= 30^\circ \\ \therefore \cos(A - B) \sin(A + B) &= \cos(30^\circ - 30^\circ) \sin(30^\circ + 30^\circ) = \cos 0^\circ \times \sin 60^\circ \\ &= 1 \times \frac{\sqrt{3}}{2} = \frac{\sqrt{3}}{2} \end{aligned}$$

### Question (157)

If a man were to sell his chair for Rs. 3600, then he would lose 25%. To gain 20% he should sell his chair for-

यदि एक व्यक्ति रु 3600 में अपनी कुर्सी बेचता है, तो उसे 25% का नुकसान होता है | 20% का लाभ कमाने के लिए उसे अपनी कुर्सी को कितने पर बेचना होगा?

- A)Rs. 5760            (B) Rs. 5350  
 (C)Rs. 5680            (D) Rs.5920

Correct Option : A

Explanation :

(A) CP of chair =  $\frac{100}{75} \times 3600 = ₹ 4800$

To gain 20%, Req. SP =  $\frac{120}{100} \times 4800 = ₹ 5760$

---

**Question (158)**

$1 + \sin^2 1^\circ + \sin^2 3^\circ + \sin^2 5^\circ \dots \dots \sin^2 85^\circ + \sin^2 87^\circ + \sin^2 89^\circ$  is equal to  
 $1 + \sin^2 1^\circ + \sin^2 3^\circ + \sin^2 5^\circ \dots \dots \sin^2 85^\circ + \sin^2 87^\circ + \sin^2 89^\circ$  बराबर है-

(A)  $21\frac{1}{2}$                       (B) 22

(C)  $22\frac{1}{2}$                       (D)  $23\frac{1}{2}$

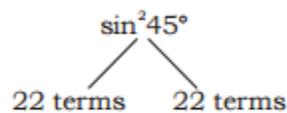
Correct Option : D

Explanation :

(D)  $\sin^2 1^\circ + \sin^2 3^\circ \dots \dots \sin^2 85^\circ + \dots + \sin^2 89^\circ$   
 $= \sin^2 1^\circ + \dots + \cos^2 1^\circ$  ( $\sin^2 89^\circ = \cos^2 1^\circ$ )  
 [ $\therefore \sin(90^\circ - \theta) = \cos\theta^\circ$ ]

It is a series of AP

$89 = 1 + (n - 1) \times 2 \therefore n = 45$



$= 22 + \sin^2 45^\circ = 22\frac{1}{2}$

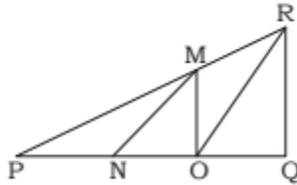
$\square 1 + \sin^2 1^\circ + \sin^2 3^\circ + \sin^2 5^\circ \dots \dots \sin^2 85^\circ$

$+ \sin^2 87^\circ + \sin^2 89^\circ = 1 + 22\frac{1}{2} = 23\frac{1}{2}$

---

**Question (159)**

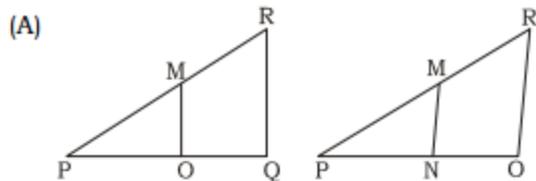
In the given figure,  $MO \parallel QR$  and  $OR \parallel NM$  and  $PO : OQ = 4 : 5$ , then  $ON : OQ$  is  
 दिये गये चित्र में  $MO \parallel QR$  तथा  $OR \parallel NM$  तथा  $PO : OQ = 4 : 5$  हो, तो  $ON : OQ$  है-



- (A) 4 : 9                      (B) 9 : 4  
 (C) 9 : 5                      (D) 5 : 9

Correct Option : A

Explanation :



In  $\Delta PQR$ ,

$\therefore MO \parallel QR$

$$\therefore \frac{PM}{MR} = \frac{PO}{OQ} = \frac{4}{5} = 4 : 5 \quad \dots(i)$$

In  $\Delta POR$

$OR \parallel NM$

$$\therefore \frac{PN}{NO} = \frac{PM}{MR} = \frac{4}{5} = 4 : 5 \quad \dots(ii)$$

Let  $PO = 40$

$\therefore OQ = 50$  and

$$\therefore ON = 40 \times \frac{5}{9} = \frac{200}{9}$$

$$ON : OQ = \frac{200}{9} : 50 = 4 : 9$$

Question (160)

A, B and C can complete a work in 10, 12 and 15 days respectively. They started the work together, but A left the work before 5 days of its completion. B also left the work 2 days after A left. In how many days was the work completed?

A, B तथा C किसी कार्य को क्रमशः 10, 12 तथा 15 दिनों में कर सकते हैं। वे एक साथ कार्य करना शुरू करते हैं, लेकिन कार्य समाप्त होने से 5 दिन पहले A कार्य छोड़ देता है। A के छोड़ने के 2 दिन बाद B भी कार्य छोड़ देता है। कार्य कितने दिनों में समाप्त हुआ था?

(A) 8 days/दिन

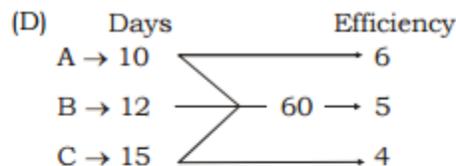
(B)  $11\frac{3}{8}$  days/दिन

(C)  $15\frac{1}{6}$  days/दिन

(D) 7 days/दिन

Correct Option : D

Explanation :



Total work = 60

A left the work before 5 days of completion

i.e. work left by A is  $6 \times 5 = 30$

B left the work before 3 days of completion i.e.

work left of B is

$5 \times 3 = 15$

Now total work =  $60 + 30 + 15 = 105$

work done =  $\frac{105}{6+5+4} = \frac{105}{15} = 7$  days

### Question (161)

2 men or 3 women or 4 boys can do a piece of work in 39 days. In how many days will 1 man, 1 woman and 1 boy do the same work?

2 आदमी या 3 औरतें या 4 बच्चे किसी कार्य को 39 दिनों में कर सकते हैं | 1 आदमी 1 औरतें और 1 बच्चा एक साथ मिलकर, उस कार्य को कितने दिनों में समाप्त करेंगे ?

(A) 42 days/दिन

(B) 36 days/दिन

(C) 40 days/दिन

(D) 45 days/दिन

Correct Option : B

Explanation :

$$\begin{aligned} \text{(B) Required no. of days} &= \frac{39}{\frac{1}{2} + \frac{1}{3} + \frac{1}{4}} \\ &= \frac{39}{\frac{6+4+3}{12}} = \frac{39 \times 12}{13} = 36 \text{ days} \end{aligned}$$

Question (162)

If  $\cos 43^\circ = \frac{x}{\sqrt{x^2 + y^2}}$ , then the value of  $\sin 43^\circ$  is-

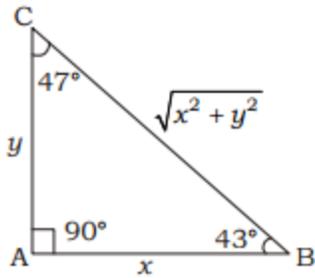
यदि  $\cos 43^\circ = \frac{x}{\sqrt{x^2 + y^2}}$  हो, तो  $\sin 43^\circ$  का मान क्या है?

- (A)  $\frac{\sqrt{x^2 + y^2}}{y}$       (B)  $\frac{\sqrt{x^2 - y^2}}{y}$
- (C)  $\frac{y}{\sqrt{x^2 + y^2}}$       (D) None/कोई नहीं

Correct Option : C

Explanation :

$$(C) \cos 43^\circ = \frac{x}{\sqrt{x^2 + y^2}}$$



$$\square \sin 43^\circ = \frac{y}{\sqrt{x^2 + y^2}}$$

---

### Question (163)

If  $x + y = 2z$ , then the value of  $\frac{x}{x-z} + \frac{z}{y-z} + 2$  is

यदि  $x + y = 2z$  हो, तो  $\frac{x}{x-z} + \frac{z}{y-z} + 2$  का मान

होगा-

(A) 4                      (B) 3

(C)  $\frac{7}{2}$                       (D) 5

Correct Option : B

Explanation :

$$(B) x + y = 2z$$

$$\Rightarrow x = 2z - y$$

$$\Rightarrow x - z = 2z - y - z = z - y$$

$$\therefore \frac{x}{x-z} + \frac{z}{y-z} + 2 = \frac{x}{x-z} - \frac{z}{z-y} + 2$$

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

---

### Question (164)

The average of 40 numbers is 25. The average of the first 18 numbers is 21 and that of the next 21 numbers is 28. The last number is:

40 संख्याओं का औसत 25 है | प्रथम 18 संख्या का औसत 21 है तथा अगले 21 संख्याओं का औसत 28 है | आखिरी संख्या है-----

- (A) 36 (B) 32  
(C) 34 (D) 38

Correct Option : C

Explanation :

(C) Let the last number be  $x$ .

According to the question,

$$18 \times 21 + 21 \times 28 + x = 40 \times 25$$

$$\Rightarrow 378 + 588 + x = 1000$$

$$\Rightarrow 966 + x = 1000$$

$$\Rightarrow x = 1000 - 966 = 34$$

$$\therefore \text{Required Number} = 34$$

### Question (165)

A play ground is in the form of an isosceles triangle. The base of the ground is 24 m long and the cost of planting grass in it at the rate of 50 paise per  $m^2$  is Rs. 30. Find the length of each side of equal length?

एक खेल का मैदान एक समद्विबाहू त्रिभुज के आकार का है | मैदान का आधार 24 मी. लम्बा है तथा उसमें 50 पैसे/वर्ग मीटर की दर से घास रोपने की लागत रु 30 है | बराबर लम्बाई वाली भुजाओं में से प्रत्येक की लम्बाई ज्ञात करें |

- (A) 14 m/मी. (B) 16 m/मी.  
(C) 18 m/मी. (D) 13 m/मी.

Correct Option : D

Explanation :

(D) Let the length of each of the equal side of the ground be  $x$  metre

Base of the playground = 24 m

$$\therefore \text{Area of ground} = \frac{30}{50} \times 100 = 60 \text{ m}^2$$

But, the ground is in isosceles shape

$$\therefore \text{Area of ground} = \frac{a}{4} \sqrt{4x^2 - a^2}$$

[where  $a$  = base,  $x$  = each of the equal sides]

$$\therefore \frac{24}{4} \sqrt{4x^2 - (24)^2} = 60$$

$$\Rightarrow 4x - (24)^2 = (10)^2$$

$$\Rightarrow 4x^2 - 576 = 100$$

$$\Rightarrow 4x^2 - 676$$

$$\Rightarrow x^2 = \frac{676}{4} = 169$$

$$\Rightarrow x = 13$$

$\therefore$  Length of each of the equal side = 13 m

---

### Question (166)

The difference between the interior and exterior angles of a regular polygon is  $90^\circ$ . The number of sides in the polygon is

समबहुभुज के अन्तः तथा बाह्य कोण का अंतर  $90^\circ$  है। बहुभुज के भुजाओं की संख्या क्या है ?

(A) 4

(B) 8

(C) 6

(D) can't be determined/जात नहीं किया जा सकता

Correct Option : B

Explanation :

(B) Here interior angle – exterior angle =  $90^\circ$

$$\frac{(n-2) \times 180}{n} - \frac{360}{n} = 90$$

$$\square \frac{1}{n} [(n-2) \times 180 - 360] = 90$$

$$\square \frac{1}{n} [180n - 360 - 360] = 90$$

$$\square \frac{1}{n} [180n - 720] = 90$$

$$\square 180n - 720 = 90n$$

$$\square 90n = 720$$

$$\square n = \frac{720}{90} = 8$$

$$\square \text{Required no. of sides} = 8$$

---

#### Question (167)

If  $2.5 \tan \theta = 2$ , then the value of

$1 + \left( \frac{5 \sin \theta - 3 \cos \theta}{5 \sin \theta + 3 \cos \theta} \right)$  is:

यदि  $2.5 \tan \theta = 2$  है, तो  $1 + \left( \frac{5 \sin \theta - 3 \cos \theta}{5 \sin \theta + 3 \cos \theta} \right)$  का

मान क्या है?

(A)  $\frac{9}{7}$                       (B)  $\frac{8}{7}$

(C)  $\frac{4}{3}$                         (D)  $\frac{5}{3}$

Correct Option : B

Explanation :

$$(B) 2.5 \tan \theta = 2 \Rightarrow 5 \tan \theta = 4 \Rightarrow \tan \theta = \frac{4}{5}$$

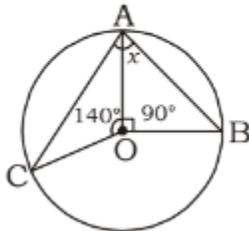
$$\text{Now, } 1 + \frac{5 \sin \theta - 3 \cos \theta}{5 \sin \theta + 3 \cos \theta} = 1 + \frac{5 \tan \theta - 3}{5 \tan \theta + 3}$$

$$= 1 + \frac{5 \times \frac{4}{5} - 3}{5 \times \frac{4}{5} + 3} = 1 + \frac{1}{7} = \frac{8}{7}$$

### Question (168)

If O is the centre of the circle, then the value of 'x' in the adjoining figure is

यदि O वृत्त का केन्द्र है, तो दिए गए चित्र में 'x' का मान क्या है?



- (A)  $85^\circ$                       (B)  $75^\circ$   
(C)  $65^\circ$                       (D)  $55^\circ$

Correct Option : C

Explanation :

$$(C) \angle COB = 360^\circ - (140^\circ + 90^\circ) = 130^\circ$$

$$\Rightarrow x = \angle CAB = \frac{1}{2} \angle COB = \frac{1}{2} \times 130^\circ = 65^\circ$$

### Question (169)

The parallel sides of a trapezium are  $m$  and  $n$  respectively. The line joining the mid-points of its non-parallel sides will be

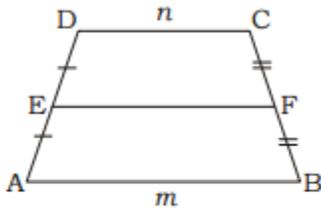
एक समलम्ब चतुर्भुज की समांतर भुजाएं क्रमशः  $m$  तथा  $n$  हैं। इसके असमांतर भुजाओं के मध्य बिन्दु को जोड़ने वाली रेखा क्या होगी?

- (A)  $\frac{2mn}{m+n}$                       (B)  $\sqrt{mn}$   
 (C)  $\frac{(m-n)}{2}$                       (D)  $\frac{(m+n)}{2}$

Correct Option : D

Explanation :

(D) Let ABCD is trapezium and E, F are the mid points, then



$$EF = \frac{1}{2}(AB + DC)$$

$$\Rightarrow EF = \frac{1}{2}(m + n) = \frac{m+n}{2}$$

$$\therefore \{AB = m, DC = n\}$$

**Question (170)**

P can write 100 page in 25 hrs. P and Q together can write 185 page in 37 hrs. In what time can Q write 25 page?

P, 25 घंटे में 100 पृष्ठ लिख सकता है ,P और Q एक साथ मिलकर 37 घंटे में 185 पृष्ठ लिख सकते हैं|Q को 25 पृष्ठ लिखने में कितना वक्त लग सकता है ?

- (A) 17 hrs/घंटे      (B) 25 hrs/घंटे  
 (C) 21 hrs/घंटे      (D) 23 hrs/घंटे

Correct Option : B

Explanation :

(B) P can copy  $\frac{100}{25} = 4$  pages in 1 hr.

(P + Q) can copy  $\frac{185}{37} = 5$  pages in 1 hr.

∴ Q can copy  $(5 - 4) = 1$  pages in 1 hr.

∴ Q can copy 25 pages in  $\frac{25}{1} = 25$  hrs.

---

Question (171)

Out of the 1000 inhabitants of a town, 80% are males of which 40% are literate. If, among all the inhabitants, 50% are literate, then what percent of the females of the town are literate?

एक शहर के 1000 लोगों में पुरुष के 80% में से 40% शिक्षित है। यदि सभी लोगों में 50% शिक्षित है, तो शहर में कितनी प्रतिशत महिलाएं शिक्षित हैं?

- (A)  $66\frac{2}{3}\%$                       (B)  $33\frac{1}{3}\%$   
(C) 80%                              (D) 90%

Correct Option : D

Explanation :

(D) Number of males = 80% of 1000 = 800

Number of females =  $(1000 - 800) = 200$

Number of literates = 50% of 1000 = 500

Number of literate males = 40% of 800 = 320

Number of literate females =  $(500 - 320) = 180$

∴ Required percentage =  $\frac{180}{200} \cdot 100\frac{0}{0}\%$

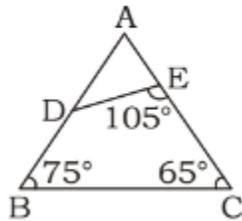
= 90%

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Question (172)

In the given figure, if  $\frac{DE}{BC} = \frac{3}{4}$  and  $AE = 18$ , then find the value of  $AB$ .

दिए गए चित्र में, यदि  $\frac{DE}{BC} = \frac{3}{4}$  तथा  $AE = 18$  है, तो  $AB$  का मान ज्ञात करें।



- (A) 24 cm/सेमी.      (B) 12 cm/सेमी.  
(C) 15 cm/सेमी.      (D) 18 cm/सेमी.

Correct Option : A

Explanation :

(A) In  $\triangle ABC$  and  $\triangle ADE$ ,

$\angle BAC = \angle DAE$

$= 180^\circ - (75^\circ + 65^\circ) = 40^\circ$

$\angle AED = 75^\circ = \angle ABC$

$\therefore \triangle AED \sim \triangle ABC$

$$\therefore \frac{DE}{BC} = \frac{AE}{AB} = \frac{AD}{AC} \Rightarrow \frac{3}{4} = \frac{18}{AB}$$

$$\Rightarrow AB = 24 \text{ cm}$$

Question (173)

If  $x^4 + \frac{1}{x^4} = 322$  and  $x > 1$ , then the value of

$x^3 - \frac{1}{x^3}$  is

यदि  $x^4 + \frac{1}{x^4} = 322$  और  $x > 1$  है, तो  $x^3 - \frac{1}{x^3}$  का

मान है-

(A) 56

(B) 76

(C) 73

(D) 38

Correct Option : B

Explanation :

$$\begin{aligned} \text{(B)} \left(x^2 + \frac{1}{x^2}\right)^2 &= x^4 + \frac{1}{x^4} + 2x^2 \cdot \frac{1}{x^2} \\ &= 322 + 2 = 324 \end{aligned}$$

$$\therefore x^2 + \frac{1}{x^2} = 18$$

$$\begin{aligned} \text{again } \left(x - \frac{1}{x}\right)^2 &= x^2 + \frac{1}{x^2} - 2x \cdot \frac{1}{x} \\ &= 18 - 2 = 16 \end{aligned}$$

$$\therefore x - \frac{1}{x} = 4$$

$$\Rightarrow \left(x - \frac{1}{x}\right)^3 = 4^3$$

$$\Rightarrow x^3 - \frac{1}{x^3} - 3x \cdot \frac{1}{x} \left(x - \frac{1}{x}\right) = 64$$

$$\Rightarrow x^3 - \frac{1}{x^3} - 3 \times 4 = 64$$

$$\therefore x^3 - \frac{1}{x^3} = 64 + 12 = 76$$

### Question (174)

The speeds of A and B are in the ratio 2 : 5. A takes 20 minutes more than B to reach a destination. In what time will A reach the destination?

A तथा B की चल का अनुपात 2:5 है। A गंतव्य पर पहुँचने में B की अपेक्षा 20 मिनट अधिक समय लेता है। A गंतव्य पर पहुँचने में कितना समय लेगा ?

- (A) 3000 sec/सेकण्ड
- (B) 2000 sec/सेकण्ड
- (C) 70 min/सेकण्ड
- (D) 80 min/सेकण्ड

Correct Option : B

Explanation :

(B) Ratio of speeds = 2 : 5

Ratio of time taken = 5 : 2

Let the time taken by A and B be 5x minutes and 2x minutes respectively.

Then,  $5x - 2x = 20$

$$\Rightarrow 3x = 20 \Rightarrow x = \frac{20}{3}$$

$\therefore$  Time taken by A = 5x minutes

$$= \frac{5}{1} \cdot \frac{20}{3} \text{ minutes} = \frac{100}{3} \times 60 = 2000 \text{ sec}$$

---

### Question (175)

The contents of two vessels containing water and milk in the ratio 3 : 4 and 4 : 5 are mixed in the ratio 1 : 2. The resulting mixture will have water and milk in the ratio

दो वर्तनों में पानी तथा दूध 3:4 तथा 4:5 के अनुपात में है तथा इन्हें 1:2 के अनुपात में मिलाया जाता है। इस प्रकार प्राप्त मिश्रण में पानी तथा दूध का अनुपात क्या है ?

- (A) 97 : 124    (B) 58 : 77
- (C) 83 : 106    (D) 77 : 93

Correct Option : C

Explanation :

$$(C) \text{ Milk in first vessel} = \frac{3}{7}$$

$$\text{Water in first vessel} = \frac{4}{7}$$

$$\text{Milk in second vessel} = \frac{4}{9}$$

$$\text{Water in second vessel} = \frac{5}{9}$$

ATQ, Water : Milk =

$$\frac{3}{7} \times 1 + \frac{4}{9} \times 2 : \frac{4}{7} \times 1 + \frac{5}{9} \times 2$$

$$\Rightarrow 83 : 106$$

---

#### 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.

Leaders like Narendra Modi (A)/ are not born (B)/ on everyday. (C)/ No error (D)

Correct Option : C

---

#### Question (177)

There is only one cure (A)/ to the evils which newly (B)/ acquired freedom produces and that cure in freedom. (C)/ No error (D)

Correct Option : A

---

**Question (178)**

In India, hill stations (A)/ usually have (B)/ beautiful sceneries. (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.

How have you come \_\_\_\_\_ such a precious diamond?

- (A) upon (B) by  
(C) to (D) across

Correct Option : B

---

**Question (180)**

Banning notes will not curb black money, says think tank that called \_\_\_\_\_ demonetization

- (A) out (B) in  
(C) forth (D) for

Correct Option : D

---

**Question (181)**

We usually give our servants the old clothes we cast \_\_\_\_\_

- (A) away (B) aside  
(C) out (D) off

Correct Option : A

---

**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.

STUBBORN

- (A) Obstinate    (B) Willing  
(C) Annoy        (D) Steady

Correct Option : A

---

**Question (183)**

SYMBIOSIS

- (A) Failure  
(B) Irregular  
(C) Close association  
(D) Violent

Correct Option : C

---

**Question (184)**

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

INGENUOUS

- (A) Cunning    (B) Unpredictable  
(C) Innocent    (D) Childlike

Correct Option : A

---

**Question (185)**

ADHERENT

- (A) Follower    (B) Antagonist  
(C) Zealot    (D) Aficionado

Correct Option : B

---

**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) Sanctimonious    (B) Sanctimonius  
(C) Sanctimonious    (D) Sanctiminious

Correct Option : C

---

**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.

The higher authorities tried to save him through best medical aids, but he ***slipped off the hooks***.

- (A) to show one's contempt for  
(B) to deteriorate considerably  
(C) to be unwell  
(D) to die

Correct Option : D

---

**Question (188)**

A subdivision of Indian Army is always stationed to *stand in the gap* and keep the enemy engaged out of the border.

- (A) to stand forward in active defence of something
- (B) to join together in a venture
- (C) to be fair in dealings
- (D) to act deceitfully

Correct Option : A

---

**Question (189)**

I went to them to settle their differences but they *gave me the bird*, so I would not go there again.

- (A) to get the success quite impossible
- (B) to make someone awaited
- (C) to act foolishly
- (D) to send away

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.**

Narendra Modi is cut *up* to be a great leader.

- (A) in
- (B) for

- (C) out  
(D) No improvement

Correct Option : C

---

**Question (191)**

A large number of people have fallen victim **to** dengue fever in Delhi.

- (A) with      (B) of  
(C) from      (D) No improvement

Correct Option : D

---

**Question (192)**

The greater **is the** increase in corruption, the harder it is for the people to survive.

- (A) the      (B) of  
(C) is of the      (D) No improvement

Correct Option : D

---

**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.**

An occasion of great importance

- (A) Herculean      (B) Grandiose  
(C) Exemplary      (D) Momentous

Correct Option : D

---

**Question (194)**

One who studies selection trends by means of opinion polls

- (A) Ornithologist      (B) Psephologist  
(C) Entomologist      (D) Altruist

Correct Option : B

---

**Question (195)**

Detaining and confining someone

- (A) Internment      (B) Amnesty  
(C) Articulate      (D) Reflex

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**

At this stage of civilisation, when many nations are brought in to close and vital contact for good and evil, it is essential, as never before, that their gross ignorance of one another should be diminished, that they should begin to understand a little of one another's historical experience and resulting mentality. It is the fault of the English to expect the people of other countries to react as they do, to political and international situations. Our genuine goodwill and good intentions are often brought to nothing, because we expect other people to be like us. This would be corrected if we knew the history, not necessarily in detail but in broad outlines, of the social and political conditions which have given to each nation its present character.

The character of a nation is the result of its

- (A) gross ignorance  
(B) cultural heritage  
(C) socio-political conditions

(D) mentality

Correct Option : C

---

**Question (197)**

At this stage of civilisation, when many nations are brought in to close and vital contact for good and evil, it is essential, as never before, that their gross ignorance of one another should be diminished, that they should begin to understand a little of one another's historical experience and resulting mentality. It is the fault of the English to expect the people of other countries to react as they do, to political and international situations. Our genuine goodwill and good intentions are often brought to nothing, because we expect other people to be like us. This would be corrected if we knew the history, not necessarily in detail but in broad outlines, of the social and political conditions which have given to each nation its present character.

The need for a greater understanding between nations

- (A) is more today than ever before
- (B) was always there
- (C) is no longer there
- (D) will always be there

Correct Option : A

---

**Question (198)**

At this stage of civilisation, when many nations are brought in to close and vital contact for good and evil, it is essential, as never before, that their gross ignorance of one another should be diminished, that they should begin to understand a little of one another's historical experience and resulting mentality. It is the fault of the English to expect the people of other countries to react as they do, to political and international situations. Our genuine goodwill and good intentions are often brought to nothing, because we expect other people to be like us. This would be corrected if we knew the history, not necessarily in detail but in broad outlines, of the social and political conditions which have given to each nation its present character.

According to the author 'the mentality of a nation' is mainly product of its

- (A) present character

(B) international position

(C) politics

(D) history

Correct Option : D

---

### Question (199)

At this stage of civilisation, when many nations are brought in to close and vital contact for good and evil, it is essential, as never before, that their gross ignorance of one another should be diminished, that they should begin to understand a little of one another's historical experience and resulting mentality. It is the fault of the English to expect the people of other countries to react as they do, to political and international situations. Our genuine goodwill and good intentions are often brought to nothing, because we expect other people to be like us. This would be corrected if we knew the history, not necessarily in detail but in broad outlines, of the social and political conditions which have given to each nation its present character.

According to the author his countrymen should

(A) read the story of other nations

(B) not react to other actions

(C) have a better understanding of other nations

(D) have vital contacts with other nations

Correct Option : C

---

### Question (200)

At this stage of civilisation, when many nations are brought in to close and vital contact for good and evil, it is essential, as never before, that their gross ignorance of one another should be diminished, that they should begin to understand a little of one another's historical experience and resulting mentality. It is the fault of the English to expect the people of other countries to react as they do, to political and international situations. Our genuine goodwill and good intentions are often brought to nothing, because we expect other people to be like us. This would be corrected if we knew the history, not necessarily in detail but in broad outlines, of the social and political conditions which have given to each nation its present character.

Englishmen like others to react to political situations like

- (A) others
- (B) us
- (C) themselves
- (D) each others

Correct Option : C