

PART - I
GENERAL INTELLIGENCE

1. Raju is facing North. He goes 35 metres ahead, turns left and walk 20 metres. He turns right and covers 25 metres, then turns right to cover 30 metres. In which direction is he heading?
(A) North (B) South
(C) East (D) West
2. Manoranjan walks 10 km towards South of point 'P', turns to his right and walks 4 km. Turn to his right and walks 10 km and then he turns to his left and covers a distance of 5 km. How far is he from the point 'P'?
(A) 1 km (B) 9 km
(C) 14 km (D) 20 km
3. Select the correct combination of mathematical signs to replace * signs and to balance the given equation.
 $7 * 2 * 3 * 5 * 6$
(A) $- + = \times$ (B) $+ \times = +$
(C) $= \times + -$ (D) $\times = + +$
4. If 'x' means '+', '+' means '-', '-' means 'x' and '+' means '-', then
 $6 \times 4 - 5 + 2 + 1 = ?$
(A) 10 (B) 11
(C) 12 (D) 15

5. At a restaurant, five guests are sitting in a row. Neeta is to the left of Manju and to the right of Navin. Rishab is to the right of Kavita, but to the left of Navin. Where is Navin sitting?
(A) Extreme right
(B) Centre
(C) Extreme left
(D) Second from the right
- Directions : In Question Nos. 6 and 7, some statements are given followed by two conclusions/inferences I and II. You have to consider the statements to be true even if they seem to be at variance from commonly known facts. You are to decide which of the given conclusions, if any, follow from the given statements. Indicate your answer.
6. Statements : All Huts are painted blue.
Some blue buildings are Bungalows.
Inferences : I. All Bungalows are blue.
II. Some blue buildings are not Huts.
(A) Only inference I follows.
(B) Only inference II follows.
(C) Both inferences I and II follow.
(D) Neither of the two inferences follows.
7. Statements : All chillies are garlicks.
Some garlicks are onions.
All onions are potatoes. No potato is ginger.
Conclusions : I. Some chillies are potatoes.
II. No onion is ginger.
(A) Only conclusion I follows.
(B) Only conclusion II follows.
(C) Both the conclusions I and II follow.
(D) None of the conclusion I or II follows.

SPACE FOR ROUGH WORK

भाग - I
सामान्य बुद्धिमत्ता

1. राजू का मुँह उत्तर की ओर है। वह सीधे 35 मीटर जाता है, बायें घूमता है और 20 मीटर चलता है। फिर दायें घूमता है और 25 मीटर जाता है, वह फिर दायी ओर घूमता है और 30 मीटर की दूरी तय करता है। वह किस दिशा की ओर जा रहा है?
(A) उत्तर (B) दक्षिण
(C) पूरव (D) पश्चिम
2. मनोरंजन, 'P' स्थान के दक्षिण की ओर 10 किमी. चलता है, फिर दायी ओर मुड़कर 4 किमी. चलता है, फिर दायी ओर मुड़ता है और 10 किमी. चलता है और फिर बायी ओर मुड़कर 5 किमी. की दूरी तय करता है। वह 'P' स्थान से कितनी दूरी पर है?
(A) 1 किमी. (B) 9 किमी.
(C) 14 किमी. (D) 20 किमी.
3. दी गई समीकरण को संतुलित करने तथा * चिह्नों को प्रतिस्थापित करने के लिए गणितीय चिह्नों का सही क्रम समूह चुनिए।
 $7 * 2 * 3 * 5 * 6$
(A) $- + = \times$ (B) $+ \times = +$
(C) $= \times + -$ (D) $\times = + +$
4. यदि 'x' का अर्थ है '+', '+' का अर्थ है '-', '-' का अर्थ है 'x' और '+' का अर्थ है '-', तो
 $6 \times 4 - 5 + 2 + 1 = ?$
(A) 10 (B) 11
(C) 12 (D) 15

5. एक रेस्टोरेन्ट में पाँच अतिथि एक पोज़ में बैठे हैं। नीता, मंजु के बायीं ओर तथा नवीन के दायीं ओर बैठी है। रिशभ, कविता के दायीं ओर तथा नवीन के बायीं ओर बैठा है। नवीन कहाँ बैठा है?
(A) दायें छोर पर
(B) मध्य में
(C) बायें छोर पर
(D) दायें से दूसरे स्थान पर
- निर्देश : प्रश्न संख्या 6 और 7 में कुछ कथनों के आगे दो निष्कर्ष I और II दिए गए हैं। आपको कथनों को सत्य मानकर विचार करना है चाहे वे सामान्यतः ज्ञात तथ्यों से भिन्न प्रतीत होते हों। आपको निर्णय करना है कि दिए गए निष्कर्षों में से कौन से, यदि कोई हो, निश्चित रूप से दिए गए कथनों के आधार पर निकाला जा सकता है। अपना उत्तर निर्दिष्ट करें।
6. कथन : सभी झोंपड़ियाँ नीली रंगी हैं।
कुछ नीली इमारतें बंगले हैं।
निष्कर्ष : I. सभी बंगले नीले हैं।
II. कुछ नीली इमारतें झोंपड़ियाँ नहीं हैं।
(A) केवल निष्कर्ष I निकलता है।
(B) केवल निष्कर्ष II निकलता है।
(C) निष्कर्ष I और II दोनों निकलते हैं।
(D) दोनों में से कोई निष्कर्ष नहीं निकलता।
7. कथन : सभी मिर्चे लहसुन हैं। कुछ लहसुन प्याज हैं।
सभी प्याज आलू हैं। कोई भी आलू अदरक नहीं है।
निष्कर्ष : I. कुछ मिर्चे आलू हैं।
II. कोई भी प्याज अदरक नहीं है।
(A) केवल निष्कर्ष I निकलता है।
(B) केवल निष्कर्ष II निकलता है।
(C) निष्कर्ष I और II दोनों निकलते हैं।
(D) निष्कर्ष I या II में से कोई नहीं निकलता।

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$6 + 4 + 5 = 2 - 1$

$6 + 20 = 13 - 1$

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Directions : (Q. Nos. 8 to 14) Select the related word/letter/number from the given alternatives.

8. Jaundice : Liver :: ?
 (A) Dialysis : Kidney
 (B) Rash : Skin
 (C) Imagination : Brain
 (D) Valentine : Heart
9. ABDE : PQST :: MNPQ : ?
 (A) EFHI (B) UVXZ
 (C) IJLN (D) TVWX
10. ELIMS : SMILE :: KRAPS : ?
 (A) KRAPS (B) SPARK
 (C) PARKS (D) KARPS
11. 64 : 100 :: 16 : ?
 (A) 25 (B) 36 (C) 50 (D) 55
12. 167 : 14 :: 143 : ?
 (A) 7 (B) 8 (C) 6 (D) 5
13. Mathematics : Numbers :: History : ?
 (A) People (B) Events
 (C) Dates (D) Wars
14. Ancient : Modern :: Often : ?
 (A) Always (B) Never
 (C) Seldom (D) Regular

Directions : In Question Nos. 15 to 18, find the odd word/letters/number pair from the given alternatives.

15. (A) Reward (B) Praise
 (C) Encourage (D) Punishment

16. (A) 66 - 56 (B) 101 - 90
 (C) 41 - 30 (D) 33 - 22
17. (A) Taste buds : Tongue
 (B) Retina : Eye
 (C) Follicle : Hair
 (D) Balance : Ear
18. (A) FHJL (B) DGIK
 (C) KMOQ (D) SUWY
19. Find out the set among the four sets which is like the given set.
 (30, 18, 6)
 (A) (40, 28, 14) (B) (50, 38, 26)
 (C) (40, 24, 12) (D) (50, 36, 24)
20. Arrange the following according to the stages in the life cycle of a butterfly :
 1. Butterfly 2. Caterpillar
 3. Eggs 4. Cocoon
 (A) 1, 2, 3, 4 (B) 3, 2, 4, 1
 (C) 3, 4, 2, 1 (D) 1, 4, 2, 3
21. Arrange the following words as per order in the dictionary :
 1. Slide 2. Slice
 3. Slick 4. Sild
 (A) 4, 3, 2, 1 (B) 4, 2, 3, 1
 (C) 2, 4, 1, 3 (D) 2, 3, 1, 4
22. Which one set of letters when sequentially placed at the gaps in the given letter series shall complete it ?
 _ d b c _ d _ c a _ b c a d _ c _ d b _
 (A) a, a, b, d, b, a, c
 (B) b, b, d, c, a, a, d
 (C) c, c, b, b, a, d, c
 (D) a, c, a, d, d, b, c

SPACE FOR ROUGH WORK

निर्देश : (प्र.सं. 8 से 14) दिए गए विकल्पों में से संबंधित शब्द/अक्षर/संख्या चुनिए।

8. पॉलिवा : यकृत :: ?
 (A) डाइलिसिस (अचोहन) : गुर्दा
 (B) रदोरा : त्वचा
 (C) कल्पना : मस्तिष्क
 (D) वेलेन्टाइन : हृदय
9. ABDE : PQST :: MNPQ : ?
 (A) EFHI (B) UVXZ
 (C) IJLN (D) TVWX
10. ELIMS : SMILE :: KRAPS : ?
 (A) KRAPS (B) SPARK
 (C) PARKS (D) KARPS
11. 64 : 100 :: 16 : ?
 (A) 25 (B) 36 (C) 50 (D) 55
12. 167 : 14 :: 143 : ?
 (A) 7 (B) 8 (C) 6 (D) 5
13. गणित : संख्याएँ :: इतिहास : ?
 (A) लोग (B) घटनाएँ
 (C) तारीखें (D) युद्ध (लड़ाइयाँ)
14. प्राचीन : आधुनिक :: प्रायः : ?
 (A) सदैव (B) कभी नहीं
 (C) कभी-कभार (D) निवृत्त
- निर्देश : प्र.सं. 15 से 18 तक में, दिए गए विकल्पों में से विषम शब्द/अक्षर/संख्या युग्म चुनिए।
15. (A) पुरस्कार (B) प्रशंसा
 (C) प्रेरित करना (D) दंड

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16. (A) 66 - 56 (B) 101 - 90
 (C) 41 - 30 (D) 33 - 22
17. (A) स्वाद कलिका : जीभ
 (B) दृष्टिपटल (रेटिना) : आँख
 (C) रोम कूप : बाल
 (D) संतुलन : कान
18. (A) FHJL (B) DGIK
 (C) KMOQ (D) SUWY
19. नीचे दिए गए चार समूहों में उस समूह को ज्ञात कीजिए जो दिए गए समूह के समान है।
 (30, 18, 6)
 (A) (40, 28, 14) (B) (50, 38, 26)
 (C) (40, 24, 12) (D) (50, 36, 24)
20. तितली के जीवन चक्र की अवस्थाओं के क्रमानुसार निम्नलिखित शब्दों को व्यवस्थित करें :
 1. तितली 2. सुँड़ी (इल्ली)
 3. अंडे 4. कोया (कोकून)
 (A) 1, 2, 3, 4 (B) 3, 2, 4, 1
 (C) 3, 4, 2, 1 (D) 1, 4, 2, 3
21. निम्नलिखित शब्दों को शब्दकोश में दिए गए क्रम के अनुसार लिखें :
 1. Slide 2. Slice
 3. Slick 4. Sild
 (A) 4, 3, 2, 1 (B) 4, 2, 3, 1
 (C) 2, 4, 1, 3 (D) 2, 3, 1, 4
22. अक्षरों का कौन सा समूह खाली स्थानों पर क्रमवार रखने से दी गई अक्षर शृंखला को पूरा करेगा ?
 _ d b c _ d _ c a _ b c a d _ c _ d b _
 (A) a, a, b, d, b, a, c
 (B) b, b, d, c, a, a, d
 (C) c, c, b, b, a, d, c
 (D) a, c, a, d, d, b, c

Directions : In Question Nos. 23 to 25, a series is given with one term missing. Choose the correct alternative from the given ones that will complete the series.

23. 2, 3, 10, 15, ?
 (A) 25 (B) 26
 (C) 24 (D) 30
24. CAE, HFJ, MKO, RPT, ?
 (A) WUY (B) UTY
 (C) VUZ (D) WUZ
25. 12, 26, 54, 110, ?
 (A) 223 (B) 222
 (C) 220 (D) 225
26. Jamal was born on Feb. 29, 1988. How many birthdays will be celebrated up to 29-2-2004 ?
 (A) 4 (B) 5
 (C) 8 (D) 16
27. Ram is elder than Shyam. Lakshman is elder than Shyam, but younger than Ram. Hanuman is younger than both Hari and Shyam. Shyam is elder than Hari. Who is the youngest ?
 (A) Ram (B) Lakshman
 (C) Hanuman (D) Hari
28. Raju and his grandfather have an age difference of 65 years at present. After 10 years the sum of their age is 95 years. What is the present age of Raju and his grandfather ?
 (A) 15 & 80 (B) 10 & 65
 (C) 5 & 70 (D) 5 & 65
29. In given letter series how many times 'L' occurs, which is in between TY ?
 BTLYDEILFILYLYZGHITLILYLY
 (A) 3 (B) 5
 (C) 4 (D) 6
30. If A = 1, BAD = 7, then HAT = ?
 (A) 8 (B) 10
 (C) 19 (D) 29
31. If FAITH is coded as 82731, HABIT is coded as 12573 and HEALTH is coded as 192431, how can BELIEF be coded as ?
 (A) 594598 (B) 594789
 (C) 594978 (D) 594798
32. If NATIONAL can be written as LNAANTOI, how can DOMESTIC be written ?
 (A) CDIOMTES (B) CDIOTMSE
 (C) CTSIMODE (D) CSITEMOD
33. In a class, Karthik's rank is 17th from the top and 28th from the bottom. How many students are there in the class ?
 (A) 45 (B) 41
 (C) 40 (D) 44
34. Vikash said, "That boy is the grandson of my mother's husband. I have no brother and sister." How is the boy related to Vikash ?
 (A) Uncle (B) Son
 (C) Nephew (D) Cousin

SPACE FOR ROUGH WORK

निर्देश : प्रश्न सं. 23 से 25 में एक अनुक्रम दिया है, जिसमें एक पद लुप्त है। दिए गए विकल्पों में से वह सही विकल्प चुनिए जो अनुक्रम को पूरा करे।

23. 2, 3, 10, 15, ?
 (A) 25 (B) 26
 (C) 24 (D) 30
24. CAE, HFJ, MKO, RPT, ?
 (A) WUY (B) UTY
 (C) VUZ (D) WUZ
25. 12, 26, 54, 110, ?
 (A) 223 (B) 222
 (C) 220 (D) 225
26. जमाल का जन्म 29 फरवरी 1988 को हुआ। 29-2-2004 तक उसने कितने जन्म दिन मनाये ?
 (A) 4 (B) 5
 (C) 8 (D) 16
27. आयु में राम, श्याम से बड़ा है। लक्ष्मण, श्याम से बड़ा है किन्तु राम से छोटा है। हनुमान, हरि और श्याम दोनों से छोटा है। श्याम, हरि से बड़ा है। सबसे छोटा कौन है ?
 (A) राम (B) लक्ष्मण
 (C) हनुमान (D) हरि
28. राजू और उसके दादाजी की आयु में इस समय 65 वर्ष का अन्तर है। 10 वर्ष के बाद, उनकी आयु का योग 95 वर्ष होगा। इस समय राजू और उसके दादाजी की आयु कितनी है ?
 (A) 15 एवं 80 (B) 10 एवं 65
 (C) 5 एवं 70 (D) 5 एवं 65
29. दी गई अक्षर मंखला में कितने बार 'L' अक्षर TY के बीच में है ?
 BTLYDEILFILYLYZGHITLILYLY
 (A) 3 (B) 5
 (C) 4 (D) 6
30. यदि A = 1, BAD = 7, तो HAT = ?
 (A) 8 (B) 10
 (C) 19 (D) 29
31. यदि एक कूट भाषा में FAITH को 82731 लिखा जाता है, HABIT को 12573 लिखा जाता है और HEALTH को 192431 लिखा जाता है, तो BELIEF को किस प्रकार लिखा जा सकता है ?
 (A) 594598 (B) 594789
 (C) 594978 (D) 594798
32. यदि एक कूट भाषा में NATIONAL को LNAANTOI लिखा जाता है, तो उसी कूट भाषा में DOMESTIC को किस प्रकार लिखा जा सकता है ?
 (A) CDIOMTES (B) CDIOTMSE
 (C) CTSIMODE (D) CSITEMOD
33. एक कक्षा में ऊपर से कार्तिक का स्थान 17वाँ है और नीचे से 28वाँ। कक्षा में कुल कितने विद्यार्थी हैं ?
 (A) 45 (B) 41
 (C) 40 (D) 44
34. विकश ने कहा, "वह लड़का मेरी माताजी के पति का पौत्र है। मेरा कोई भाई और बहिन नहीं है।" लड़का, विकश से किस प्रकार सम्बन्धित है ?
 (A) चाचा (B) पुत्र
 (C) भतीजा (D) चचेरा भाई

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35. From the given alternatives, select the word which **cannot** be formed using the letters of the given word.

BANGALORE

- (A) GARBAGE (B) ORANGE
(C) LARGE (D) BANGLE

36. Out of 1865 people, 660 can speak English and 1305 can speak Marathi. But, 120 persons can't speak either language. Then how many can speak both languages?

- (A) 220 (B) 440
(C) 120 (D) 1085

37. Some letters are given below in the first line and numbers are given below them in the second line. Numbers are the codes for the alphabets and vice-versa. Choose the correct letter code for the given set of numbers.

EMK B Z W Q U D J

5 9 1 6 4 8 2 0 7 3

6 3 0 8 2 5

- (A) B J Q W U E (B) B J U W Q E
(C) B J W U Q E (D) B J E W U Q

38. From the given alternatives, select the word which can be formed using the letters given in the word.

ABOMINABLE

- (A) BOWEL (B) METAL
(C) BLAND (D) BANAL

Directions : In Question Nos. 39 and 40, some equations are solved on the basis of a certain system. Find the correct answer for the unsolved equation on that basis.

39. $6 \times 4 \times 5 = 456$

$3 \times 2 \times 8 = 283$

$4 \times 9 \times 3 = ?$

- (A) 349 (B) 934
(C) 394 (D) 493

40. If $228 = 12$ and $337 = 16$, then $569 = ?$

- (A) 42 (B) 39
(C) 36 (D) 26

Directions : In Question Nos. 41 and 42, select the missing number from the given responses.

41. 4 20 5

5 ? 6

9 45 5

- (A) 25 (B) 30
(C) 15 (D) 21

42. 11 20 35

4 3 2

5 3 2

49 63 ?

- (A) 39 (B) 72
(C) 112 (D) 100

SPACE FOR ROUGH WORK

35. निम्नलिखित विकल्पों में से वह शब्द चुनिए जो दिए गए शब्द के अक्षरों का प्रयोग करके नहीं बनाया जा सकता।

BANGALORE

- (A) GARBAGE (B) ORANGE
(C) LARGE (D) BANGLE

36. 1865 लोगों में से, 660 अंग्रेजी बोल सकते हैं और 1305 मराठी बोल सकते हैं। परन्तु 120 व्यक्ति दोनों में से कोई भी भाषा नहीं बोल सकते हैं, तो कितने लोग दोनों भाषा बोल सकते हैं?

- (A) 220 (B) 440
(C) 120 (D) 1085

37. नीचे पहली पंक्ति में कुछ अक्षर दिए गए हैं और उनके नीचे दूसरी पंक्ति में अंक दिए गए हैं। अंक और अक्षर एक दूसरे के कूट हैं। दिए गए संख्या-समूह का सही अक्षर-कूट चुनिए।

EMK B Z W Q U D J

5 9 1 6 4 8 2 0 7 3

6 3 0 8 2 5

- (A) B J Q W U E
(B) B J U W Q E
(C) B J W U Q E
(D) B J E W U Q

38. दिए हुए विकल्पों में से उस शब्द को चुनिए जो नीचे दिए गए शब्द में शामिल अक्षरों से बन सकता हो।

ABOMINABLE

- (A) BOWEL (B) METAL
(C) BLAND (D) BANAL

निर्देश : प्रश्न संख्या 39 और 40 में कुछ समीकरण एक विशेष प्रणाली के आधार पर हल किए गए हैं। उसी आधार पर अनुत्तरित समीकरण का सही उत्तर ज्ञात कीजिए।

39. $6 \times 4 \times 5 = 456$

$3 \times 2 \times 8 = 283$

$4 \times 9 \times 3 = ?$

- (A) 349 (B) 934
(C) 394 (D) 493

40. यदि $228 = 12$ और $337 = 16$, तो $569 = ?$

- (A) 42 (B) 39
(C) 36 (D) 26

निर्देश : प्रश्न सं. 41 और 42 में दिए गए विकल्पों में से लुप्त अंक ज्ञात कीजिए।

41. 4 20 5

5 ? 6

9 45 5

- (A) 25 (B) 30
(C) 15 (D) 21

42. 11 20 35

4 3 2

5 3 2

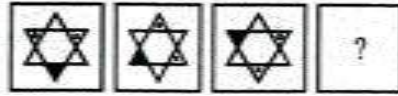
49 63 ?

- (A) 39 (B) 72
(C) 112 (D) 100

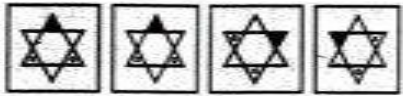
रफ कार्य के लिए स्थान

43. Choose the correct alternative from the given ones that will complete the series.

Question Figures :



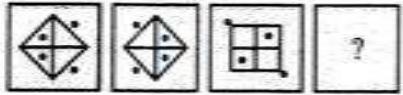
Answer Figures :



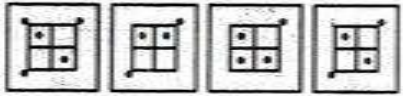
(A) (B) (C) (D)

44. Select the related figure from the given alternatives.

Question Figures :

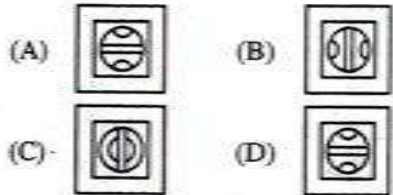


Answer Figures :

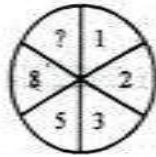


(A) (B) (C) (D)

45. Select the figure which is different from the rest three ?



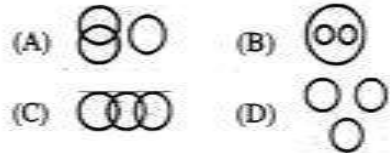
46. Select the missing number from the given responses.



(A) 10 (B) 12
(C) 13 (D) 15

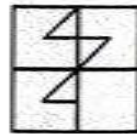
47. Identify the diagram that best represents the relationship among classes given below :

Doctor, Patient, Human being



48. Which answer figure will complete the pattern in the question figure ?

Question Figure :



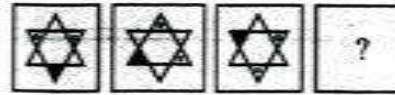
Answer Figures :



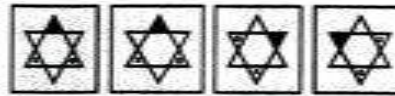
(A) (B) (C) (D)

43. दिए गए विकल्पों में से उसे चुनिए जो अनुक्रम को पूरा करेगा ।

प्रश्न आकृतियाँ :



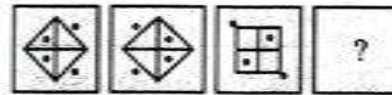
उत्तर आकृतियाँ :



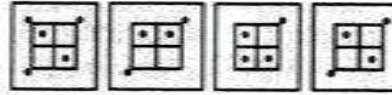
(A) (B) (C) (D)

44. दिए गए विकल्पों में से सम्बन्धित आकृति चुनिए ।

प्रश्न आकृतियाँ :

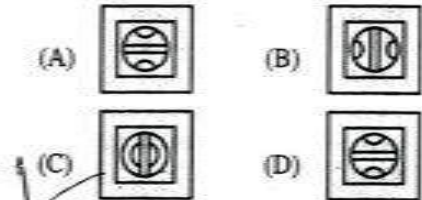


उत्तर आकृतियाँ :

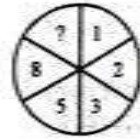


(A) (B) (C) (D)

45. उस आकृति को चुनिए जो अन्य तीन से भिन्न है ।



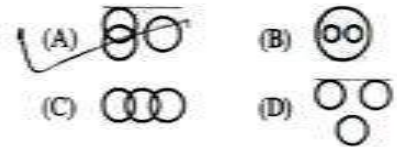
46. दिए गए विकल्पों में से लुप्त अंक ज्ञात करें।



(A) 10 (B) 12
(C) 13 (D) 15

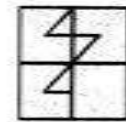
47. वह आरेख चुनिए जो नीचे दिए गए वर्गों के बीच सम्बन्ध का सही निरूपण करता है :

डॉक्टर, रोगी, मनुष्य

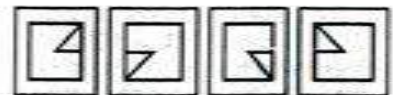


48. कौन सी उत्तर आकृति प्रश्न आकृति के प्रतिरूप को पूरा करेगी ?

प्रश्न आकृति :



उत्तर आकृतियाँ :



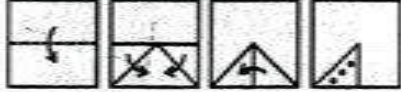
(A) (B) (C) (D)

SPACE FOR ROUGH WORK

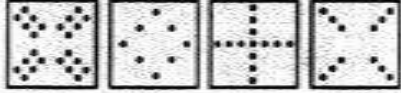
रफ कार्य के लिए स्थान

49. A piece of paper is folded and cut punched as shown below in the question figures. From the given answer figures, indicate how it will appear when opened ?

Question figures :



Answer figures :



(A) (B) (C) (D)

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

Question figure :



Answer figures :



(A) (B) (C) (D)

FOR VH CANDIDATES ONLY

43. Find the wrong number in the given series.
2, 5, 14, 41, 122, 366
(A) 41 (B) 366
(C) 5 (D) 122
44. If Orange is called Lemon, Lemon is called Flower, Flower is called Fish, Fish is called Tail and Tail is called Pen, what is Rose ?
(A) Pen (B) Lemon
(C) Flower (D) Fish

45. If 'S' means '-', 'Q' means 'x', 'R' means '+' and 'P' means '÷' then
 $1 P 45 R 2 Q 2 S 4 = ?$
(A) 40 (B) 42 (C) 36 (D) 46

46. A group of 30 students play cricket and football. 20 play cricket and 15 play football. Each student plays at least one game. How many of them play both ?
(A) 0 (B) 5 (C) 10 (D) 15

47. In a row of trees, a tree is 11th in the row from the left and 16th from the right. How many trees are there in the row ?
(A) 27 (B) 26 (C) 25 (D) 28

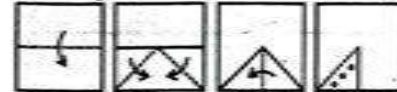
48. What greatest number of 5 digits is divisible by 315 ?
(A) 99685 (B) 99999
(C) 99855 (D) 99568

49. How many 5s are there in the following number series, which are preceded by '3' but not followed by '2' ?
5243546785325735642354752358356
(A) Two
(B) Three
(C) Four
(D) More than four

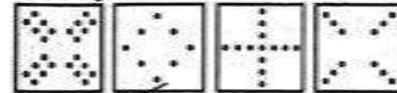
50. In a joint family there are father, mother, 3 married sons and one unmarried daughter. Of the sons, two have 2 daughters each, and one has a son. How many female members are there in the family ?
(A) 2 (B) 3 (C) 6 (D) 9

49. नीचे प्रश्न आकृतियों में दिखाए अनुसार कागज को मोड़कर काटने/छेदने तथा खोलने के बाद वह किस उत्तर आकृति जैसा दिखाई देगा ?

प्रश्न आकृतियाँ :



उत्तर आकृतियाँ :



(A) (B) (C) (D)

50. दी गई उत्तर आकृतियों में से उस उत्तर आकृति को चुनिए जिसमें प्रश्न आकृति निहित है।

प्रश्न आकृति :



उत्तर आकृतियाँ :



(A) (B) (C) (D)

केवल दृष्टिबाधित उम्मीदवारों के लिए

43. दी गई श्रृंखला में गलत संख्या पहचानिए।
2, 5, 14, 41, 122, 366
(A) 41 (B) 366
(C) 5 (D) 122

44. यदि नारंगी को नींबू कहा जाता है, नींबू को फूल कहा जाता है, फूल को मछली कहा जाता है, मछली को पूँछ कहा जाता है और पूँछ को कलम कहा जाता है, तो गुलाब क्या है ?
(A) कलम (B) नींबू
(C) फूल (D) मछली

45. यदि 'S' का अर्थ है '-', 'Q' का अर्थ है 'x', 'R' का अर्थ है '+' और 'P' का अर्थ है '÷', तो
 $1 P 45 R 2 Q 2 S 4 = ?$
(A) 40 (B) 42
(C) 36 (D) 46

46. 30 विद्यार्थियों का एक समूह क्रिकेट और फुटबॉल खेलता है। 20 विद्यार्थी क्रिकेट खेलते हैं और 15 फुटबॉल खेलते हैं। प्रत्येक विद्यार्थी कम से कम एक खेल अवश्य खेलता है। उनमें से कितने दोनों खेल खेलते हैं ?
(A) 0 (B) 5
(C) 10 (D) 15

47. पेड़ों को एक पंक्ति में, एक पेड़ पंक्ति में बायीं ओर से 11वाँ है और दायीं ओर से 16वाँ। पंक्ति में कुल कितने पेड़ हैं ?
(A) 27 (B) 26
(C) 25 (D) 28

48. पाँच अंकों को कौन सी बड़ी से बड़ी संख्या 315 से भाव्य है ?
(A) 99685 (B) 99999
(C) 99855 (D) 99568

49. निम्नलिखित संख्या श्रृंखला में कितने '5' ऐसे हैं जिनके पहले '3' और बाद में '2' नहीं हैं ?
5243546785325735642354752358356
(A) दो (B) तीन
(C) चार (D) चार से अधिक

50. एक संयुक्त परिवार में पिता, माता, 3 विवाहित पुत्र और एक अविवाहित पुत्री हैं। पुत्रों में, दो के प्रत्येक के 2-2 पुत्रियाँ हैं और एक के एक पुत्र है। परिवार में महिला सदस्य कितनी हैं ?
(A) 2 (B) 3
(C) 6 (D) 9

SPACE FOR ROUGH WORK

रफ कार्य के लिए स्थान

PART - II
ENGLISH LANGUAGE

Directions : In Question Nos. 51 to 55, a sentence has been given in Direct/Indirect. Out of the four alternatives suggested, select the one which best expresses the same sentence in Indirect/Direct and mark your answer in the Answer Sheet.

51. The poor beggar said, "O God, have mercy on my soul".

- (A) The poor beggar prayed to God to have mercy on his soul.
- (B) The poor beggar, invoking God, implored him to have mercy on his soul.
- (C) The poor beggar exclaimed that God, have mercy on his soul.
- (D) The poor beggar told God to have mercy on his soul.

52. Israt said to Irfat, "Let's go to Puri for a change."

- (A) Israt proposed to Irfat to go to Puri for a change.
- (B) Israt suggested to Irfat to go to Puri for a change.
- (C) Israt asked Irfat to go to Puri for a change.
- (D) Israt proposed to Irfat that they should go to Puri for a change.

53. John's father reminded him to take his umbrella.

- (A) John's father said, "Remember your umbrella John?"
- (B) "Here, is your umbrella John," said his father.
- (C) "Are you going to take your umbrella or not?" said John to his father.
- (D) "Don't forget to take your umbrella, John" said his father.

54. He said to her, "Why didn't you put on the brakes?"

- (A) He asked her why she hadn't put on the brakes.
- (B) He asked her why she didn't put on the brake.
- (C) He asked her that why she hadn't put on the brake.
- (D) He told her that why she hadn't put on the brake.

55. She said to me, "I took breakfast in the morning."

- (A) She told me that she took breakfast in the morning.
- (B) She told me that she had taken breakfast in the morning.
- (C) She told me that she has taken breakfast in the morning.
- (D) She said to me that she was taking breakfast in the morning.

Directions : In Question Nos. 56 to 61, the 1st and the last sentences/parts of the passage/sentence are numbered 1 and 6. The rest of the passage/sentence is split into four parts and named P, Q, R and S. These four parts are not given in their proper order. Read the sentence and find out which of the four combinations is correct. Then find the correct answer and indicate it by blackening the appropriate oval (●) in the Answer Sheet.

56. 1. Science is concerned with finding out how things actually happen.

- P. He showed that a light object falls to the ground at the same rate as a heavy object.
- Q. It does not mean laying down principles as to how they ought to happen.
- R. This did not agree with the views of most learned men of that time.
- S. The most famous example of this concerns Galileo's discovery about falling bodies.
6. But Galileo proved his point experimentally by dropping weights from the Leaning Tower of Pisa.
- (A) PSQR (B) QSPR
(C) RQPS (D) SQPR

57. 1. After inventing dynamite, Alfred Nobel became a rich man.

- P. He created a fund just two weeks before his death.
- Q. Alfred did not want to be remembered as the inventor of dynamite.
- R. He apprehended its universally destructive power too late.
- S. Prizes are given from this fund to people for their enormous contributions to humanity.
6. Nobel prizes for various disciplines are awarded each year on the anniversary of his death.
- (A) PQRS (B) RQPS
(C) QPSR (D) SPQR

58. 1. A proposal has been made
P. tourists will continue to visit game parks
 Q. to trim the horns of rhinos to discourage poachers
R. and the question is whether
S. to see rhinos once the animals' horns
6. have been trimmed.
(A) RPQS (B) SQPR
(C) QRPS (D) PRSQ

59. 1. The pungent vapour that is released

- P. which make our eyes stream and nose run,
Q. contains irritant chemicals
R. when we chop onions
S. eases congestion as well as
6. flushes out virus particles.
(A) RQPS (B) QPRS
(C) SQPR (D) QRPS

60. 1. Miss Sullivan led Helen into her room and gave her a doll.

- P. Helen was simply making her fingers go in monkey-like imitation.
Q. Miss Sullivan tried to make Helen understand that 'd-o-l-l' applied to both.
R. Miss Sullivan spelled the word 'd-o-l-l' on to Helen's hand.
S. Miss Sullivan put her big rag doll into her lap and also spelled 'd-o-l-l'.
6. Her teacher had been with her several weeks before Helen understood that everything has a name.
- (A) SRPQ (B) QPSR
(C) RPSQ (D) PSQR

61. 1. Marie chose to study Physics
P. that investigates the four forces at work

- Q. in the universe
R. which is a branch of science
S. both on a large scale, as in the solar system
6. or on a small scale, as in atoms.
(A) RQPS (B) RPQS
(C) PSRQ (D) SPRQ

Directions : In Question Nos. 62 to 66, in the following passage some of the words have been left out. Read the passage carefully and choose the correct answer to each question out of the four alternative and fill in the blanks.

Then he spent the next two hours finding different ways to 62 me: whining, burying his wet head in my lap, pawing at my legs, 63 to my every look or movement. Every time, I 64 up from my work, his deep brown eyes were 65 me and his tail thumped on the floor. So, that night in 1967, Booto, the wild dog from the 66 came into my lonely life.

62. (A) scold (B) thank
(C) threaten (D) receive
63. (A) reacting (B) catching
(C) answering (D) jumping
64. (A) woke (B) looked
(C) shuffled (D) opened
65. (A) with (B) into
(C) by (D) on
66. (A) town (B) village
(C) street (D) forests

Directions : In Question Nos. 67 to 71, you have one passage with 5 questions. Read the passage carefully and choose the best answer to each question out of the four alternatives and mark it by blackening the appropriate oval [●] in the Answer Sheet.

The Bureau of Indian Standards (BIS) does not specify any standards for domestic exhaust fans. Therefore, none of the models tested carried the ISI mark. CERS tested the exhaust fans for power leakage, insulation resistance, earthing continuity, electrical input and protection against direct current. All of them were found to conform to the safety requirements for commercial or industrial purpose ventilating fans set by the BIS.

Usually exhaust fans are fitted with an external guard (grill or mesh). Such guards are useful to prevent accidental contact with moving parts of the fan.

The tests revealed that though all the models tested conformed to the safety tests, their air delivery and electricity consumption differed widely and hence, their service value also varied. Consumers should make a conscious decision depending on their need. For small spaces, an exhaust fan with high service value would be best because such a fan will give you sufficient air delivery with low energy cost. But for bigger spaces perhaps you wouldn't like to compromise with the air delivery of the fan, even if it adds a little more to your energy bill.

67. The decision of the consumers to buy an exhaust fan would depend on their
(A) liking (B) desire
(C) requirement (D) fancy
68. The installation of exhaust fans with high service value should be
(A) space oriented
(B) bill oriented
(C) delivery-of-air oriented
(D) all of the above
69. 'conform' means
(A) establish the truth
(B) to authenticate
(C) comply with safety requirements
(D) comply with rules or standards
70. None of the domestic exhaust fans carried the ISI mark because
(A) CERS and not ISI tested them.
(B) ISI has no standards for them.
(C) they pose no danger of power leakage, earthing continuity, electrical input etc.
(D) they are fitted with guards.
71. The service value of the exhaust fans varied because
(A) air delivery differed
(B) electricity consumption differed
(C) they were not fitted with guards
(D) both (A) and (B)

Directions : In Question Nos. 72 to 76, some parts 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 errors, blacken the oval corresponding to (D) in the Answer Sheet.

72. As a boy Dhritiman is very obedient,
polite and hard-working,
(A)
but as a student he is,
(B)
always inattentive in study. / No error
(C) (D)
73. When I fail,
(A)
to solve the problem myself,
(B)
I unhesitatingly called for his help.
(C)
No error
(D)
74. I and Tina will, go to the market /
(A) (B)
in the evening. / No error
(C) (D)
75. Krishnakali, an early riser
and a nature-lover,
(A)
goes to morning walk at Rabindra
(B)
Sarovar lake, before dawn. /
(C)
No error
(D)

76. There would have been, a disaster,
(A) (B)
and for your prompt action,
(C)
No error
(D)

Directions : In Question Nos. 77 to 81, sentences are 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.

77. Come what ____, I shall adhere to my principles.
(A) can (B) may
(C) might (D) will
78. Slow and steady ____ the race.
(A) is winning (B) wins
(C) will win (D) win
79. Night came on and the room ____ dark.
(A) is growing (B) has grown
(C) grew (D) will grow
80. Only patience and fortitude carried him ____ the crisis.
(A) over (B) about
(C) out (D) through
81. Octopuses are mostly shy and ____ harmless to human beings.
(A) generally (B) mainly
(C) completely (D) rarely

Directions : In Question Nos. 82 & 83, choose the word opposite in meaning to the given word and mark it in the Answer Sheet.

82. Indifferent
(A) restless (B) inattentive
(C) attentive (D) reliable

83. Agitate
(A) please (B) disturb
(C) pacify (D) rouse

Directions : In Question Nos. 84 & 85, four words are given in each question, out of which only one word is correctly spelt. Find the correctly spelt word and mark your answer in the Answer Sheet.

84. (A) wellful (B) wilfull
(C) wilful (D) willfull

85. (A) satelite (B) satellite
(C) satallite (D) satellite

Directions : In Question Nos. 86 & 87, out of the four alternatives, choose the one which best expresses the meaning of the given word and mark it in the Answer Sheet.

86. Pretend
(A) guess (B) suspect
(C) think (D) feign

87. Anguished
(A) sorrowful (B) doubtful
(C) respectful (D) joyful

Directions : In Question Nos. 88 to 90, four alternatives are given for the Idiom/Phrase underlined in the sentence. Choose the alternative which best expresses the meaning of the Idiom/Phrase and mark it in the Answer Sheet.

88. We have to put up with the sorrows of life.

- (A) bear patiently
(B) fight against
(C) welcome cheerfully
(D) treat with indifference

89. I saw through the trick and was on guard.

- (A) anticipated (B) detected
(C) witnessed (D) defeated

90. He is not a good lawyer but he has the gift of the gab.

- (A) He can talk very fast.
(B) He can speak very well.
(C) He has a good voice.
(D) He can pretend convincingly.

Directions : In Question Nos. 91 to 93, out of the four alternatives choose the one which can be substituted for the given words/sentence.

91. One who takes care of a building
(A) Janitor (B) Manager
(C) Warden (D) Beadle

92. One who lends money at a very high interest
(A) Banker (B) Usurer
(C) Imposter (D) Former

93. Incapable of being approached
(A) Inaccessible (B) Inadmissible
(C) Irresistible (D) Illegal

Directions : In Question Nos. 94 & 95, a part of the sentence is underlined. Below are given alternatives to the underlined 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.

94. The President shook hands with all the persons on the dais.

- (A) shook hands with all.
(B) shook hands with each of the persons.
(C) shook hands with everyone.
(D) no improvement.

95. The fronds of the coconut tree make a gentle musical note when the wind blows.

- (A) music note
(B) music sound
(C) musical sound
(D) no improvement

Directions : In Question Nos. 96 to 100, a sentence has been given in Active/Passive Voice. Out of the four alternatives suggested, select the one which best expresses the same sentence in Passive/Active Voice and mark your answer in the Answer Sheet.

96. I don't like people telling me what to do.

- (A) I don't like it when people are telling me what to do.
(B) I don't like being told what to do.
(C) Telling me what to do is what I don't like.
(D) I don't like people when they tell me what to do.

97. Have you been shown what to do ?
(A) Have anybody been shown by you what to do ?
(B) Have anybody been showing you what to do ?
(C) Has you been shown what to do ?
(D) Has anybody shown you what to do ?

98. Aditya saw Dinesh shopping at the mall.

- (A) Dinesh is seen shopping at the mall by Aditya.
(B) Dinesh was seen shopping at the mall by Aditya.
(C) Dinesh was being seen shopping at the mall by Aditya.
(D) Dinesh is being seen shopping at the mall by Aditya.

99. He wasn't given the information he needed.

- (A) Somebody was not given the information he needed.
(B) The information he needed wasn't given to him.
(C) He needed the information he wasn't given.
(D) They didn't give him the information he needed.

100. Bipin was not told about the meeting.

- (A) Somebody did not tell Bipin about the meeting.
(B) There was nobody who could tell Bipin about the meeting.
(C) Nobody told Bipin about the meeting.
(D) The meeting was not told about to Bipin.

PART - III
QUANTITATIVE APTITUDE

101. The radius of cross-section of a solid cylindrical rod of iron is 50 cm. The cylinder is melted down and formed into 6 solid spherical balls of the same radius as that of the cylinder. The length of the rod (in metres) is
(A) 0.8 (B) 2
(C) 3 (D) 4
102. The volume of a hemi-sphere is equal to the volume of a right-circular cylinder whose radius of the base is equal to the radius of the hemisphere. Then the ratio of the height and the radius of the base of the right-circular cylinder is
(A) 2:3 (B) 3:2
(C) 1:3 (D) 1:2
103. If the base of a right pyramid is triangle of sides 5 cm, 12 cm, 13 cm and its volume is 330 cm^3 , then its height (in cm) will be
(A) 33 (B) 32
(C) 11 (D) 22
104. The perimeter of a rhombus is 100 cm and one of its diagonals is 40 cm. Its area (in cm^2) is
(A) 1200 (B) 1000
(C) 600 (D) 500
105. A kite in the shape of a square with a diagonal 32 cm attached to an equilateral triangle of the base 8 cm. Approximately how much paper has been used to make it?
(use $\sqrt{3} = 1.732$)
(A) 539.712 cm^2 (B) 538.721 cm^2
(C) 540.712 cm^2 (D) 539.217 cm^2

SPACE FOR ROUGH WORK

106. $\frac{2 \sin 68^\circ}{\cos 22^\circ} - \frac{2 \cot 15^\circ}{5 \tan 75^\circ} - \frac{3 \tan 45^\circ \tan 20^\circ \tan 40^\circ \tan 50^\circ \tan 70^\circ}{5}$ is equal to
(A) -1 (B) 0
(C) 1 (D) 2
107. The value of $\operatorname{cosec}^2 18^\circ - \frac{1}{\cot^2 72^\circ}$ is
(A) $\frac{1}{\sqrt{3}}$ (B) $\frac{\sqrt{2}}{3}$
(C) $\frac{1}{2}$ (D) 1
108. If $\alpha + \beta = 90^\circ$, then the value of $(1 - \sin^2 \alpha)(1 - \cos^2 \alpha) \times (1 + \cot^2 \beta)(1 + \tan^2 \beta)$ is
(A) 1 (B) -1
(C) 0 (D) 2
109. If $\tan \theta - \cot \theta = 0$, find the value of $\sin \theta + \cos \theta$.
(A) 0 (B) 1
(C) $\sqrt{2}$ (D) 2
110. If the interior angle of a regular polygon is double the measure of exterior angle, then the number of sides of the polygon is
(A) 6 (B) 8
(C) 10 (D) 12
111. A right prism stands on a base 6 cm equilateral triangle and its volume is $81\sqrt{3} \text{ cm}^3$. The height (in cms) of the prism is
(A) 9 (B) 10
(C) 12 (D) 15

भाग - III
मात्रात्मक अभिक्रमता

101. लोहे की एक ठोस बेलनाकार छड़ के अनुप्रस्थ-छाण्ड की त्रिज्या 50 सेमी है। उस बेलन को पिघलाकर, 6 ऐसी गोलाकार गेंदों में ढाला गया है, जिनकी त्रिज्या बेलन की त्रिज्या के बराबर है। तदनुसार, उस छड़ की लंबाई कितने मीटर होगी?
(A) 0.8 (B) 2
(C) 3 (D) 4
102. एक अर्धगोले का आयतन, उस लंब वृतीय बेलन के आयतन के बराबर है, जिसके आधार की त्रिज्या, उक्त अर्धगोले की त्रिज्या के बराबर है। तदनुसार, उस लंब वृतीय बेलन की ऊँचाई तथा आधार की त्रिज्या का अनुपात कितना होगा?
(A) 2:3 (B) 3:2
(C) 1:3 (D) 1:2
103. यदि एक समलंब पिरमिड का आधार 5 सेमी, 12 सेमी तथा 13 सेमी भुजाओं वाला त्रिभुज हो और उसका आयतन 330 सेमी^3 हो, तो उसकी ऊँचाई कितने सेमी होगी?
(A) 33 (B) 32
(C) 11 (D) 22
104. एक समचतुर्भुज का परिमाण 100 सेमी है और उसका एक विकर्ण 40 सेमी है। तदनुसार, उसका क्षेत्रफल कितने सेमी^2 है?
(A) 1200 (B) 1000
(C) 600 (D) 500
105. एक वर्गाकार पतंग, जिसका विकर्ण 32 सेमी है, 8 सेमी आधार वाले एक समबाहु त्रिभुज से जोड़ी गई है। तदनुसार, उसे बनाने में लगभग कितना कागज इस्तेमाल हुआ होगा? ($\sqrt{3} = 1.732$ मानकर)
(A) 539.712 सेमी^2
(B) 538.721 सेमी^2
(C) 540.712 सेमी^2
(D) 539.217 सेमी^2

रफ कार्य के लिए स्थान

106. $\frac{2 \sin 68^\circ}{\cos 22^\circ} - \frac{2 \cot 15^\circ}{5 \tan 75^\circ} - \frac{3 \tan 45^\circ \tan 20^\circ \tan 40^\circ \tan 50^\circ \tan 70^\circ}{5}$ किसके बराबर है?
(A) -1 (B) 0
(C) 1 (D) 2
107. $\operatorname{cosec}^2 18^\circ - \frac{1}{\cot^2 72^\circ}$ का मान कितना होगा?
(A) $\frac{1}{\sqrt{3}}$ (B) $\frac{\sqrt{2}}{3}$
(C) $\frac{1}{2}$ (D) 1
108. यदि $\alpha + \beta = 90^\circ$ हो, तो $(1 - \sin^2 \alpha)(1 - \cos^2 \alpha) \times (1 + \cot^2 \beta)(1 + \tan^2 \beta)$ का मान कितना होगा?
(A) 1 (B) -1
(C) 0 (D) 2
109. यदि $\tan \theta - \cot \theta = 0$ हो, तो $\sin \theta + \cos \theta$ का मान ज्ञात कीजिए।
(A) 0 (B) 1
(C) $\sqrt{2}$ (D) 2
110. यदि एक सम बहुभुज के आंतरिक कोण का माप, उसके बाह्य कोण का दुगुना हो, तो उस बहुभुज की भुजाओं की संख्या कितनी है?
(A) 6 (B) 8
(C) 10 (D) 12
111. एक समलंब त्रिभुज 6 सेमी आधार वाले समबाहु त्रिभुज पर स्थित है और उसका आयतन $81\sqrt{3} \text{ सेमी}^3$ है। तदनुसार, उस त्रिभुज की ऊँचाई कितने सेमी होगी?
(A) 9 (B) 10
(C) 12 (D) 15

112. If $\frac{(x-\sqrt{24})(\sqrt{75}+\sqrt{50})}{\sqrt{75}-\sqrt{50}} = 1$, then the value of x is

- (A) $\sqrt{5}$ (B) 5
(C) $2\sqrt{5}$ (D) $3\sqrt{5}$

113. The total number of Prime factors in $4^{10} \times 7^3 \times 16^2 \times 11 \times 10^2$ is

- (A) 34 (B) 35
(C) 36 (D) 37

114. Out of the numbers 0.3, 0.03, 0.9, 0.09 the number that is nearest to the value of $\sqrt{0.9}$ is

- (A) 0.3 (B) 0.03
(C) 0.9 (D) 0.09

115. In a division sum, the divisor is 12 times the quotient and 5 times the remainder. If the remainder is 36, then the dividend is

- (A) 2706 (B) 2796
(C) 2736 (D) 2826

116. The value of

$$3\frac{1}{2} - \left[2\frac{1}{4} + \left\{ \frac{1}{4} - \frac{1}{2} \left(\frac{1}{2} - \frac{1}{3} - \frac{1}{6} \right) \right\} \right]$$

- (A) $\frac{1}{2}$ (B) $2\frac{1}{2}$
(C) $3\frac{1}{2}$ (D) $9\frac{1}{2}$

117. Arbind spends 75% of his income and saves the rest. His income is increased by 20% and he increases his expenditure by 10%. Then the increase in savings in percentage is

- (A) 55% (B) 52%
(C) 50% (D) 48%

118. Two alloys are both made up of copper and tin. The ratio of copper and tin in the first alloy is 1 : 3 and in the second alloy is 2 : 5. In what ratio should the two alloys be mixed, to obtain a new alloy in which the ratio of tin and copper be 8 : 3 ?

- (A) 3 : 5 (B) 4 : 7
(C) 3 : 8 (D) 5 : 11

119. $\frac{\frac{2}{7} - \frac{1}{2}}{\frac{1}{3} + \frac{1}{7}} + \frac{1}{2 + \frac{1}{2 + \frac{1}{5 - \frac{1}{5}}}}$ is equal to

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

120. The sum of two numbers is 520. If the bigger number is decreased by 4% and the smaller number is increased by 12%, then the numbers obtained are equal. The smaller number is

- (A) 280 (B) 210
(C) 240 (D) 300

SPACE FOR ROUGH WORK

112. यदि $\frac{(x-\sqrt{24})(\sqrt{75}+\sqrt{50})}{\sqrt{75}-\sqrt{50}} = 1$ हो, तो x का मान कितना होगा ?

- (A) $\sqrt{5}$ (B) 5
(C) $2\sqrt{5}$ (D) $3\sqrt{5}$

113. $4^{10} \times 7^3 \times 16^2 \times 11 \times 10^2$ में अभाज्य गुण-खंडों की कुल संख्या कितनी है ?

- (A) 34 (B) 35
(C) 36 (D) 37

114. 0.3, 0.03, 0.9, 0.09 संख्याओं में, वह संख्या कौन सी है, जो $\sqrt{0.9}$ के मान के निकटतम है ?

- (A) 0.3 (B) 0.03
(C) 0.9 (D) 0.09

115. विभाजन के एक योगफल में विभाजक, भागफल का 12 गुना तथा शेषफल का 5 गुना है। तदनुसार, यदि उसमें शेषफल 36 हो, तो भाज्य कितना होगा ?

- (A) 2706 (B) 2796
(C) 2736 (D) 2826

116. $3\frac{1}{2} - \left[2\frac{1}{4} + \left\{ \frac{1}{4} - \frac{1}{2} \left(\frac{1}{2} - \frac{1}{3} - \frac{1}{6} \right) \right\} \right]$ का मान कितना है ?

- (A) $\frac{1}{2}$ (B) $2\frac{1}{2}$
(C) $3\frac{1}{2}$ (D) $9\frac{1}{2}$

117. अरविंद अपनी आय का 75% खर्च करता है और शेष बचा लेता है। उसकी आय में 20% वृद्धि हो जाने पर, वह अपने खर्च में 10% की वृद्धि कर देता है। तदनुसार, उसकी बचत में कितने प्रतिशत वृद्धि हो जाएगी ?

- (A) 53% (B) 52%
(C) 50% (D) 48%

118. दो मिश्रधातु तौंबे तथा टिन से बने हैं। पहली मिश्रधातु में तौंबा तथा टिन का अनुपात 1 : 3 है, तथा दूसरी में 2 : 5 है। तदनुसार, उन दोनों मिश्रधातुओं को किस अनुपात में मिलाना चाहिए, ताकि नई मिश्रधातु में टिन तथा तौंबे का अनुपात 8 : 3 हो जाए ?

- (A) 3 : 5 (B) 4 : 7
(C) 3 : 8 (D) 5 : 11

119. $\frac{\frac{2}{7} - \frac{1}{2}}{\frac{1}{3} + \frac{1}{7}} + \frac{1}{2 + \frac{1}{2 + \frac{1}{5 - \frac{1}{5}}}}$

- किसके बराबर है ?
(A) 1 (B) $\frac{1}{2}$
(C) 2 (D) $\frac{1}{3}$

120. दो संख्याओं का योग 520 है। यदि उनमें बड़ी संख्या को 4% कम कर दिया जाए और छोटी को 12% बढ़ा दिया जाए, तो प्राप्त संख्याएँ एकसमान होंगी। तदनुसार, उनमें छोटी संख्या कौन सी है ?

- (A) 280 (B) 210
(C) 240 (D) 300

रफ कार्य के लिए स्थान

Handwritten calculations for problem 112:
 $\frac{(x-\sqrt{24})(\sqrt{75}+\sqrt{50})}{\sqrt{75}-\sqrt{50}} = 1$
 $(x-\sqrt{24})(\sqrt{75}+\sqrt{50}) = \sqrt{75}-\sqrt{50}$
 $x-\sqrt{24} = \frac{\sqrt{75}-\sqrt{50}}{\sqrt{75}+\sqrt{50}}$
 $x = \sqrt{24} + \frac{\sqrt{75}-\sqrt{50}}{\sqrt{75}+\sqrt{50}}$
 $x = 2\sqrt{6} + \frac{\sqrt{75}-\sqrt{50}}{\sqrt{75}+\sqrt{50}}$
 $x = 2\sqrt{6} + \frac{(\sqrt{75}-\sqrt{50})(\sqrt{75}-\sqrt{50})}{(\sqrt{75}+\sqrt{50})(\sqrt{75}-\sqrt{50})}$
 $x = 2\sqrt{6} + \frac{75-50-75\sqrt{50}+50\sqrt{75}}{75-50}$
 $x = 2\sqrt{6} + \frac{25-75\sqrt{50}+50\sqrt{75}}{25}$
 $x = 2\sqrt{6} + \frac{1-3\sqrt{50}+2\sqrt{75}}{1}$
 $x = 2\sqrt{6} + 1 - 3\sqrt{50} + 2\sqrt{75}$
 $x = 2\sqrt{6} + 1 - 3\sqrt{2 \cdot 25} + 2\sqrt{3 \cdot 25}$
 $x = 2\sqrt{6} + 1 - 3 \cdot 5\sqrt{2} + 2 \cdot 5\sqrt{3}$
 $x = 2\sqrt{6} + 1 - 15\sqrt{2} + 10\sqrt{3}$

121. A mixture contains alcohol and water in the ratio 4 : 3. If 5 litres of water is added to the mixture, the ratio becomes 4 : 5. The quantity of alcohol in the given mixture is

- (A) 3 litres (B) 4 litres
(C) 15 litres (D) 10 litres

122. The average of nine consecutive numbers is n . If the next two numbers are also included the new average will

- (A) increase by 2
(B) remain the same
(C) increase by 1.5
(D) increase by 1

123. The simple interest on a sum of money is $\frac{1}{16}$ of the sum. If the number of years is numerically equal to the rate percent per annum, then the rate percent per annum is

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

124. If $(a + b) : (b + c) : (c + a) = 6 : 7 : 8$ and $(a + b + c) = 14$, then the value of c is

- (A) 6 (B) 7
(C) 8 (D) 14

125. Evaluate

$$\sqrt{20} + \sqrt{12} + \sqrt[3]{729} - \frac{4}{\sqrt{5} - \sqrt{3}} - \sqrt{81}$$

- (A) $\sqrt{2}$ (B) $\sqrt{3}$
(C) 0 (D) $2\sqrt{2}$

SPACE FOR ROUGH WORK

126. A mobile phone is listed at ₹ 1,500 and a discount of 10% is offered on the list price. What additional discount must be offered to the customer now to bring the net price to ₹ 1,242 ?

- (A) 10% (B) 8%
(C) 12% (D) 18%

127. A, B and C entered into a business and their investments ratio was 5 : 4 : 3. After 4 months B invested ₹ 1,000 more and after 8 months C invested ₹ 2,000 more. At the end of one year the profit ratio was 15 : 14 : 11, then the investment of C at the beginning was

- (A) ₹ 3,000 (B) ₹ 6,000
(C) ₹ 4,500 (D) ₹ 7,500

128. Two trains, each of length 125 metre, are running in parallel tracks in opposite directions. One train is running in a speed 65 km/hour and they cross each other in 6 seconds. The speed of the other train is

- (A) 75 km/hour (B) 85 km/hour
(C) 95 km/hour (D) 105 km/hour

129. An article was sold at a profit of 12%. If the cost price would be 10% less and selling price would be ₹ 5.75 more, there would be profit of 30%. Then at what price it should be sold to make a profit of 20% ?

- (A) ₹ 115 (B) ₹ 120
(C) ₹ 138 (D) ₹ 215

130. If the cost price of 12 pens is equal to the selling price of 8 pens, the gain percentage is

- (A) 25% (B) $33\frac{1}{3}\%$
(C) 50% (D) $66\frac{2}{3}\%$

121. एक मिश्रण में अल्कोहल तथा जल का अनुपात 4 : 3 है। यदि उसी मिश्रण में 5 लीटर जल और मिला दिया जाए, तो अनुपात 4 : 5 हो जाता है। तदनुसार, उस नए मिश्रण में अल्कोहल का मात्रा कितनी है ?

- (A) 3 लीटर (B) 4 लीटर
(C) 15 लीटर (D) 10 लीटर

122. 9 क्रमिक संख्याओं का औसत n है। यदि उनमें दो अगली संख्याएँ भी शामिल कर ली जाएँ, तो नया औसत कितना हो जाएगा ?

- (A) 2 की वृद्धि होगी।
(B) वही रहेगा।
(C) 1.5 की वृद्धि होगी।
(D) 1 की वृद्धि होगी।

123. एक घनराशि पर साधारण ब्याज उस राशि का $\frac{1}{16}$ है। उसमें यदि वर्षों की संख्या, वार्षिक दर की संख्या के बराबर हो, तो वार्षिक प्रतिशत दर कितनी है ?

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

124. यदि $(a + b) : (b + c) : (c + a) = 6 : 7 : 8$ हो और $(a + b + c) = 14$ हो, तो c का मान कितना होगा ?

- (A) 6 (B) 7
(C) 8 (D) 14

125. $\sqrt{20} + \sqrt{12} + \sqrt[3]{729} - \frac{4}{\sqrt{5} - \sqrt{3}} - \sqrt{81}$

- का मान ज्ञात कीजिए।
(A) $\sqrt{2}$ (B) $\sqrt{3}$
(C) 0 (D) $2\sqrt{2}$

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126. एक मोबाइल फोन का अंकित मूल्य ₹ 1,500 है और उस पर 10% की छूट प्रस्तावित है। तदनुसार, किसी ग्राहक को कितनी छूट अतिरिक्त दी जानी चाहिए, ताकि उसका वास्तविक मूल्य ₹ 1,242 हो जाए ?

- (A) 10% (B) 8%
(C) 12% (D) 18%

127. A, B तथा C एक व्यापार में 5 : 4 : 3 के अनुपात में निवेश करके शामिल हुए। 14 महीनों बाद B ने ₹ 1,000 का अतिरिक्त निवेश किया और 8 महीनों बाद C ने ₹ 2,000 का अतिरिक्त निवेश किया। तदनुसार, एक वर्ष के बाद यदि लाभ का अनुपात 15 : 14 : 11 का रहा हो, तो C का आरंभिक निवेश कितना था ?

- (A) ₹ 3,000 (B) ₹ 6,000
(C) ₹ 4,500 (D) ₹ 7,500

128. प्रत्येक 125 मीटर लंबी दो रेलगाड़ियों समांतर पटरियों पर विपरीत दिशा में चल रही हैं। उनमें एक रेलगाड़ी 65 किमी/घं की गति से चल रही है और वे दोनों एक-दूसरे को 6 सेकेंडों में पार कर लेती हैं। तदनुसार, दूसरी रेलगाड़ी की गति कितनी होगी ?

- (A) 75 किमी/घं (B) 85 किमी/घं
(C) 95 किमी/घं (D) 105 किमी/घं

129. एक वस्तु 12% हानि पर बेची गई। यदि उसका लागत मूल्य 10% कम होता और विक्रो मूल्य ₹ 5.75 अधिक होता, तो लाभ 30% हो जाता। तदनुसार, उस पर 20% लाभ पाने के लिए उसे कितने रुपयों में बेचना चाहिए ?

- (A) ₹ 115 (B) ₹ 120
(C) ₹ 138 (D) ₹ 215

130. यदि 12 पेनों का लागत-मूल्य 8 पेनों के विक्रय मूल्य के बराबर हो, तो उन पर लाभ कितने प्रतिशत है ?

- (A) 25% (B) $33\frac{1}{3}\%$
(C) 50% (D) $66\frac{2}{3}\%$

131. If $a - b = 3$ and $a^3 - b^3 = 117$, then $|a + b|$ is equal to
 (A) 3 (B) 5
 (C) 7 (D) 9
132. If $a + b + c = 15$ and $a^2 + b^2 + c^2 = 83$, then the value of $a^3 + b^3 + c^3 - 3abc$ is
 (A) 200 (B) 180
 (C) 190 (D) 210
133. If the graphs of the equations $3x + 2y = 18$ and $3y - 2x = 1$ intersect at the point (p, q) , then the value of $p + q$ is
 (A) 7 (B) 6
 (C) 5 (D) 4
134. If $x = \frac{4\sqrt{15}}{\sqrt{5} + \sqrt{3}}$, the value of $\frac{x + \sqrt{20}}{x - \sqrt{20}} + \frac{x + \sqrt{12}}{x - \sqrt{12}}$ is
 (A) 1 (B) 2
 (C) $\sqrt{3}$ (D) $\sqrt{5}$
135. If 4 men or 6 women can do a piece of work in 12 days working 7 hours a day; how many days will it take to complete a work twice as large with 10 men and 3 women working together 8 hours a day?
 (A) 6 (B) 7
 (C) 8 (D) 10
136. If $x^2 - 3x + 1 = 0$, then the value of $x^5 + \frac{1}{x^5}$ is equal to
 (A) 87 (B) 123
 (C) 135 (D) 201

SPACE FOR ROUGH WORK

137. ABC is an isosceles right angled triangle with $\angle B = 90^\circ$. On the sides AC and AB, two equilateral triangles ACD and ABE have been constructed. The ratio of areas of $\triangle ABE$ and $\triangle ACD$ is
 (A) 1:3 (B) 2:3
 (C) 1:2 (D) $1:\sqrt{2}$
138. The radii of two concentric circles are 13 cm and 8 cm. AB is a diameter of the bigger circle and BD is a tangent to the smaller circle touching it at D and the bigger circle at E. Point A is joined to D. The length of AD is
 (A) 20 cm (B) 19 cm
 (C) 18 cm (D) 17 cm
139. The radius of two concentric circles are 17 cm and 10 cm. A straight line ABCD intersects the larger circle at the point A and D and intersects the smaller circle at the points B and C. If $BC = 12$ cm, then the length of AD (in cm) is:
 (A) 20 (B) 24
 (C) 30 (D) 34
140. The exterior angles obtained on producing the base BC of a triangle ABC in both ways are 120° and 105° , then the vertical $\angle A$ of the triangle is of measure
 (A) 36° (B) 40°
 (C) 45° (D) 55°
141. If AD, BE and CF are medians of $\triangle ABC$, then which one of the following statements is correct?
 (A) $(AD + BE + CF) < AB + BC + CA$
 (B) $AD + BE + CF > AB + BC + CA$
 (C) $AD + BE + CF = AB + BC + CA$
 (D) $AD + BE + CF = \sqrt{2}(AB + BC + CA)$

131. यदि $a - b = 3$ तथा $a^3 - b^3 = 117$ हो, तो $|a + b|$ किसके बराबर होगा?
 (A) 3 (B) 5
 (C) 7 (D) 9
132. यदि $a + b + c = 15$ तथा $a^2 + b^2 + c^2 = 83$ हो, तो $a^3 + b^3 + c^3 - 3abc$ का मान कितना होगा?
 (A) 200 (B) 180
 (C) 190 (D) 210
133. यदि समीकरणों $3x + 2y = 18$ तथा $3y - 2x = 1$ के लघुचित्र परस्पर (p, q) बिंदु पर काटते हों, तो $p + q$ का मान कितना होगा?
 (A) 7 (B) 6
 (C) 5 (D) 4
134. यदि $x = \frac{4\sqrt{15}}{\sqrt{5} + \sqrt{3}}$ हो, तो $\frac{x + \sqrt{20}}{x - \sqrt{20}} + \frac{x + \sqrt{12}}{x - \sqrt{12}}$ का मान कितना होगा?
 (A) 1 (B) 2
 (C) $\sqrt{3}$ (D) $\sqrt{5}$
135. 4 पुरुष या 6 स्त्रियों एक कार्य 7 घंटे प्रति दिन कार्य करके 12 दिनों में कर सकते हैं। तदनुसार, उसी कार्य का दुगुना बड़ा कार्य 10 पुरुष तथा 3 स्त्रियों 8 घंटे प्रति दिन कार्य करके कितने दिनों में पूरा कर सकेंगे?
 (A) 6 (B) 7
 (C) 8 (D) 10
136. यदि $x^2 - 3x + 1 = 0$ हो, तो $x^5 + \frac{1}{x^5}$ का मान कितना होगा?
 (A) 87 (B) 123
 (C) 135 (D) 201

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$$a^3 - b^3 = (a-b)(a^2 + ab + b^2)$$

$$3p + 2q = 18 \quad (9p + 6q = 54)$$

$$3q - 2p = 1 \quad (9q - 6p = 3)$$

$$6p + 19q = 57$$

$$15q = 52 \quad 9p + \frac{31q}{15} = 54$$

137. ABC एक समद्विबाहु समकोण त्रिभुज है, जिसमें $\angle B = 90^\circ$ है। उसकी भुजाओं AC तथा AB पर दो समबाहु त्रिभुज ACD तथा ABE बनाए गए हैं। तदनुसार, $\triangle ABE$ तथा $\triangle ACD$ के क्षेत्रफलों का अनुपात कितना होगा?
 (A) 1:3 (B) 2:3
 (C) 1:2 (D) $1:\sqrt{2}$
138. दो संकेद्री वृत्तों को त्रिज्याएँ 13 सेमी तथा 8 सेमी हैं। AB बड़े वृत्त का व्यास है और BD एक स्पर्श रेखा है, जो छोटे वृत्त को D पर स्पर्श करती है और बड़े वृत्त को E पर। बिंदु A को D से जोड़ दिया गया है। तदनुसार, AD की लंबाई कितनी होगी?
 (A) 20 सेमी (B) 19 सेमी
 (C) 18 सेमी (D) 17 सेमी
139. दो संकेद्री वृत्तों की त्रिज्याएँ 17 सेमी तथा 10 सेमी हैं। एक सरल रेखा ABCD बड़े वृत्त को A तथा D बिंदुओं पर और छोटे वृत्त को B तथा C बिंदुओं पर काटती है। तदनुसार, यदि $BC = 12$ सेमी हो, तो AD की लंबाई कितने सेमी होगी?
 (A) 20 (B) 24
 (C) 30 (D) 34
140. एक त्रिभुज ABC के आधार BC को दोनों ओर बढ़ाने पर उस पर बने बाह्य कोण क्रमशः 120° तथा 105° हैं। तदनुसार, त्रिभुज के शीर्ष कोण $\angle A$ का माप कितना होगा?
 (A) 36° (B) 40°
 (C) 45° (D) 55°
141. यदि AD, BE तथा CF, $\triangle ABC$ की मध्यिकाएँ हों, तो निम्न में कौन सा कथन सही है?
 (A) $(AD + BE + CF) < AB + BC + CA$
 (B) $AD + BE + CF > AB + BC + CA$
 (C) $AD + BE + CF = AB + BC + CA$
 (D) $AD + BE + CF = \sqrt{2}(AB + BC + CA)$

142. The product of two numbers is 2160 and their HCF is 12. Number of such possible pairs is

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

143. If two pipes function simultaneously, a tank is filled in 12 hours. One pipe fills the tank 10 hours faster than the other. How many hours does the faster pipe alone take to fill the tank?

- (A) 20 (B) 18
(C) 15 (D) 12

144. Two right circular cones of equal heights of radii of bases 3 cm and 4 cm are melted together and made to a solid sphere of radius 5 cm. The height of a cone is

- (A) 10 cm (B) 20 cm
(C) 30 cm (D) 40 cm

145. The elevation of the top of a tower from a point on the ground is 45° . On travelling 60 m from the point towards the tower, the elevation of the top becomes 60° . The height of the tower, in metres, is

- (A) 30 (B) $30(3 - \sqrt{3})$
(C) $30(3 + \sqrt{3})$ (D) $30\sqrt{3}$

146. The value of

$$\frac{(a-b)^2}{(b-c)(c-a)} + \frac{(b-c)^2}{(a-b)(c-a)} + \frac{(a-c)^2}{(a-b)(b-c)}$$

where $a \neq b \neq c$, is

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

SPACE FOR ROUGH WORK

Direction : Study the following table and answer Question Nos. 147 and 148.

Year	Percentage of Candidates Qualified under discipline					Total Number of Candidates qualified
	Arts	Science	Commerce	Agriculture	Engineering	
2006	24	40	19	09	08	780
2007	15	42	18	13	12	650
2008	20	45	20	08	07	500
2009	15	45	16	14	10	620
2010	19	35	15	19	12	900
2011	18	42	14	12	14	850

147. The decrease in the number of candidates qualified under Arts discipline from 2010 to 2011 was

- (A) 11 (B) 18
(C) 42 (D) 69

148. The difference in the average number of candidates qualified in Science discipline per year from 2006 to 2008 and the average number of candidates qualified in the same discipline from 2009 to 2011 was

- (A) 47 (B) 57
(C) 74 (D) 141

142. दो संख्याओं का गुणनफल 2160 है और उनका महत्तम समापक्यक 12 है। तदनुसार, इस प्रकार के जोड़ों की संभावित संख्या कितनी है ?

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

143. यदि दो नलियाँ एक साथ चालू हों, तो एक टंकी 12 घंटों में भर जाती है। उनमें एक नली उस टंकी को दूसरी की अपेक्षा 10 घंटे अधिक की गति से भर देती है। तदनुसार, वह तेज गति वाली नली अकेली, उस टंकी को कितने घंटों में भर देगी ?

- (A) 20 (B) 18
(C) 15 (D) 12

144. दो लंब वृत्ताकार शंकु, जिनकी ऊँचाई एकसमान है और जिनके आधारों की त्रिज्याएँ 3 सेमी तथा 4 सेमी हैं, एक साथ पिघलाकर, 5 सेमी त्रिज्या वाले एक ठोस गोले में ढाल दिए जाते हैं। तदनुसार, एक शंकु की ऊँचाई कितनी होगी ?

- (A) 10 सेमी (B) 20 सेमी
(C) 30 सेमी (D) 40 सेमी

145. भूतल के एक बिंदु से एक मीनार के शीर्ष का उन्नयन कोण 45° है। उस बिंदु से मीनार की दिशा में 60 मीटर जाने पर, उस शीर्ष का उन्नयन कोण 60° हो जाता है। तदनुसार, उस मीनार की ऊँचाई कितने मीटर है ?

- (A) 30 (B) $30(3 - \sqrt{3})$
(C) $30(3 + \sqrt{3})$ (D) $30\sqrt{3}$

146. $\frac{(a-b)^2}{(b-c)(c-a)} + \frac{(b-c)^2}{(a-b)(c-a)} + \frac{(a-c)^2}{(a-b)(b-c)}$ का मान, जब $a \neq b \neq c$ हो, कितना होगा ?

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

निर्देश : निम्न सारणी का अध्ययन करके प्रश्न सं. 147 और 148 के उत्तर दें।

वर्ष	दिए गए संकाय के अंतर्गत योग्य घोषित उम्मीदवार					योग्य उम्मीदवारों की कुल संख्या
	कला	विज्ञान	वाणिज्य	कृषि	इंजीनियरी	
2006	24	40	19	09	08	780
2007	15	42	18	13	12	650
2008	20	45	20	08	07	500
2009	15	45	16	14	10	620
2010	19	35	15	19	12	900
2011	18	42	14	12	14	850

147. 2010 से 2011 तक कला संकाय में योग्य घोषित उम्मीदवारों में कितनी कमी आई है ?

- (A) 11 (B) 18
(C) 42 (D) 69

148. 2006 से 2008 तक प्रतिवर्ष विज्ञान संकाय में योग्य घोषित उम्मीदवारों की औसत संख्या तथा उसी संकाय में 2009 से 2011 तक योग्य घोषित उम्मीदवारों का अंतर कितना था ?

- (A) 47 (B) 57
(C) 74 (D) 141

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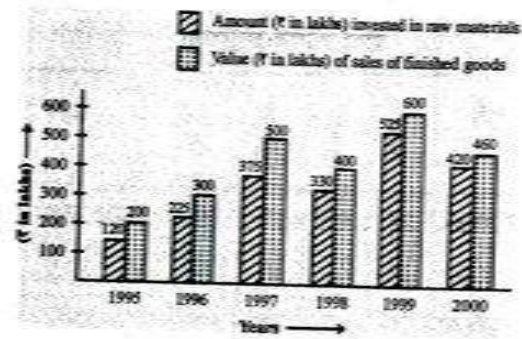
$$\frac{(a-b)^2}{(b-c)(c-a)} + \frac{(b-c)^2}{(a-b)(c-a)} + \frac{(a-c)^2}{(a-b)(b-c)}$$

$$= \frac{(a-b)(a-b)(b-c)(c-a) + (b-c)(b-c)(a-b)(c-a) + (a-c)(a-c)(a-b)(b-c)}{(b-c)(c-a)(a-b)(c-a)(a-b)(b-c)}$$

$$= \frac{(a-b)(a-b)(b-c)(c-a) + (b-c)^2(a-b)(c-a) + (a-c)^2(a-b)(b-c)}{(a-b)(b-c)(c-a)(a-b)(c-a)(a-b)(b-c)}$$

$$= \frac{(a-b)(b-c)(c-a) + (b-c)^2(c-a) + (a-c)^2(b-c)}{(a-b)(b-c)(c-a)}$$

Direction : Study the following graph and answer Q. No. 149 & 150.



149. In which year, there has been a maximum percentage increase in the amount invested in raw materials as compared to the previous year ?

- (A) 1996 (B) 1997
(C) 1998 (D) 1999

150. What was the difference between the average amount invested in raw materials during the given period and the average value of sales of finished goods during this period ?

- (A) ₹ 62.5 lakhs (B) ₹ 68.5 lakhs
(C) ₹ 71.5 lakhs (D) ₹ 77.5 lakhs

SPACE FOR ROUGH WORK

For Visually Handicapped Candidates only

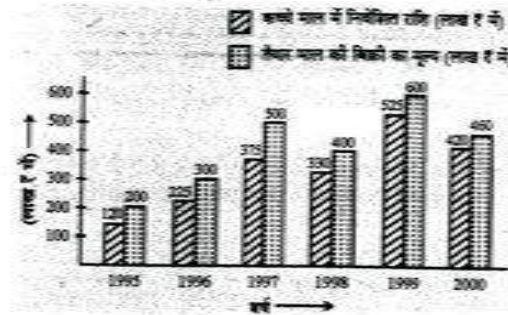
147. A and B's income are in the ratio 3 : 2 and their expenses are in the ratio 5 : 3. If each of them saves ₹ 2000, then the income of A is
(A) ₹ 8,000 (B) ₹ 10,000
(C) ₹ 12,000 (D) ₹ 15,000

148. A and B have monthly incomes in the ratio 6 : 5 and their monthly expenditures in the ratio 4 : 3. If they save ₹ 1,600 and ₹ 1,800 respectively per month, then the monthly income of B is
(A) ₹ 7,200 (B) ₹ 5,800
(C) ₹ 6,400 (D) ₹ 6,000

149. Ratio of incomes of A and B is 4 : 5 and ratio of their expenditure is 3 : 4. If each A and B save ₹ 1,500, then the income of B is
(A) ₹ 6,000 (B) ₹ 7,500
(C) ₹ 5,500 (D) ₹ 5,000

150. The ratio of monthly incomes of A and B is 3 : 4 and the ratio of their monthly expenditure is 2 : 3. If each of them saves ₹ 12,000 per month, then monthly income of A is
(A) ₹ 24,000 (B) ₹ 36,000
(C) ₹ 48,000 (D) ₹ 60,000

निर्देश : निम्न लेखाचित्र का अध्ययन करके प्रश्न सं. 149 और 150 के उत्तर दीजिए ।



149. वह वर्ष कौन सा है, जिसमें कच्चे माल में निवेशित राशि में, पिछले वर्ष की तुलना में सर्वाधिक वृद्धि हुई है ?

- (A) 1996 (B) 1997
(C) 1998 (D) 1999

150. दो गई अवधि में कच्चे माल में निवेशित औसत राशि तथा उसी अवधि में तैयार माल की बिक्री के औसत मूल्य में कितना अंतर था ?

- (A) ₹ 62.5 लाख (B) ₹ 68.5 लाख
(C) ₹ 71.5 लाख (D) ₹ 77.5 लाख

केवल दृष्टिबाधित उम्मीदवारों के लिए

147. A तथा B की आय 3 : 2 के अनुपात में है और उनके खर्च 5 : 3 के अनुपात में हैं। यदि उनमें प्रत्येक ₹ 2000 को बचत कर लेता हो, तो A की आय कितनी है ?
(A) ₹ 8,000 (B) ₹ 10,000
(C) ₹ 12,000 (D) ₹ 15,000

148. A तथा B की मासिक आय 6 : 5 के अनुपात में है और उनका मासिक खर्च 4 : 3 के अनुपात में है। तदनुसार, यदि वे प्रतिमास क्रमशः ₹ 1,600 तथा ₹ 1,800 को बचत कर लेते हों, तो B की मासिक आय कितनी है ?
(A) ₹ 7,200 (B) ₹ 5,800
(C) ₹ 6,400 (D) ₹ 6,000

149. A तथा B की आय का अनुपात 4 : 5 है और उनके खर्च का अनुपात 3 : 4 है। तदनुसार, यदि A तथा B प्रत्येक, ₹ 1,500 को बचत कर लेता हो, तो B की आय कितनी है ?
(A) ₹ 6,000 (B) ₹ 7,500
(C) ₹ 5,500 (D) ₹ 5,000

150. A तथा B की मासिक आय का अनुपात 3 : 4 है और उनके मासिक खर्च का अनुपात 2 : 3 है। तदनुसार, यदि उनमें प्रत्येक ₹ 12,000 प्रतिमास को बचत कर लेता हो, तो A की मासिक आय कितनी है ?
(A) ₹ 24,000 (B) ₹ 36,000
(C) ₹ 48,000 (D) ₹ 60,000

रफ कार्य के लिए स्थान

PART - IV
GENERAL AWARENESS

151. Who is the Union Minister of Petroleum and Natural Gas ?
(A) S. Jaipal Reddy
(B) M. Veerappa Moily
(C) Vayalar Ravi
(D) Ajit Singh
152. In which event in the Asian Athletic Championships, 2013 Vikas Gowda won a gold medal ?
(A) Long Jump
(B) 400 mts. Running Race
(C) Shot Put
(D) Discus throw
153. Which one of the following annual cultural events is not held in Madhya Pradesh ?
(A) Marwar Festival
(B) Tansen Music Festival
(C) Ustad Allauddin Festival
(D) Kalidas Samman
154. Dr. Ravuri Bharadwaja has been chosen for the Jnanpith Award, 2012 for his outstanding literary contribution in
(A) Tamil (B) Telugu
(C) Kannada (D) Malayalam
155. Which of the following series is true about energy flow in an ecosystem ?
(A) Producers → Decomposers → Consumers.
(B) Decomposers → Consumers → Producers.
(C) Producers → Consumers → Decomposers.
(D) Consumers → Producers → Decomposers.
156. Which of the following three R's are regarded as environment friendly ?
(A) Reduce, Rebuild, Restrict.
(B) Random, Reduce, Recall.
(C) Read, Register, Recall.
(D) Reduce, Reuse, Recycle.
157. The Union territory of Puducherry does not have a common boundary with
(A) Andhra Pradesh (B) Kerala
(C) Karnataka (D) Tamil Nadu
158. Which one of the following countries and their capitals are wrongly paired ?
(A) Switzerland - Geneva
(B) Austria - Vienna
(C) Denmark - Copenhagen
(D) Finland - Helsinki
159. Which one of the following Grand Slam titles is also known as "Rolland Garros" title ?
(A) Australian Open
(B) French Open
(C) Wimbledon
(D) U.S. Open
160. Which one of the following films directed by Satyajit Ray is based on the story Nastaneer written by Rabindranath Tagore ?
(A) Aparajita
(B) Charulata
(C) Pathar Panchali
(D) Apur Sansar
161. Which one of the following literary works was not written by R.K. Narayan ?
(A) Malgudi Days
(B) Swami and his friends
(C) Guide
(D) Gardner
162. Kisan Diwas (Farmer's Day) is observed on the
(A) 1st July
(B) 4th December
(C) 18th December
(D) 23rd December

भाग - IV
सामान्य जानकारी

151. पेट्रोलियम और प्राकृतिक गैस का केंद्रीय मंत्री कौन है ?
(A) एस. जयपाल रेड्डी
(B) एम. वीरप्पा मोयली
(C) वायलार रवि
(D) अजीत सिंह
152. एशियाई खेलकूद चैंपियनशिप, 2013 में विकास गौड़ा ने स्वर्ण पदक किस खेल में जीता था ?
(A) लंबी छलांग (B) 400 मीटर दौड़
(C) शॉट पुट (D) डिस्कस थ्रो
153. निम्न वार्षिक सांस्कृतिक उत्सवों में से मध्य प्रदेश में कौन सा नहीं मनाया जाता ?
(A) मारवाड़ उत्सव
(B) तानसेन संगीत उत्सव
(C) उस्ताद अलाउद्दीन उत्सव
(D) कालिदास सम्मान
154. डॉ. रावुरी भारद्वाजा को किस भाषा में अपने उत्कृष्ट साहित्यिक योगदान के लिए ज्ञानपीठ पुरस्कार, 2012 के लिए चुना गया ?
(A) तमिल (B) तेलुगु
(C) कन्नड़ (D) मलयालम
155. किसी परिस्थितिक तंत्र में ऊर्जा प्रवाह के बारे में निम्न में से कौन सी शृंखला सही है ?
(A) उत्पादक → अपघटक → उपभोक्ता
(B) अपघटक → उपभोक्ता → उत्पादक
(C) उत्पादक → उपभोक्ता → अपघटक
(D) उपभोक्ता → उत्पादक → अपघटक
156. निम्न तीन 'R' में से कौन को पर्यावरण के अनुकूल माना जाता है ?
(A) Reduce (कम करें), Rebuild (फिर बनाएँ), Restrict (सीमित करें)
(B) Random (यादृच्छिक), Reduce (कम करें), Recall (वापस बुलाएँ)
(C) Read (पढ़ें), Register (रजिस्टर), Recall (वापस बुलाएँ)
(D) Reduce (कम करें), Reuse (पुनःप्रयोग करें), Recycle (पुनःचक्रित करें)
157. संघ राज्य क्षेत्र पुदुच्चेरी की _____ के साथ सांझी सीमा नहीं है।
(A) आंध्र प्रदेश (B) केरल
(C) कर्नाटक (D) तमिलनाडु
158. निम्न देशों और उनकी राजधानियों में से कौन सा युग्म गलत है ?
(A) स्विट्जरलैंड - जेनेवा
(B) ऑस्ट्रिया - वियेना
(C) डेनमार्क - कोपनहेगन
(D) फ़िनलैंड - हेल्सिंकी
159. निम्न ग्रैंड स्लैम टाइटलों में से किसको "रोलैंड गैरोस" टाइटल भी कहा जाता है ?
(A) ऑस्ट्रेलियन ओपन
(B) फ्रेंच ओपन
(C) विम्बलडन
(D) यू.एस. ओपन
160. सत्यजीत राय द्वारा निर्देशित निम्न फिल्मों में से कौनसी रवींद्रनाथ टैगोर द्वारा लिखित कहानी नस्तानेर पर आधारित है ?
(A) अपराजिता
(B) चारुलता
(C) पथर पांचाली
(D) अपूर संसार
161. निम्न में से कौन सी साहित्यिक रचना आर.के. नारायण द्वारा नहीं लिखी गई थी ?
(A) मालगुडी डेय
(B) स्वामी एंड हिज फ्रेंड्स
(C) गाइड
(D) गार्डनर
162. किसान दिवस मनाया जाता है :
(A) 1 जुलाई को (B) 4 दिसंबर को
(C) 18 दिसंबर को (D) 23 दिसंबर को

163. Third stage of Law of Variable Proportion is called
 (A) negative returns
 (B) positive returns
 (C) constant returns
 (D) increasing returns
164. Elasticity of demand with respect to price is
 (A) $\text{elasticity} = \frac{\% \text{ change in demand}}{\% \text{ change in price}}$
 (B) $\text{elasticity} = \frac{\% \text{ change in price}}{\% \text{ change in demand}}$
 (C) $\text{elasticity} = \frac{\% \text{ change in demand}}{\% \text{ change in supply}}$
 (D) $\text{elasticity} = \frac{\% \text{ change in supply}}{\% \text{ change in price}}$
165. The incomes of Indians working abroad are a part of
 (A) domestic income of India
 (B) income earned from Abroad
 (C) net domestic product of India
 (D) gross domestic product of India
166. Which Indian industry is employing large number of workers?
 (A) Iron & Steel Industry
 (B) Textile Industry
 (C) Jute Industry
 (D) Sugar Industry
167. Cross demand expresses the functional relationship between
 (A) demand and prices of related commodities.
 (B) demand and income.
 (C) demand and prices.
 (D) demand and supply.

168. In which House, is the Presiding Officer, not a member of that House?
 (A) Lok Sabha
 (B) Rajya Sabha
 (C) Vidhan Sabha
 (D) Vidhan Parishad
169. To which category right to vote belongs?
 (A) Human Rights
 (B) Civil Rights
 (C) Natural Rights
 (D) Political Rights
170. "Residuary powers" under the Indian Constitution means
 (A) the powers relating to International Affairs.
 (B) the powers relating to Internal Emergency.
 (C) the powers, which can be exercised both by the Union Government and the States.
 (D) the powers, which have not been specifically enumerated in the Union List, State List and Concurrent List.
171. Which dynasty immediately succeeded the Maurya dynasty and ruled Magadha Kingdom?
 (A) Satavahana (B) Sunga
 (C) Nanda (D) Kanva
172. How many members are nominated by the President to Rajya Sabha?
 (A) 2 (B) 12
 (C) 15 (D) 20
173. The Chairman of the Public Accounts Committee of the Parliament is appointed by
 (A) Speaker of Lok Sabha
 (B) Prime Minister of India
 (C) President of India
 (D) Chairman of Rajya Sabha

163. परिवर्ती अनुपात नियम की तीसरी स्थिति को कहते हैं
 (A) ऋणात्मक प्रतिफल
 (B) धनात्मक प्रतिफल
 (C) समानुपातिक प्रतिफल
 (D) वर्धमान प्रतिफल
164. कोमल के संदर्भ में माँग लोच है :
 (A) लोच = $\frac{\text{माँग में \% परिवर्तन}}{\text{कीमत में \% परिवर्तन}}$
 (B) लोच = $\frac{\text{कीमत में \% परिवर्तन}}{\text{माँग में \% परिवर्तन}}$
 (C) लोच = $\frac{\text{माँग में \% परिवर्तन}}{\text{पूर्ति में \% परिवर्तन}}$
 (D) लोच = $\frac{\text{पूर्ति में \% परिवर्तन}}{\text{कीमत में \% परिवर्तन}}$
165. विदेशों में काम कर रहे भारतीयों की आय है :
 (A) भारत की घरेलू आय का अंश
 (B) विदेशों से अर्जित आय का अंश
 (C) भारत के निवल देशीय उत्पाद का अंश
 (D) भारत के सकल घरेलू उत्पाद का अंश
166. भारत का कौन सा उद्योग बड़ी संख्या में कार्यकर्ता नियुक्त करता है ?
 (A) लौह और स्टील उद्योग
 (B) वस्त्र उद्योग
 (C) पटसन उद्योग
 (D) चीनी (शर्करा) उद्योग
167. अनुप्रस्थ माँग कार्यात्मक संबंध को व्यक्त करती है :
 (A) संबंधित वस्तुओं की माँग और कीमतों के बीच
 (B) माँग और आय के बीच
 (C) माँग और कीमतों के बीच
 (D) माँग और पूर्ति के बीच

168. किस सदन में अध्यक्ष उस सदन का सदस्य नहीं होता ?
 (A) लोक सभा (B) राज्य सभा
 (C) विधान सभा (D) विधान परिषद
169. मत देने का अधिकार किस कोटि से संबंधित है ?
 (A) मानवाधिकार
 (B) नागरिक अधिकार
 (C) प्राकृतिक अधिकार
 (D) राजनीतिक अधिकार
170. भारतीय संविधान के अंतर्गत 'अवशिष्ट अधिकारों' का अर्थ है :
 (A) अंतर्राष्ट्रीय मामलों से संबंधित अधिकार
 (B) आंतरिक आपातस्थिति से संबंधित अधिकार
 (C) अधिकार, जिनका प्रयोग केंद्रीय सरकार और राज्यों दोनों द्वारा किया जा सकता है।
 (D) अधिकार, जिनको केंद्रीय सूची, राज्य सूची और सभ्यता सूची में स्पष्ट रूप से शामिल नहीं किया है।
171. चौदह वंश के तत्काल बाद किस वंश ने आकर मध्य राज्य पर शासन किया ?
 (A) सातवाहन (B) शुंग
 (C) नंद (D) कण्व
172. राज्य सभा के लिए राष्ट्रपति द्वारा कितने सदस्य नामित किए जाते हैं ?
 (A) 2 (B) 12
 (C) 15 (D) 20
173. संसद की लोक लेखा समिति का अध्यक्ष नियुक्त किया जाता है :
 (A) लोक सभा के अध्यक्ष द्वारा
 (B) भारत के प्रधान मंत्री द्वारा
 (C) भारत के राष्ट्रपति द्वारा
 (D) राज्य सभा के अध्यक्ष द्वारा

174. For the annexation of which Indian Kingdom, the "Doctrine of Lapse" was not followed?
(A) Satara (B) Nagpur
(C) Jhansi (D) Punjab
175. During the Second World War, which one of the following countries was not one of the three Axis Powers, which fought against the Allied Powers?
(A) Germany (B) Italy
(C) China (D) Japan
176. The highest mountain peak in Peninsular India is
(A) Anaimudi (B) Dodabetta
(C) Mahendragiri (D) Nilgiris
177. Breaking down of rock in situ is known as
(A) Erosion (B) Weathering
(C) Mass wasting (D) Degradation
178. The longest river of Europe is
(A) Rhine (B) Rhone
(C) Danube (D) Volga
179. Which of the following is an example of Plutonic Igneous Rock?
(A) Basalt (B) Granite
(C) Slate (D) Dolomite
180. The Market Regulation system was introduced by
(A) Muhammad-Bin-Tughlaq
(B) Iltutmish
(C) Ala-ud-din Khilji
(D) Ghias-ud-din
181. Which of the following Mughal Emperors wrote their own autobiographies?
(A) Shah Alam and Farukh Siyar
(B) Babur and Jahangir
(C) Jahangir and Shah Jahan
(D) Akbar and Aurangzeb

182. Rinderpest disease of Cattle is caused by
(A) Insects (B) Bacteria
(C) Virus (D) Protozoa
183. The plant that behave as a root parasite is
(A) Ficus (B) Santalum
(C) Cuscuta (D) Euphorbia
184. The largest White Blood Corpuscle is
(A) Lymphocyte (B) Monocyte
(C) Thrombocyte (D) Erythrocyte
185. Which of the following does not act both as an exocrine gland and as an endocrine gland?
(A) Pituitary (B) Pancreas
(C) Testis (D) Ovary
186. Match correctly the Nutrient deficiency given in List-I with the diseases caused by the deficiency given in List-II.
- | List - I | List - II |
|-----------------------------|-------------------------|
| (a) Iodine | (i) Microcytic anaemia |
| (b) Iron | (ii) Pernicious anaemia |
| (c) Niacin | (iii) Goitre |
| (d) Vitamin B ₁₂ | (iv) Pellagra |
- (a) (b) (c) (d)
(A) (iv) (ii) (i) (iii)
(B) (i) (iii) (ii) (iv)
(C) (ii) (iv) (iii) (i)
(D) (iii) (i) (iv) (ii)
187. The Coast of Norway is an example of
(A) Dalmatian Coast
(B) Fiord Coast
(C) Ria Coast
(D) Emerged Coast
188. Name the tiny pores present on the surface of leaves in plants.
(A) Pits (B) Stomata
(C) Trichomes (D) Hydathodes

174. किस भारतीय राज्य पर कब्जा करने के लिए "राज्य अधिग्रहण नीति" को नहीं अपनाया गया था?
(A) सतारा (B) नागपुर
(C) झांसी (D) पंजाब
175. दूसरे विश्व युद्ध के दौरान निम्न में से कौन सा देश उन तीन धुरी शक्तियों में से एक नहीं था, जिन्होंने मित्र राष्ट्र शक्तियों के विरुद्ध युद्ध किया था?
(A) जर्मनी (B) इटली
(C) चीन (D) जापान
176. प्रायद्वीपीय भारत में उच्चतम पर्वत चोटी है
(A) अनाईमुडी (B) डोडाबेट्टा
(C) महेंद्रगिरि (D) नीलगिरि
177. किसी चट्टान को स्व-स्वान पर तोड़ देना कहलाता है
(A) अपरदन (B) अपक्षयण
(C) व्यापक विनाश (D) निम्नीकरण
178. यूरोप की सबसे लंबी नदी है
(A) रूईन (B) रोम
(C) डानुबे (D) वोल्गा
179. निम्न में से कौन सा एक वितलीय आग्नेय शैल का उदाहरण है?
(A) बैसाल्ट (B) ग्रेनाइट
(C) स्लेट (D) डोलोमाइट
180. बाजार विनियमन प्रणाली आरंभ को गई थी :
(A) मुहम्मद-बिन-तुगलक द्वारा
(B) इल्तुतमिश द्वारा
(C) अलाउद्दीन खिलजी द्वारा
(D) गियासुद्दीन द्वारा
181. निम्न में से किन मुगल सम्राटों ने स्वयं अपनी आत्मकथा लिखी थी?
(A) शाह आलम और फारुख सियर
(B) बाबर और जहाँगीर
(C) जहाँगीर और शाहजहाँ
(D) अकबर और औरंगजेब

182. पशुओं का प्लू मूहमारी रोग होता है :
(A) कोई द्वारा
(B) जीवाणुओं (बैक्टीरिया) द्वारा
(C) विषाणुओं (वाइरस) द्वारा
(D) प्रोटोजोआ द्वारा
183. मूल परजीवी के रूप में व्यवहार करने वाला पौधा है
(A) फाइकस (B) सैन्टेलम
(C) कस्कुटा (D) यूफोर्बिया
184. सबसे बड़ा स्वेत रक्षिराणु है
(A) लसीकाणु (लिम्फोसाइट)
(B) एक केन्द्रकाणु (मोनोसाइट)
(C) बिम्बाणु (ग्रोम्बोसाइट)
(D) रक्ताणु (लाल रक्षिराणु कणिका) (एरिथ्रोसाइट)
185. निम्न में से कौन सा दोनों वही-सावो ग्रंथि और अंतःसावो ग्रंथि के रूप में व्यवहार नहीं करता ?
(A) पीयूष (B) अग्न्याशय
(C) वृक्क (D) अंडाशय
186. सूची-I में दिए गए पोषक अभाव का सही मिलान सूची-II में दिए गए उस अभाव द्वारा पैदा किए गए रोगों के साथ कीजिए।
- | सूची - I | सूची - II |
|-----------------------------|---------------------------|
| (a) आयोडीन | (i) सूक्ष्माणु रक्ताल्पता |
| (b) आयरन | (ii) प्रणारी रक्ताल्पता |
| (c) नियासीन | (iii) गलंगोट (पेंथा) |
| (d) विटामिन B ₁₂ | (iv) पेलैगिया |
- (a) (b) (c) (d)
(A) (iv) (ii) (i) (iii)
(B) (i) (iii) (ii) (iv)
(C) (ii) (iv) (iii) (i)
(D) (iii) (i) (iv) (ii)
187. नावों का तट एक उदाहरण है :
(A) डालमेटियन तट का
(B) फ्रिओर्ड तट का
(C) रिया तट का
(D) उन्मिक्त तट का
188. पौधों में पत्तों के पृष्ठ पर पाए जाने वाले लघु छिद्रों का नाम है :
(A) रत (B) रंध्र
(C) त्वचरोम (D) जलरंध्र

189. In a filament type light bulb most of the electric power consumed appears as
 (A) visible light
 (B) infra-red rays
 (C) ultra-violet rays
 (D) fluorescent light
190. A man standing on a edge of a cliff throws a stone vertically upwards with a certain speed. He then throws another stone downwards with the same speed. Find the ratio of the speeds of the two stones when they hit the ground.
 (A) 1 : 1
 (B) 1 : 2
 (C) 1 : 4
 (D) Cannot be found from the given information.
191. Who introduced the concept of "Stored Program" ?
 (A) John Von Neumann
 (B) Charles Babbage
 (C) Blaise Pascal
 (D) John Mauchly
192. Dioptre is the unit of
 (A) power of a lens
 (B) focal length of a lens
 (C) light intensity
 (D) sound intensity
193. When a stone is thrown in the calm water of a pond the waves produced on the surface of water in the pond are
 (A) longitudinal
 (B) transverse
 (C) both longitudinal and transverse
 (D) waves are not produced

194. The gas used to extinguish fire is
 (A) Neon
 (B) Nitrogen
 (C) Carbon dioxide
 (D) Carbon monoxide
195. The non-metal found in the liquid state is
 (A) bromine (B) nitrogen
 (C) fluorine (D) chlorine
196. Ionisation energy of nitrogen is greater than that of oxygen because nitrogen has
 (A) high bond dissociation energy
 (B) smaller atomic radius
 (C) stable half filled 2p sub level
 (D) high nuclear charge
197. Sulphuric acid is
 (A) monobasic (B) dibasic
 (C) tribasic (D) tetrabasic
198. Which one of the following group of gases contribute to the "Green House Effect" ?
 (A) Carbon dioxide and Methane
 (B) Ammonia and Ozone
 (C) Carbon monoxide and Sulphur dioxide
 (D) Carbon tetrafluoride and Nitrous oxide
199. Which of the following is an Disk Operating System (DOS) command ?
 (A) LIST (B) CHANGE
 (C) DUPLICATE (D) FORMAT
200. A type of internet account, in which the computer is not connected directly to the net.
 (A) Shell Account
 (B) Kernel Account
 (C) Server Account
 (D) TCP/IP Account

189. तंतु प्रकार के प्रकाश बल्ब में प्रयोग की गई अधिकांश विद्युत शक्ति प्रकट होती है :
 (A) दृश्य प्रकाश के रूप में
 (B) अवशक्त किरणों के रूप में
 (C) पराबैंगनी किरणों के रूप में
 (D) प्रतिदीप्त प्रकाश के रूप में
190. किसी चट्टान के किनारे पर खड़ा एक आदमी एक पत्थर को किसी गति से सीधा ऊपर की ओर फेंकता है। फिर वह एक अन्य पत्थर को उसी गति से नीचे की ओर फेंकता है। उन दोनों पत्थरों की गति का अनुपात ज्ञात कीजिए जब वे जमीन पर टकराते हैं।
 (A) 1 : 1
 (B) 1 : 2
 (C) 1 : 4
 (D) दी गई जानकारी से ज्ञात नहीं किया जा सकता।
191. "स्टोर्ड प्रोग्राम" की अवधारणा किसने शुरू की थी ?
 (A) जॉन वॉन न्यूमैन
 (B) चार्ल्स बबबेज
 (C) ब्लेस पास्कल
 (D) जॉन माचली
192. डाइऑप्टर किसकी इकाई है ?
 (A) लेन्स की क्षमता की
 (B) लेन्स की फोकल दूरी की
 (C) प्रकाश की तीव्रता की
 (D) ध्वनि की तीव्रता की
193. जब किसी तालाब के शान्त जल में पत्थर फेंका जाए तो तालाब में जल के पृष्ठ पर उठने वाली लहरें होती हैं :
 (A) अनुदैर्घ्य
 (B) अनुप्रस्थ
 (C) अनुदैर्घ्य और अनुप्रस्थ दोनों
 (D) लहरें पैदा नहीं होती

194. आग को बुझाने के लिए प्रयुक्त गैस है :
 (A) निऑन
 (B) नाइट्रोजन
 (C) कार्बन डाइऑक्साइड
 (D) कार्बन मोनोक्साइड
195. तरल अवस्था में पाई जाने वाली अधातु है :
 (A) ब्रोमीन (B) नाइट्रोजन
 (C) फ्लुओरीन (D) क्लोरीन
196. नाइट्रोजन की आयनीकरण ऊर्जा ऑक्सीजन की आयनीकरण ऊर्जा से अधिक है क्योंकि नाइट्रोजन में है :
 (A) उच्च साबंध वियोजन ऊर्जा
 (B) लघु परमाणु त्रिज्या
 (C) स्थिर आधा भरा हुआ 2p उपस्तर
 (D) उच्च नाभिकीय आवेश
197. सल्फ्यूरिक अम्ल है
 (A) एकक्षारकी (B) द्विक्षारकी
 (C) त्रिक्षारकी (D) चतुक्षारकी
198. गैसों के निम्न समूहों में से कौन सा "हरित घर प्रभाव" में योगदान करता है ?
 (A) कार्बन डाइऑक्साइड और मीथेन
 (B) अमोनिया और ओजोन
 (C) कार्बन मोनोक्साइड और सल्फर डाइऑक्साइड
 (D) कार्बन टेट्राफ्लोराइड और नाइट्रस ऑक्साइड
199. निम्न में से कौन सी डिस्क प्रचालन तंत्र (डोओएस) कमांड है ?
 (A) लिस्ट (B) चेंज
 (C) डुप्लिकेट (D) फॉरमेट
200. एक प्रकार का इंटरनेट खाता, जिसमें कंप्यूटर को सीधे नेट के साथ नहीं जोड़ा जाता है।
 (A) होल खाता
 (B) कर्नेल खाता
 (C) सर्वर खाता
 (D) टीसीपी/आईपी खाता

PART I : GENERAL INTELLIGENCE

Directions : In questions no. 1 to 7, select the related word/letters/number from the given alternatives.

1. MOQS : ACEG :: PRTV : ?
 (A) KMNP (B) OQSU
 ✓ (C) EGLJ (D) FHJM
2. 36 : 144 :: 49 : ?
 (A) 196 (B) 154
 (C) 81 (D) 149
3. 76 : 42 :: 66 : ?
 (A) 36 (B) 63
 ✓ (C) 12 (D) 35
4. Picture : See :: Book : ?
 (A) Listen (B) Library
 (C) Buy (D) Read
5. Dark : Light :: ?
 (A) Ill : Diseased
 (B) Hot : Cold
 (C) Polluted : Contaminated
 (D) Accrued : Accumulated
6. Swimming : River :: Hiking : ?
 (A) Mountain (B) Sea
 (C) Road (D) Pond
7. HOPEFUL : LUFEPQH :: ETHNICITY : ?
 (A) ICINHTEYT (B) CINHTEYTI
 (C) YTCINHTE (D) TICINHTEY

Directions : In questions no. 8 to 11, find the odd words/letters/number pair from the given alternatives.

8. (A) Poet (B) Publisher
 (C) Author (D) Novelist
9. (A) KHEB (B) WTQN
 (C) MKHE (D) MIDA
10. (A) 41, 52 (B) 64, 73
 (C) 46, 57 (D) 38, 49
11. (A) Hexagon : Angle
 (B) Square : Line
 (C) Circle : Arc
 (D) Line : Dot

12. Which one of the given responses would be a meaningful order of the following ?

- 1/ Plant 2/ Fruit
 3/ Seed 4/ Flower
 (A) 3, 1, 4, 2 (B) 3, 2, 1, 4
 (C) 3, 2, 4, 1 (D) 3, 1, 2, 4

13. Arrange the following words according to English Dictionary :

1. Bound 2. Bonus
 3. Bunch 4. Board
 (A) 4, 2, 1, 3 (B) 4, 3, 2, 1
 (C) 1, 4, 2, 3 (D) 2, 4, 3, 1

14. Which one set of letters when sequentially placed at the gaps in the given letter series shall complete it ?

aⁿ a^b abab^aba^b

- (A) abba (B) bbab
 (C) abab (D) baab

15. In the following letter series, how many times does 'P' occur in such a way that after 'P', N O should occur ?

APNQP NOSPTOZPNOYMPNO

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

16. Find out the set among the four sets which is like the given set.

(23 : 30 : 37)

- (A) (21 : 28 : 34) (B) (12 : 19 : 25)
 (C) (6 : 13 : 20) (D) (7 : 15 : 22)

Directions : In questions no. 17 to 19, a series is given, with one term missing. Choose the correct alternative from the given ones that will complete the series.

17. YVP, WTN, URL, ?

- (A) SPJ (B) TQL
 (C) VSP (D) SRJ

18. 2, 8, 18, 32, 50, ?
 (A) 70 (B) 68
 (C) 64 (D) 72
19. 1, 3, 7, 15, 31, ?
 (A) 73 (B) 63
 (C) 37 (D) 36
20. C is the mother of A and B. If D is the husband of B, what is C to D?
 (A) Mother-in-law (B) Sister
 (C) Mother (D) Aunt
21. If A = 1, ACE = 9, then ART = ?
 (A) 29 (B) 38
 (C) 10 (D) 39
22. If PARK is coded as 5394, SHIRT is coded as 17698 and PANDIT is coded as 532068, how would you code NISHAR in that code language?
 (A) 201739 (B) 261739
 (C) 266734 (D) 231954
23. If the 5th date of a month is Tuesday, what date will be 3 days after the 3rd Friday in the month?
 (A) 17 (B) 22
 (C) 19 (D) 18
24. Seema's younger brother Sohan is older than Seeta. Sweta is younger than Deepti but elder than Seema. Who is the eldest?
 (A) Seeta (B) Deepti
 (C) Seema (D) Sweta
25. Rahim and his uncle differ in their ages by 30 years. After 7 years, if the sum of their ages is 66, what will be the age of the uncle?
 (A) 39 (B) 41
 (C) 51 (D) 49
26. Sohan ranks seventh from the top and twenty-sixth from the bottom in a class. How many students are there in the class?
 (A) 33 (B) 34
 (C) 31 (D) 32

27. From the given alternatives select the word which **cannot** be formed using the letters of the given word.

SIGNATURE

- (A) SIGHT (B) GAIN
 (C) NATURE (D) GATE

28. If 'SYNDICATE' is written as 'SYTENDCAF', then how can 'PSYCHOTIC' be written?

- (A) PSICYOCTH (B) PSICYCOTH
 (C) PSYICTCOH (D) PSYCOHTCI

29. Some letters are given below in the first line and numbers are given below them in the second line. Numbers are the codes for the alphabets and vice-versa. Choose the correct letter-code for the given set of numbers.

E M K B Z W Q U D J
 5 9 1 6 4 8 2 0 7 3

4 2 9 7 5 3

- (A) ZQMDEJ (B) ZQEDMJ
 (C) ZQMJDE (D) ZQMEDJ

30. From the given alternatives select the word which can be formed using the letters of the given word.

DICTIONARY

- (A) BINARY (B) DAIRY
 (C) NATION (D) ADDITION

Directions : In questions no. 31 and 32, select the missing number from the given responses.

31. 5 25 5
 7 49 7
 6 ? 6

- (A) 38 (B) 40
 (C) 36 (D) 35

32. 96 100 132
 6 4 6
 5 7 3
 21 32 ?

- (A) 32 (B) 20
 (C) 25 (D) 30

Directions : In questions no. 33 and 34, some equations are solved on the basis of a certain system. On the same basis, find out the correct answer for the unsolved equation.

33. If $782 = 20$
and $671 = 17$, then
 $884 = ?$

- (A) 26 (B) 23
(C) 32 (D) 19

34. $5 \times 6 \times 4 = 456$, $3 \times 6 \times 5 = 536$,
 $4 \times 8 \times 7 = ?$

- (A) 847 (B) 784
(C) 748 (D) 478

35. A cyclist goes 30 km to North and then turning East he goes 40 km. Again he turns to his right and goes 20 km. After this, he turns to his right and goes 40 km. How far is he from his starting point?

- (A) 25 km (B) 40 km
(C) 6 km (D) 10 km

36. Select the correct combination of mathematical signs to replace '*' signs and to balance the given equation.

$$9 * 7 * 2 * 3 * 10$$

- (A) $+ - \times =$ (B) $- + \times =$
(C) $\div \times + =$ (D) $- + \div =$

37. If '+' denotes \div , '-' denotes \times , ' \times ' denotes $-$ and ' \div ' denotes $+$, then

$$35 + 7 - 5 \div 5 \times 6 = ?$$

- (A) 20 (B) 14
(C) 36 (D) 24

38. One morning at 7 o'clock, Naresh started walking with his back towards the Sun. Then he turned towards left, walked straight and then turned towards right and walked straight. Then he again turned towards left. Now in which direction is he facing?

- (A) West (B) South
(C) North (D) East

Directions : In questions no. 39 and 40, two statements are given followed by two conclusions I and II. You have to consider the statements to be true even if they seem to be at variance from commonly known facts. You have to decide which of the given conclusions, if any, follow from the given statements. Indicate your answer.

39. Statements :

- Education is a process of lighting.
- Mind requires light to enlighten the core of cognitive aspect.

Conclusions :

- Education is a light which removes the darkness of mind.
 - Education is a static process for mind.
- (A) Both conclusions I and II follow
(B) Neither conclusion I nor II follows
(C) Only conclusion I follows
(D) Only conclusion II follows

40. Statements :

- All students in my class are intelligent.
- Sunil is not intelligent.

Conclusions :

- Sunil is not a student of my class.
 - Sunil must work hard.
- (A) Both conclusions I and II follow
(B) Neither conclusion I nor II follows
(C) Only conclusion I follows
(D) Only conclusion II follows

41. 3 daily wage workers A, B and C are distributed ₹ 178 in such a way that A gets ₹ 4 less than C, B gets ₹ 15 more than A and C gets ₹ 11 less than B. What is the ratio of their shares?

- (A) 53 : 68 : 57 (B) 57 : 53 : 68
(C) 50 : 51 : 52 (D) 53 : 56 : 68

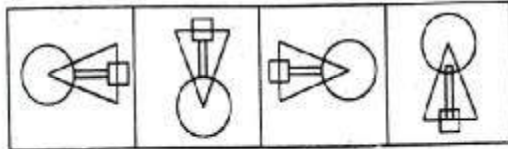
$C = 1$
 $A = 2 - 4$
 $B = (4 - 4) + 15$

A B E D C
| | | | |

42. Five boys A, B, C, D and E are standing in a row. D is on the right of E. B is on the left of E, but on the right of A. D is on the left of C, who is standing on the extreme right. Who is standing in the middle?

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

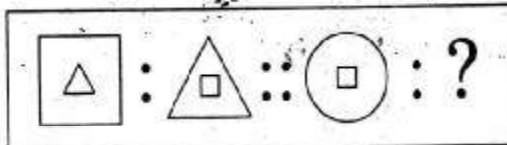
43. Which figure is different from the rest of the three?



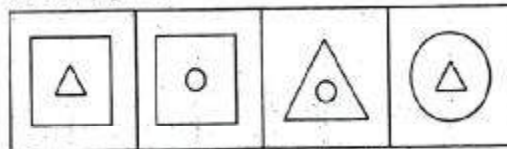
- (A) (B) (C) (D)

44. Select the related figure from the given alternatives.

Question figures :



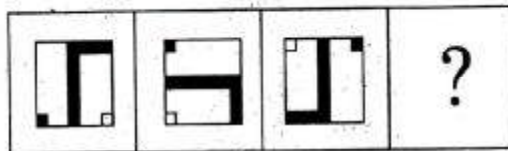
Answer figures :



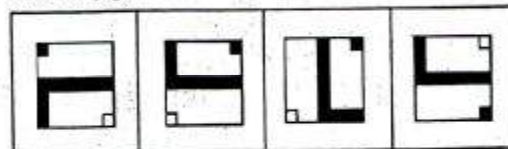
- (A) (B) (C) (D)

45. Select the correct alternative from the given ones which will complete the figural series.

Question figures :



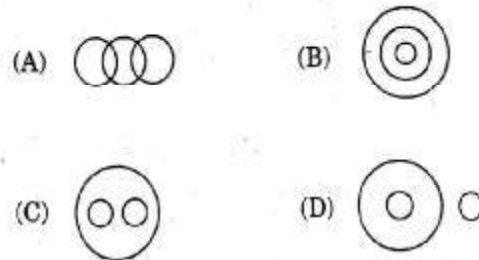
Answer figures :



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

46. Identify the diagram that best represents the relationship among the classes given below :

Liquids, Milk, River water

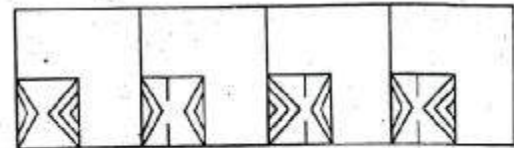


47. Which answer figure will complete the pattern in the question figure?

Question figure :



Answer figures :



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

48. Select the missing number from the given responses :

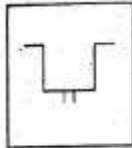


Handwritten calculation:
110 - 54 = 56
56 - 26 = 30
30 - 12 = 18
18 - 5 = 13

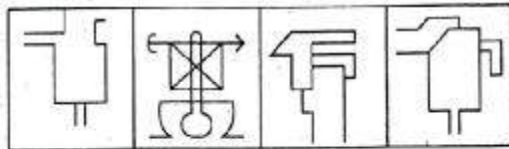
- (A) 132 (B) 122
(C) 222 (D) 212

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

Question figure :



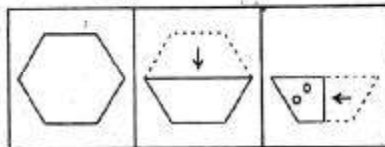
Answer figures :



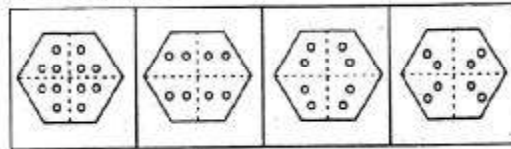
(A) (B) (C) (D)

50. A piece of paper is folded and cut/punched as shown below in the question figures. From the given answer figures, indicate how it will appear when opened.

Question figures :



Answer figures :



(A) (B) (C) (D)

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43. Rita ranks 19th in a class of 40 students. What is her rank from the last ?
 (A) 21 (B) 22
 (C) 19 (D) 20
44. $\frac{1}{4}$ th of $\frac{3}{4}$ th of a number is 363. What is the square root of that number ?
 (A) 44 (B) 40
 (C) 88 (D) 80

45. How many even numbers are there in the following sequence of numbers, each of which is followed by an odd number as well as preceded by an even number ?

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

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

46. A man was going to the market with his three brothers, each one of them carrying one child in their arms. How many were going to the market ?

(A) 7 (B) 10
 (C) 6 (D) 13

47. Find the wrong number in the given series.

8, 17, 36, 75, 154, 308

(A) 75 (B) 308
 (C) 36 (D) 17

48. In a wooden box there are 'n' number of socks of two different colours. You cannot see outside, but can put your hand and take out any number of socks one by one. What is the minimum number of socks one should take out to get one perfect pair of socks ?

(A) 11 (B) 101
 (C) 2 (D) 3

49. If A stands for +, Q stands for -, V stands for \times and R stands for \div , then what is the value of the given equation ?

16 A 8 R 2 Q 3 V 5 = ?

(A) 5 (B) 6
 (C) 17 (D) 25

50. Leela and Geeta had to pick up 1460 tiles from a ground. Leela picked up 30 tiles more than Geeta. How many tiles did Geeta pick up ?

(A) 730 (B) 760
 (C) 745 (D) 715

PART II : ENGLISH LANGUAGE

Directions : In questions no. 51 to 55, some parts 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.

51. Hasan plays / both cricket and billiards / at the national level. / No error.

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

52. My father gave me / a pair of binocular / on my birthday. / No error.

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

53. Kalidas is / a Shakespeare / of India. / No error.

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

54. The teacher as well as his students, / all left / for the trip. / No error.

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

55. More you / think of it, / the worse it becomes. / No error.

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

Directions : In questions no. 56 to 60, sentences are 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.

56. The human mind seems to have built-in _____ against original thought.

- (A) prejudices (B) ideas
(C) interests (D) safeguards

57. A child is the future of a family _____ nation.

- (A) just as (B) as a
(C) like a (D) as well as of a

58. If strict security measures were taken, the tragedy might have been _____.

- (A) restrained (B) averted
(C) removed (D) controlled

59. The deceased left _____ him two young children.

- (A) behind (B) for
(C) with (D) by

60. The statue _____ a global symbol of freedom.

- (A) stands against (B) stands to
(C) stands for (D) stands as

Find
letter

Directions : In questions no. 61 and 62, out of the four alternatives, choose the one which best expresses the meaning of the given word and mark it in the Answer Sheet.

61. Wily

- (A) Angry (B) Wise
(C) Stupid (D) Cunning

62. Temerity

- (A) Paucity (B) Verity
(C) Audacity (D) Simplicity

Directions : In questions no. 63 and 64, choose the word opposite in meaning to the given word and mark it in the Answer Sheet.

63. Insipid

- (A) Tasty (B) Colourful
(C) Colourless (D) Dull

64. Relinquish

- (A) Relish (B) Continue
(C) Vanish (D) Quench

Directions : In questions no. 65 and 66, four words are given in each question, out of which only one word is correctly spelt. Find the correctly spelt word and mark your answer in the Answer Sheet.

65. (A) Dysentary (B) Dysantery
(C) Dysentry (D) Dysentery

66. (A) Rejevanation (B) Rejuvenation
(C) Rejvenation (D) Rejuenation

Directions : In questions no. 67 to 69, four alternatives are given for the Idiom/Phrase underlined in the sentence. Choose the alternative which best expresses the meaning of the Idiom/Phrase and mark it in the Answer Sheet.

67. The police cordoned off the area after the explosion.

- (A) The police checked everyone in the area
(B) The police did not allow anyone to leave the area
(C) The police filled the whole area
(D) The police isolated the area

68. The manager hesitated to assign the job to the newcomer as he was wet behind the ears.

- (A) stupid and slow-witted
(B) young and inexperienced
(C) drenched in the rain
(D) unpunctual and lethargic

69. Mrs. Roy keeps an open house on Saturday evening parties — you'll find all kinds of people there.

- (A) keeps the doors of the house open
(B) keeps the gates open for a few persons
(C) welcomes all members
(D) welcomes a select group of people

Directions : In questions no. 70 to 72, out of the four alternatives choose the one which can be substituted for the given words/sentence.

70. A former student of a school, college or university

- (A) Alumnus (B) Genius
(C) Scholar (D) Learner

71. A building in which aircraft are housed

- (A) Hangar (B) Granary
(C) Dockyard (D) Garage

72. A short story based on your personal experience

- (A) Parable (B) Legend
(C) Anecdote (D) Fable

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Directions : In questions no. 73 and 74, a part of the sentence is underlined. Below are given alternatives to the underlined 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.

73. The commoners joined the king's army at crushing the rebels.

- (A) into
- (B) in
- (C) without
- (D) No improvement

74. She is quite well now, except a slight cold.

- (A) except have a slight cold
- (B) excepting a slight cold
- (C) except for a slight cold
- (D) No improvement

Directions : In questions no. 75 to 79, a sentence has been given in Active/Passive Voice. Out of the four alternatives suggested, select the one which best expresses the same sentence in Passive/Active Voice and mark your answer in the Answer Sheet.

75. She took the dog for a walk.

- (A) The dog was took for a walk.
- (B) The dog took a walk by her.
- (C) The dog was taken for a walk by her.
- (D) The dog took her for a walk.

76. The waiter filled the glasses with water.

- (A) The waiter was filled the glasses with water.
- (B) The water were filled in the glasses by waiter.
- (C) The glasses filled with water by the waiter.
- (D) The glasses were filled with water by the waiter.

77. They will laugh at you.

- (A) You will be laughed at by them.
- (B) You will have been laughed at by them.
- (C) You can be laughed at by them.
- (D) You may be laughed at by them.

78. Trespassers shall be prosecuted.

- (A) The authorities may prosecute trespassers.
- (B) The authorities might prosecute trespassers.
- (C) The authorities can prosecute trespassers.
- (D) The authorities shall prosecute trespassers.

79. He was driving the car so fast that it skidded on the snowy road.

- (A) The car had been driven by him so fast that it skidded on the snowy road.
- (B) The car has been driven by him so fast that it skidded on the snowy road.
- (C) The car was driven by him so fast that it skidded on the snowy road.
- (D) The car was being driven by him so fast that it skidded on the snowy road.

Directions : In questions no. 80 to 84, a sentence has been given in Direct/Indirect. Out of the four alternatives suggested, select the one which best expresses the same sentence in Indirect/Direct and mark your answer in the Answer Sheet.

80. He said to me, "I grew these carrots myself."

- (A) He told me that he had grown those carrots himself.
- (B) He told me that he grew those carrots himself.
- (C) He told me I grew these carrots myself.
- (D) He told me that he grew these carrots himself.

81. Mrs. Shankar said, "I know what it is to be depressed."

- (A) Mrs. Shankar is depressed she said.
- (B) Mrs. Shankar said that she was knowing what it was to be depressed.
- (C) Mrs. Shankar said that she knew what it was to be depressed.
- (D) Mrs. Shankar knows what it is to be depressed.

82. "Who now," they had asked, "will listen to our troubles and protect us from the crocodiles?"

- (A) They had wanted to know who will now listen to their troubles and protect them from the crocodiles.
- (B) They wanted to know who will listen to their troubles and protect them from the crocodiles.
- (C) They had wanted to know who would listen to their troubles and protect them from the crocodiles.
- (D) They had wanted to know who then would listen to their troubles and protect them from the crocodiles.

83. Moti asked Gangu whether the latter was in his senses.

- (A) "Gangu, are you in your senses?" asked Moti.
- (B) "Are you senseless, Gangu?" asked Moti.
- (C) "Hey Gangu, are you in your senses now?" asked Moti.
- (D) "Gangu, have you lost your senses?" asked Moti.

84. He said that we are all born to die.

- (A) He said, "We are all born to die."
- (B) He said, "We have all been born to die."
- (C) He exclaimed, "We were all born to die."
- (D) He said, "We were all born to die."

Directions : In questions no. 85 to 90, the 1st and the last sentences/parts of the passage/sentence are numbered 1 and 6. The rest of the passage/sentence is split into four parts and named P, Q, R and S. These four parts are not given in their proper order. Read the passage/sentence and find out which of the four combinations is correct. Then find the correct answer and indicate it by blackening the appropriate oval [●] in the Answer Sheet.

85. 1. There are a lot of ways to communicate : speaking, singing, clapping, hooting.

P. Even animals communicate with one another.

Q. Only humans can express their thoughts and feelings in words because of our superior brain.

R. Both humans and animals also communicate through body language.

S. But their ways differ from the humans.

6. Sometimes we don't use words but make gestures (like traffic signs) or simple movements of the hand in order to communicate.

- (A) PRSQ (B) QPRS
- (C) PQRS (D) PSQR

86. 1. Fires in the Steppes or bushes scared humans earlier.

P. Gradually, they learnt to appreciate the power of fire.

Q. It gave them light and warmth and kept away wild animals.

R. About 700,000 years ago, humans started fire accidentally by lightning.

S. They could harden the tips of wooden spears and cook meat in it.

6. Soon they learnt to produce fire by striking flintstone and pyrite with each other or by rubbing lumbars.

- (A) QSPR (B) PQSR
- (C) PQRS (D) QRSP

87. 1. When the Impressionists
- P. they made them look like
 - Q. everyday and often putting
 - R. people you would see
 - S. painted pictures of people
6. more emphasis on the scene.
- (A) RQPS (B) SRQP
(C) PRQS (D) SPRQ

88. 1. Sherlock Holmes is the
- P. who is in a state of grace
 - Q. is raised to the status
 - R. because in him scientific curiosity
 - S. exceptional individual
6. of a heroic passion.
- (A) PRQS (B) SRQP
(C) SPRQ (D) RPSQ

89. 1. The goals of our present system
- P. schooling is to prepare
 - Q. students for the examination system
 - R. which will take them to the
 - S. of primary and secondary
6. best technical institutions in the country.
- (A) SPQR (B) QPRS
(C) PRQS (D) PSQR

90. 1. Egotism is the most common fault of mankind.
- P. However, with time it becomes an exaggerated form of self display.
 - Q. It is the product of a perfectly natural desire to display oneself.
 - R. This is necessary as it impairs the personality and frustrates all efforts at self improvement.
 - S. Beyond any shadow of doubt, it is a defect that ought to be constantly hunted down, and scotched.
6. One should always be on guard not to give into egotism.
- (A) RSPQ (B) PSRQ
(C) PQRS (D) QPSR

Directions : In questions no. 91 to 95, in the following passage some of the words have been left out. Read the passage carefully and choose the correct answer to each question out of the four alternatives and fill in the blanks.

One fine morning a 91 man knocked at the doors of the home for the aged run by nuns. He told the nun in charge that as he was 92 to Delhi, he wanted to leave his servant-maid to the 93 of the nuns. He assured the nun of sending some money every month 94 she was an orphan. The nun 95 her saying that she had got an excellent master.

91. gentle (B) bad
(C) nice (D) good
92. (A) moved shifted
(C) changed (D) transferred
93. (A) care (B) home
 custody (D) protection
94. because (B) and
(C) though (D) if
95. (A) loved praised
(C) consoled (D) condoled

Directions : In questions no. 96 to 100, you have a brief passage with 5 questions following the passage. Read the passage carefully and choose the best answer to each question out of the four alternatives and mark it by blackening the appropriate oval (●) in the Answer Sheet.

Freedom has assuredly given us a new status and new opportunities. But it also implies that we should discard selfishness, laziness and all narrowness of outlook. Our freedom suggests toil and creation of new values for old ones. We should so discipline ourselves as to be able to discharge our new responsibilities satisfactorily. If there is any one thing that needs to be stressed more than any other in the new set-up, it is that we should put into action our full capacity, each one of us in productive effort – each one of us in his own sphere, however humble. Work, unceasing work, should now be our watch-word. Work is wealth, and service is happiness. Nothing else is. The greatest crime in India today is idleness. If we root out idleness, all our difficulties, including even conflicts, will gradually disappear.

96. Anyone can free himself from the clutches of difficulties, if he
- (A) eliminates narrow outlook
 - (B) fulfils his responsibilities
 - (C) discards idleness
 - (D) discharges his obligations

97. What has freedom undeniably offered to the citizens of India ?

- (A) New opportunities
- (B) New outlook
- (C) New responsibilities
- (D) New values

98. One thing needs to be stressed more than anything else in this new set-up. It is that people should

- (A) discard narrowness of outlook
- (B) discipline themselves suitably
- (C) work to their full capacity
- (D) substitute old values with new ones

99. _____ work should be the motto of our citizens.

- (A) Resourceful
- (B) Incessant
- (C) Productive
- (D) Ingenious

100. Nothing else can give us joy except

- (A) service
- (B) idleness
- (C) wealth
- (D) freedom

PART III : QUANTITATIVE APTITUDE

101. $2 \operatorname{cosec}^2 23^\circ \cot^2 67^\circ - \sin^2 23^\circ - \sin^2 67^\circ - \cot^2 67^\circ$

is equal to

- (A) 0 (B) 1
(C) $\sec^2 23^\circ$ (D) $\tan^2 23^\circ$

102. The base of a right pyramid is an equilateral triangle of side $10\sqrt{3}$ cm. If the total surface area of the pyramid is $270\sqrt{3}$ sq. cm, its height is

- (A) 12 cm (B) $12\sqrt{3}$ cm
(C) 10 cm (D) $10\sqrt{3}$ cm

103. The volumes of a cylinder and a cone are in the ratio 3 : 1. Find their diameters and then compare them when their heights are equal.

- (A) Diameter of cylinder < Diameter of cone
(B) Diameter of cylinder = 2 times of diameter of cone
(C) Diameter of cylinder = Diameter of cone
(D) Diameter of cylinder > Diameter of cone

104. A square of side 3 cm is cut off from each corner of a rectangular sheet of length 24 cm and breadth 18 cm and the remaining sheet is folded to form an open rectangular box. The surface area of the box is

- (A) 423 cm^2 (B) 468 cm^2
(C) 396 cm^2 (D) 612 cm^2

105. The sides of a triangle are 16 cm, 12 cm and 20 cm. Find the area.

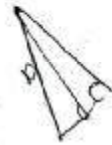
- (A) 81 cm^2 (B) 64 cm^2
(C) 112 cm^2 (D) 96 cm^2

106. What is the height of a cylinder that has the same volume and radius as a sphere of diameter 12 cm?

- (A) 8 cm (B) 7 cm
(C) 10 cm (D) 9 cm

107. The length of the shadow of a vertical tower on level ground increases by 10 metres when the altitude of the sun changes from 45° to 30° . Then the height of the tower is

- (A) $10\sqrt{3}$ m
(B) $5\sqrt{3}$ m
(C) $10(\sqrt{3} + 1)$ m
(D) $5(\sqrt{3} + 1)$ m



108. If $5 \tan \theta = 4$, then $\frac{5 \sin \theta - 3 \cos \theta}{5 \sin \theta + 2 \cos \theta}$ is equal to

- (A) $\frac{1}{3}$ (B) $\frac{2}{3}$
(C) $\frac{1}{4}$ (D) $\frac{1}{6}$

109. If $x \sin \theta - y \cos \theta = \sqrt{x^2 + y^2}$ and $\frac{\cos^2 \theta}{a^2} + \frac{\sin^2 \theta}{b^2} = \frac{1}{x^2 + y^2}$, then the correct relation is

- (A) $\frac{x^2}{a^2} - \frac{y^2}{b^2} = 1$
(B) $\frac{x^2}{b^2} - \frac{y^2}{a^2} = 1$
(C) $\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$
(D) $\frac{x^2}{b^2} + \frac{y^2}{a^2} = 1$



110. If $2(\cos^2 \theta - \sin^2 \theta) = 1$ (θ is a positive acute angle), then $\cot \theta$ is equal to

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

$$\frac{y}{-8} = -\frac{1}{2} \Rightarrow y = 4$$

$$\frac{2 \times 36}{2 \times 12} = \frac{2 \times 16}{6} = \frac{4}{3}$$

111. Number of solutions of the two equations $4x - y = 2$ and $2y - 8x + 4 = 0$ is

- (A) infinitely many
- (B) zero
- (C) one
- (D) two

$$\begin{aligned} 4x - y &= 2 \\ 2y - 8x + 4 &= 0 \\ \hline 4x - y &= 2 \\ 2y - 8x + 4 &= 0 \\ \hline 4x - 2y &= 2 \end{aligned}$$

(C) one

112. If $a^2 + b^2 + c^2 = 2(a - b - c) - 3$, then the value of $2a - 3b + 4c$ is

- (A) 1
- (B) 7
- (C) 2
- (D) 3

$$\begin{aligned} a^2 + b^2 + c^2 &= 2(a - b - c) - 3 \\ a^2 - 2a + 1 + b^2 + 2b + 1 + c^2 + 2c + 1 &= -3 - 3 \\ (a-1)^2 + (b+1)^2 + (c+1)^2 &= 0 \end{aligned}$$

113. Let $a = \sqrt{6} - \sqrt{5}$, $b = \sqrt{5} - 2$, $c = 2 - \sqrt{3}$. Then point out the correct alternative among the four alternatives given below.

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

114. If $a = \frac{b^2}{b-a}$, then the value of $a^3 + b^3$ is

- (A) 2
- (B) 6ab
- (C) 0
- (D) 1



115. If $xy + yz + zx = 0$, then

$$\left(\frac{1}{x^2 - yz} + \frac{1}{y^2 - zx} + \frac{1}{z^2 - xy} \right) (x, y, z \neq 0)$$

is equal to

- (A) 0
- (B) 3
- (C) 1
- (D) $x + y + z$



116. A can do a work in 20 days and B can do the same work in 30 days. In how many days can A and B together do the work?

- (A) 15
- (B) 16
- (C) 10
- (D) 12

$$\frac{1}{20} + \frac{1}{30} = \frac{3}{60} + \frac{2}{60} = \frac{5}{60} = \frac{1}{12}$$

117. The volume of air in a room is 204 m^3 . The height of the room is 6 m. What is the floor area of the room?

- (A) 34 m^2
- (B) 32 m^2
- (C) 46 m^2
- (D) 44 m^2

118. If the total surface area of a cube is 96 cm^2 , its volume is

- (A) 36 cm^3
- (B) 56 cm^3
- (C) 16 cm^3
- (D) 64 cm^3

119. From a point P, two tangents PA and PB are drawn to a circle with centre O. If OP is equal to diameter of the circle, then $\angle APB$ is

- (A) 60°
- (B) 45°
- (C) 90°
- (D) 30°

120. A chord 12 cm long is drawn in a circle of diameter 20 cm. The distance of the chord from the centre is

- (A) 16 cm
- (B) 8 cm
- (C) 6 cm
- (D) 10 cm



121. 360 sq. cm and 250 sq. cm are the areas of two similar triangles. If the length of one of the sides of the first triangle be 8 cm, then the length of the corresponding side of the second triangle is

- (A) 6 cm
- (B) $6\frac{1}{5}$ cm
- (C) $6\frac{1}{3}$ cm
- (D) $6\frac{2}{3}$ cm

122. If in ΔABC , $\angle ABC = 5 \angle ACB$ and $\angle BAC = 3 \angle ACB$, then $\angle ABC =$

- (A) 120°
- (B) 130°
- (C) 80°
- (D) 100°

123. The perpendiculars, drawn from the vertices to the opposite sides of a triangle, meet at the point whose name is

- (A) orthocentre
- (B) incentre
- (C) circumcentre
- (D) centroid

$$\begin{aligned} A &= 20 \times 3 \\ B &= 30 \times 2 \end{aligned}$$



233-24
 $2916 \times \frac{8}{100}$
 233.28
 2682.72

561
 $2682 \times \frac{8}{100}$
 214.56
 $2682 + 214.56 = 2896.56$

124. A sum becomes ₹ 2,916 in 2 years at 8% per annum compound interest. The simple interest at 9% per annum for 3 years on the same amount will be
 (A) ₹ 625 (B) ₹ 600
 (C) ₹ 675 (D) ₹ 650

131. A train is moving at a speed of 80 km/h and covers a certain distance in 4.5 hours. The speed of the train to cover the same distance in 4 hours is
 (A) 90 km/h (B) 100 km/h
 (C) 70 km/h (D) 85 km/h

125. The average of 30 numbers is 40 and that of other 40 numbers is 30. The average of all the numbers is
 (A) 34.5 (B) $34\frac{2}{7}$
 (C) 35 (D) 34

132. A shopkeeper blends two varieties of tea costing ₹ 18 and ₹ 13 per 100 gm in the ratio 7 : 3. He sells the blended variety at the rate of ₹ 18.15 per 100 gm. His percentage gain in the transaction is
 (A) 8% (B) 10%
 (C) 12% (D) 14%

126. The value of $\sqrt{40 + \sqrt{9 \times 81}}$ is
 (A) 11 (B) $\sqrt{111}$
 (C) 9 (D) 7

133. A invests ₹ 64,000 in a business. After few months B joined him with ₹ 48,000. At the end of year, the total profit was divided between them in the ratio 2 : 1. After how many months did B join?
 (A) 7 (B) 8
 (C) 4 (D) 6

127. The ratio of age of two boys is 5 : 6. After two years the ratio will be 7 : 8. The ratio of their ages after 12 years will be
 (A) 11/12 (B) 22/24
 (C) 15/16 (D) 17/18

134. A got 30% concession on the label price of an article sold for ₹ 8,750 with 25% profit on the price he bought. The label price was
 (A) ₹ 10,000 (B) ₹ 13,000
 (C) ₹ 16,000 (D) ₹ 12,000

128. Divide 50 into two parts so that the sum of their reciprocals is $\frac{1}{12}$.
 (A) 28, 22 (B) 35, 15
 (C) 20, 30 (D) 24, 36

135. The cost price of a book is ₹ 150. At what price should it be sold to gain 20%?
 (A) ₹ 80 (B) ₹ 120
 (C) ₹ 180 (D) ₹ 100

129. The length and breadth of a rectangle are doubled. Percentage increase in area is
 (A) 400% (B) 150%
 (C) 200% (D) 300%

136. If books bought at prices ranging from ₹ 150 to ₹ 300 are sold at prices ranging from ₹ 250 to ₹ 350, what is the greatest possible profit that might be made in selling 15 books?
 (A) ₹ 3,000
 (B) Cannot be determined
 (C) ₹ 750
 (D) ₹ 4,250

130. In the annual examination Mahuya got 10% less marks than Supriyo in Mathematics. Mahuya got 81 marks. The marks of Supriyo are
 (A) 89 (B) 90
 (C) 87 (D) 88

$\frac{90 \times 2 = 180}{100 \times \frac{81}{100}}$
 $M = 10$
 Sup
 $500 \times \frac{10}{100}$
 $\frac{100 \times 2 = 200}{100}$
 $100 - 8100$
 19578
 6578

137. In a two-digit number, the digit at the unit's place is 1 less than twice the digit at the ten's place. If the digits at unit's and ten's place are interchanged, the difference between the new and the original number is less than the original number by 20. The original number is

- (A) 47 (B) 59
(C) 23 (D) 35

138. The base of a right prism is a triangle whose perimeter is 28 cm and the inradius of the triangle is 4 cm. If the volume of the prism is 366 cc, then its height is

- (A) 4 cm (B) 8 cm
(C) 6 cm (D) None of these

139. The equation $\cos^2 \theta = \frac{(x+y)^2}{4xy}$ is only possible when

- (A) $x < y$ (B) $x = -y$
(C) $x > y$ (D) $x = y$

140. Which is greater $\sqrt[3]{2}$ or $\sqrt{3}$?

- (A) Equal
(B) Cannot be compared
(C) $\sqrt[3]{2}$
(D) $\sqrt{3}$

141. If $a + b + c = 9$ (where a, b, c are real numbers), then the minimum value of $a^2 + b^2 + c^2$ is

- (A) 81 (B) 100
(C) 9 (D) 27

142. L.C.M. of $\frac{2}{3}, \frac{4}{9}, \frac{5}{6}$

- (A) $\frac{20}{27}$ (B) $\frac{8}{27}$
(C) $\frac{20}{3}$ (D) $\frac{10}{3}$

143. Find the value of

$$3 + \frac{1}{\sqrt{3}} + \frac{1}{\sqrt{3}+3} + \frac{1}{\sqrt{3}-3}$$

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

144. 'a' divides 228 leaving a remainder 18. The biggest two-digit value of 'a' is

- (A) 30 (B) 70
(C) 21 (D) 35

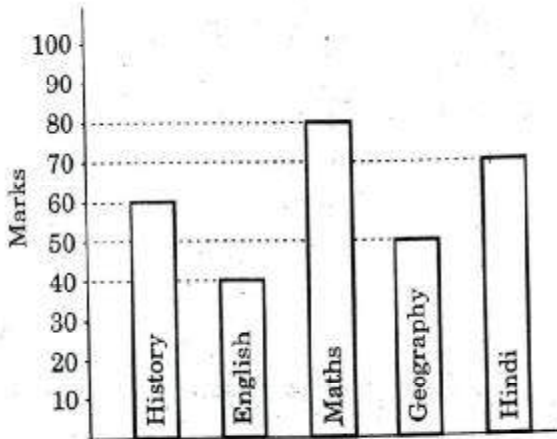
145. If the sum of the digits of any integer lying between 100 and 1000 is subtracted from the number, the result always is

- (A) divisible by 5
(B) divisible by 6
(C) divisible by 2
(D) divisible by 9

146. If a number is as much greater than 31 as it is less than 75, then the number is

- (A) 53 (B) 106
(C) 44 (D) 74

Directions : The bar graph shows the marks obtained by a student in an examination out of 100 marks in each subject. Study the diagram and answer the Q. Nos. 147 and 148.



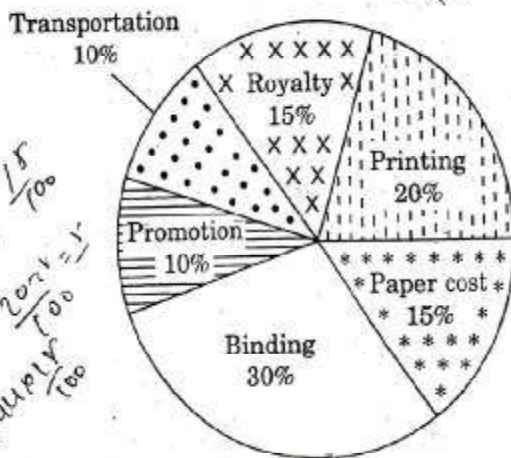
147. The average marks of Hindi and English is

- (A) 60 (B) 65
(C) 50 (D) 55

148. The ratio of the marks of Maths and History is

- (A) 4:3 (B) 6:5
(C) 8:5 (D) 3:4

Directions : Various expenditures incurred by a publishing company for publishing a book in 2011 are given below. Study the chart and answer the Q. Nos. 149 and 150.



149. Royalty of a book is less than the printing cost by

- (A) 20% (B) 25%
(C) 5% (D) $33\frac{1}{3}\%$

150. Price of a book is 20% above cost price. If the marked price is ₹ 180, then the cost of paper for a single copy, in ₹, is

- (A) 42 (B) 44.25
(C) 36 (D) 22.50

FOR VISUALLY HANDICAPPED CANDIDATES ONLY

147. The difference between the circumference and the radius of a circle is 27 cm. The area of the circle is (Take $\pi = \frac{22}{7}$)

- (A) 154 sq. cm (B) 259 sq. cm
(C) 148 sq. cm (D) 111 sq. cm

148. If $\tan^2 \theta - \sin^2 \theta = x$, then the value of $\tan^2 \theta \sin^2 \theta$ is

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

149. If $x - y = 1$, then $x^3 - y^3 - 3(xy - 2)$ is equal to

- (A) 7 (B) 6
(C) 10 (D) 4

150. Ram's income is greater than Shyam's income by 20%. Then the percent by which Shyam's income is less than Ram's income is

- (A) $16\frac{2}{3}$ (B) $18\frac{2}{5}$
(C) $10\frac{1}{5}$ (D) $12\frac{1}{3}$

PART IV : GENERAL AWARENESS

151. How many members can be nominated to both the Houses of the Parliament by the President ?
(A) 14 (B) 16
(C) 10 (D) 12
152. Under which Article of the Constitution can an individual move to the Supreme Court directly in case of any violation of Fundamental Rights ?
(A) Article 31 (B) Article 32
(C) Article 28 (D) Article 29
153. The Dandi March of Gandhi is an example of
(A) Non-Cooperation
(B) Direct Action
(C) Boycott
(D) Civil Disobedience
154. Presidential form of government consists of the following :
(A) Popular election of the President
(B) No overlap in membership between the executive and the legislature
(C) Fixed term of office
(D) All the above
155. Which one of the following inscriptions relate to the Chalukya king, Pulakesin II ?
(A) Nasik (B) Maski
(C) Hathigumpha (D) Aihole
156. Who among the following introduced the Mansabdari system ?
(A) Jahangir (B) Shah Jahan
(C) Sher Shah (D) Akbar
157. The basic object of all production is to
(A) increase physical output
(B) satisfy human wants
(C) provide employment
(D) make profits
158. Inflation is caused by
(A) decrease in production
(B) increase in money supply and decrease in production
(C) increase in money supply
(D) increase in production
159. Dumping is a form of price discrimination at
(A) local level
(B) within industry
(C) national level
(D) international level
160. The equilibrium of a firm under perfect competition will be determined when
(A) Marginal Cost > Average Cost
(B) Marginal Revenue > Average Cost
(C) Marginal Revenue > Average Revenue
(D) Marginal Revenue = Marginal Cost
161. Expenditure on advertisement and public relations by an enterprise is a part of its
(A) fixed capital
(B) consumption of fixed capital
(C) final consumption expenditure
(D) intermediate consumption
162. The concept of Concurrent List in Indian Constitution is borrowed from the Constitution of
(A) U.S.A. (B) Japan
(C) Canada (D) Australia

163. Match correctly the following deserts and their location by choosing the correct response :

Desert	Location
a. Kalahari	1. South America
b. Atacama	2. Australia
c. Thar	3. Africa
d. Great Victoria	4. Asia

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

164. What is a neuron ?

- (A) Basic unit of nervous system
(B) Basic unit of energy
(C) Particle released during radioactivity
(D) The anti-particle of neutron

165. A cellulosic wall is found in the cells of

- (A) plants
(B) animals
(C) bacteria
(D) fungi

166. The filtration unit of kidney is

- (A) yellow fiber (B) axon
(C) nephron (D) neuron

167. The nutritive tissue in the seeds of higher plants is known as

- (A) nucellus (B) hypocotyl
(C) embryo (D) endosperm

168. Yeast is an important source of

- (A) protein (B) vitamin B
(C) invertase (D) vitamin C

169. Which one of the following cities and the personalities associated with their establishment is *wrongly* matched ?

- (A) Calcutta - Robert Clive
(B) Pondicherry - Francis Martin
(C) Ahmedabad - Ahmad Shah I
(D) Madras - Francis Day

170. Which one of the following wars decided the fate of the French in India ?

- (A) Battle of Plassey
(B) Battle of Wandiwash
(C) First Carnatic War
(D) Battle of Buxar

171. The Crimean War came to an end by the

- (A) Treaty of St. Germain
(B) Treaty of Trianon
(C) Treaty of Versailles
(D) Treaty of Paris

172. The longest river of peninsular India is

- (A) Godavari (B) Krishna
(C) Kaveri (D) Narmada

173. Moraines are formed in

- (A) Monsoon region
(B) River deltas
(C) Arid regions
(D) Glacial regions

174. The Himalayan mountain range is an example of

- (A) Fold mountain
(B) Volcanic mountain
(C) Residual mountain
(D) Block mountain

175. Which one of the following is a warm ocean current ?

- (A) Gulf Stream (B) Kurile
(C) Canary (D) Labrador

176. A nibble is equal to _____ bits.

- (A) 16 (B) 32
(C) 4 (D) 8

177. In HTML, tags consists of keywords enclosed within

- (A) flower brackets { }
(B) angular brackets < >
(C) parentheses ()
(D) square brackets []

178. _____ printer cannot print more than one character at a time.

- (A) Line (B) Daisy-wheel
(C) Laser (D) Dot-matrix

179. Enzymes are

- (A) Lipids (B) Steroids
(C) Carbohydrates (D) Proteins

180. Heating of a ore below its melting point in the absence of air is known as

- (A) Smelting
(B) Refining
(C) Calcination
(D) Roasting

181. The most electronegative element among the following is

- (A) Oxygen (B) Fluorine
(C) Sodium (D) Chlorine

182. Mark the compound which possesses ionic, covalent and co-ordinate bonds.

- (A) H₂O (B) NH₄Cl
(C) SO₃ (D) SO₂

183. The depletion of Ozone layer is mainly due to

- (A) Chlorofluorocarbons
(B) Volcanic eruptions
(C) Aviation fuels
(D) Radioactive rays

184. Match correctly the infectious agents given in List I with the diseases caused by them given in List II :

List I

- a. Bacterium
b. Fungus
c. Protozoan
d. Virus

List II

1. Kala-azar
2. Tuberculosis
3. Influenza
4. Ringworm

(A) a-4, b-2, c-3, d-1

(B) a-1, b-2, c-4, d-3

(C) a-2, b-4, c-1, d-3

(D) a-3, b-1, c-2, d-4

185. Matter waves are

- (A) Longitudinal waves
(B) de Broglie waves
(C) Electromagnetic waves
(D) Transverse waves

186. When the milk is churned vigorously the cream from it is separated out due to

- (A) Centrifugal force
(B) Centripetal force
(C) Gravitational force
(D) Frictional force

187. Gas thermometers are more sensitive than the liquid thermometers because the gases

- (A) have high specific heat
(B) have large coefficient of expansion
(C) are lighter
(D) have low specific heat

188. Which of the following is *not* caused by atmospheric refraction of light ?

- (A) Sun becoming visible two or three minutes before actual sunrise
(B) Sun appearing red at sunset
(C) Twinkling of stars at night
(D) Sun appearing higher in the sky than it actually is

189. Minorities Rights Day is observed in India on
 (A) 18th December (B) 23rd December
 (C) 5th September (D) 1st December

190. Which one of the following institutes in List I is *wrongly* matched with its location indicated in List II?

<i>List I</i>	<i>List II</i>
(A) Central Institute of Mining and Fuel Research	Dhanbad
(B) Central Building Research Institute	Roorkee
(C) Central Arid Zone Research Institute	Jodhpur
(D) Central Drug Research Institute	Kanpur

191. Match the two lists given below :

<i>List I</i>	<i>List II</i>
a. London	1. St. Peter's Square
b. Vatican City	2. Times Square
c. Moscow	3. Trafalgar Square
d. New York	4. Red Square

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

192. Who among the following women tennis players has won the Grand Slam titles for the maximum number of times?

- (A) Serena Williams
 (B) Venus Williams
 (C) Steffi Graf
 (D) Margaret Court

193. In which one of the following films did Pran act as a character artist and not in the role of a villain?

- (A) *Himalaya Ki Godh Mein*
 (B) *Ram aur Shyam*
 (C) *Zanjeer*
 (D) *Madhumati*

194. The main advantage of Rain Water Harvesting (RWH) is

- (A) Avoid soil erosion
 (B) Recharge ground water
 (C) Avoid floods
 (D) Reduce the loss of water

195. The waste generated by end life personal computers is known as

- (A) E-waste (B) PC-waste
 (C) Physical waste (D) Computer waste

196. Who was the first posthumous recipient of Bharat Ratna?

- (A) M.G. Ramachandran
 (B) B.R. Ambedkar
 (C) K. Kamraj
 (D) Lal Bahadur Shastri

197. Which country won the ICC Women's World Cup held in February 2013?

- (A) India (B) New Zealand
 (C) England (D) Australia

198. Which country's currency is Ngultrum?

- (A) Bhutan (B) Laos
 (C) Bangladesh (D) Nepal

199. "Sattriya Nritya" recognised as a classical dance form of India by the Sangeet Natak Akademi only in 2000, originated from

- (A) Tripura (B) Assam
 (C) Karnataka (D) Gujarat

200. Given below are pairs of the winners and the specific categories pertaining to the 14th International Indian Film Academy (IIFA) Awards. Which one of the pairs is *wrongly* matched?

- (A) Best Film - Agneepath
 (B) Best Actor in a negative role - Rishi Kapoor
 (C) Best Actor - Ranbir Kapoor
 (D) Best Female Actor - Vidya Balan

GENERAL INTELLIGENCE

Directions (1 - 7) : In the following questions select the related letters/word/ number from the given alternatives.

1. Smoke : Pollution :: War : ?
(1) Treaty (2) Destruction
(3) Peace (4) Victory
2. 12 : 30 :: 18 : ?
(1) 44 (2) 45
(3) 36 (4) 42
3. 85 : 40 :: 77 : ?
(1) 49 (2) 50
(3) 14 (4) 48
4. KNQT : LORU :: ADGJ : ?
(1) DGEF (2) MPVW
(3) BEHK (4) FHLO
5. DRIVEN : NEVIRD :: BEGUM : ?
(1) EBGMU (2) MUGEB
(3) MEUBG (4) BGMUE
6. Smell : Flower :: Taste : ?
(1) Food (2) Sweet
(3) Water (4) Salt
7. Introvert : Extrovert :: ?
(1) Against : Favour
(2) Action : Law
(3) Angle : Tangent
(4) Extreme : Interim

Directions (8 - 11) : In the following questions, find the odd letters/words/number pair from the given alternatives.

8. (1) Plateau (2) Plane
(3) Mountain (4) Hill
9. (1) 48 - 68 (2) 71 - 87
(3) 5 - 21 (4) 29 - 45
10. (1) EHIK (2) LNOQ
(3) TWXZ (4) ADEG
11. (1) Across : Along
(2) Small : Large
(3) Day : Night
(4) Up : Down

12. Which one set of letters when sequentially placed at the gaps in the given letter series shall complete it?

- bc_bca_cab_ab_a_ca
(1) abccb (2) cabca
(3) abcab (4) cabac

13. In the following letter series, how many B C N occur in such a way, that C is in the middle and B and N are on any one side?

- BCMXNCXNBXNCBNCB
YBCXNBCNABONMZCB
(1) 5 (2) 3
(3) 4 (4) 2

14. Find out the set among the four sets which is like the given set.

- Given set is (6 : 12 : 18)
(1) (6 : 20 : 26)
(2) (30 : 36 : 42)
(3) (4 : 8 : 14)
(4) (12 : 24 : 36)

15. Which one of the given responses would be a meaningful order of the following in ascending order?

1. Sending 2. Encoding
3. Receiving 4. Decoding
(1) 1, 2, 3, 4 (2) 2, 1, 3, 4
(3) 2, 4, 3, 1 (4) 4, 2, 1, 3

16. Arrange the following words as per order in the English dictionary :

1. Important
2. Impart
3. Improvise
4. Improve
(1) 3, 4, 1, 2 (5) 2, 1, 3, 4
(3) 1, 2, 3, 4 (4) 2, 1, 4, 3

Directions (17-19) : In the following questions, a series is given, with one term missing. Choose the correct alternative from the given ones that will complete the series.

17. 3, 9, 6, 36, 30, 2

- (1) 950 (2) 400
(3) 900 (4) 800

18. DKY, FJW, HIU, JHS, 2

- (1) KGR (2) KFR
(2) LFG (4) LGG

19. 7, 8, 11, 16, 23, 2

- (1) 37 (2) 40
(3) 31 (4) 32

20. If B = 2, BAG = 10, then BOX = ?

- (1) 41 (2) 52
(3) 36 (4) 39

21. If DISC is coded as 8749 and ACHE is coded as 3950, then HEAD is coded as

- (1) 3508 (2) 3805
(3) 5038 (4) 5308

22. If January 1st is a Friday, what is the first day of the month of March, in a leap year?

- (1) Thursday (2) Friday
(3) Tuesday (4) Wednesday

23. Barun is taller than Sanjay. Bipul is taller than Barun. Krishna is also not as tall as Bipul, but is taller than Barun. Who is the tallest?

- (1) Krishna (2) Sanjay
(3) Barun (4) Bipul

24. Rajan is younger than his father by 20 years. 6 years ago his father was 3 times elder than him. Find the present age of his father.

- (1) 35 years (2) 36 years
(3) 25 years (4) 30 years

25. Sunita is the 11th from either end of a row of girls. How many girls are there in that row?

- (1) 21 (2) 22
(3) 19 (4) 20

26. A man said to a woman, "The only son of your brother, is the brother of my wife." How is that woman related to the wife of that man?

(1) Mother

(2) Grandmother

(3) Aunt (4) Sister

27. Some capital letters are given below in the first line and numbers are assigned to each of them in the second line. The numbers are the codes for the letters and vice-versa.

M	O	E	A	S	J	T	Z
3	5	7	6	2	9	4	0

Choose the correct number code for the given set of letters.

E A S T

- (1) 7624 (2) 7625
(3) 7620 (4) 7623

28. From the given alternatives select the word which can be formed using the letters given in the word.

COMPANIONSHIP

- (1) OPINION (2) NATION
(3) OPEN (4) OPIUM

29. From the given alternatives select the word which cannot be formed using the letters of the given word.

PUNISHMENT

- (1) PUSH (2) NAME
(3) MINT (4) PEST

30. In a certain code 'CALANDER' is written as 'CLANAEDR'. How is 'CIRCULAR' written in that code?

- (1) CRIUCLRA
(2) CRIARLCU
(3) ICCRLURA
(4) CRIUCALR

Directions (31-32) : In the

following questions, select the missing number from the given responses.

31. 63 7 9
30 5 6
20 4 ?

- (1) 5 (2) 2
(3) 8 (4) 3

32. 24 25 50
24 20 10
4 9 3
12 5 ?

- (1) 20 (2) 5
(3) 10 (4) 15

Directions (33-34) : In the following questions, some equations are solved on the basis of a certain system. On that basis, find out the correct answer for the unsolved equation.

33. $3 \times 9 \times 7 = 379$

$5 \times 4 \times 8 = 584$

$1 \times 2 \times 3 = ?$

- (1) 213 (2) 132
(3) 123 (4) 231

34. If $526 = 9$

and $834 = 9$, then

$716 = ?$

- (1) 9 (2) 12
(3) 20 (4) 15

35. One morning Meena started walking towards the Sun. After walking a while she turned towards her left and again towards her left. After walking a while, she turned left. In which direction is she facing now?

- (1) West (2) South
(3) North (4) East

36. Vijay starts walking straight towards East. After walking 75 metres he turns to the left and walks 25 metres straight. Again he turns to the left and walks a distance of 40 metres straight. Again he turns to the left and walks a distance of 25 metres. How far is he from the starting point?

- (1) 50 metres
(2) 35 metres
(3) 140 metres
(4) 115 metres

37. Select the correct combination of mathematical signs to replace '*' signs and to balance the given equation.

$24 * 34 * 2 * 5 * 12$

- (1) = + + (2) + + = x
(3) + + x = (4) = + -

38. If '+' means 'minus', '-' means 'multiply', '*' means 'plus' and 'x' means 'divide', then

$10 \times 5 + 3 - 2 + 3 = ?$

- (1) 21 (2) 36
(3) 5 (4) $\frac{53}{3}$

39. In a birthday party, 5 friends are sitting in a row. 'M' is to the left of 'O' and to the right of 'P'. 'S' is sitting to the right of 'T', but to the left of 'P'. Who is sitting in the middle?

- (1) P (2) S
(3) M (4) O

40. One statement is given, followed by two conclusions and II. You have to consider the statement to be true, even if it seems to be at variance from commonly known facts. You have to decide which of the given conclusions, if any, follow from the given statement. Indicate your answer.

Statement :

Medals are awards.

Conclusions :

- I. All awards are not medals.
II. All medals received are called awards.
(1) Both conclusions I and II follow
(2) Neither conclusion I nor II follows
(3) Only conclusion I follows
(4) Only conclusion II follows

41. Which of the conclusions can be drawn from the given statements?

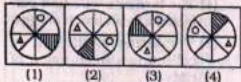
Statements :

- All the students in my class are intelligent.
Kaushik is not intelligent.
(1) Kaushik is not a student of my class.
(2) All other than Kaushik are intelligent.
(3) Some students are not intelligent.
(4) Non-intelligent are not students.

42. A machine which cuts a ribbon into pieces of 10 metres takes 6 seconds to make a single cut. How long will it take to completely cut into pieces a ribbon 3 km long?

- (1) 1794 seconds
(2) 1800 seconds
(3) 174 seconds
(4) 180 seconds

43. Select the figure which is different from the rest three.



44. Choose the alternative from the given ones that will complete the series.

Question Figures :

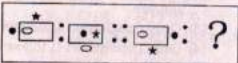


Answer Figures :

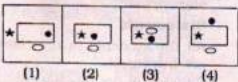


45. Select the related figure from the given alternatives.

Question Figures :



Answer Figures :

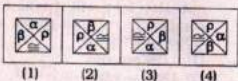


46. Which answer figure will complete the pattern in the question figure?

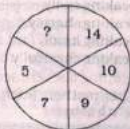
Question Figure :



Answer Figures :

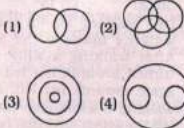


47. Select the missing number from the given responses.



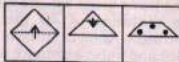
- (1) 4 (2) 18
(3) 2 (4) 3

48. Identify the diagram that best represents the relationship among the classes given below.
TEA, COFFEE, DRINK

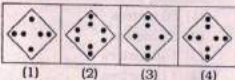


49. A piece of paper is folded and cut/punched as shown below in the question figures. From the given answer figures, indicate how it will appear when opened.

Question Figures :



Answer Figures :

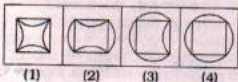


50. From the given answer figures, select the one in which the question figure is hidden/embedded.

Question Figure :



Answer Figures :



ENGLISH LANGUAGE

Directions (51 - 56) : In the following questions, some parts of the sentences have errors and some have none. Find out which part of a sentence has an error. If a sentence is free from error, then your answer is (4), i.e. No Error.

51. She regards (1)/ negotiating prices with customers (2)/ as her special expertise. (3)/ No error (4)
52. The police is investigating (1)/ for the recent happening (2)/ in the area. (3)/ No error (4)
53. The redevelopment project is aimed (1)/ not just providing good houses to shanty dwellers, (2)/but also developing infrastructure around the major Mumbai localities. (3)/ No error (4)
54. Unless he apologizes (1)/ he should not be (2)/ allowed to stay with us. (3)/ No error (4)
55. I met the gentleman (1)/ to-day morning on my way (2)/ to the market. (3)/ No error (4)

Directions (56-60) : In the following questions, sentences are 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 as your answer.

56. Internet cafe owners fear that a police crackdown may cause _____ damage to their business.
(1) irreparable
(2) eternal
(3) untold (4) reparable
57. We heard that the Richards _____ their house recently.
(1) will shift (2) are shifting
(3) had shifted
(4) have shifted
58. The more he remonstrated _____ the referee the worse the situation became.
(1) with (2) for
(3) at (4) to
59. Our teacher encouraged _____ setting the poem to music.
(1) he (2) he's
(3) his (4) him

60. He would not have been successful in the project but

- my help,
(1) for (2) off
(3) of (4) with

Directions (61 - 62) : In the following questions, out of the four alternatives, choose the one which best expresses the meaning of the given word as your answer.

61. Admonition

- (1) Admission (2) Hindrance
(3) Reason (4) Warning

62. Thrifty

- (1) Greedy (2) Extravagant
(3) Economical
(4) Compassionate

Directions (63-64) : In the following questions, choose the word opposite in meaning to the given word as your answer.

63. Dynamic

- (1) Static (2) Stupid
(3) Strange (4) Stout

64. Stability

- (1) Opposition
(2) Carelessness
(3) Disparity
(4) Inconsistency

Directions (65 - 66) : In the

following questions, there are four different words out of which only one word is correctly spelt. Find the correctly spelt word as your answer.

65. (1) Intermitantly

- (2) Intarmitantly
(3) Intermittently
(4) Intarmitantly

66. (1) Coleague (2) Coligue

- (3) Coleague (4) Colleague

Directions (67-69) : In the

following questions, four alternatives are given for the Idiom/Phrase printed in bold in the sentence. Choose the alternative which best expresses the meaning of the Idiom/Phrase as your answer.

67. The young servant goes about with the old master.

- (1) tries to know more about
(2) adjusts well
(3) moves around
(4) goes around

68. The mother was right in giving a piece of her mind to the daughter.

- (1) speaking sadly
(2) speaking aharply
(3) speaking kindly
(4) speaking cheerfully

69. After getting a severe scolding from his mother, Raghu got down to business.

- (1) began to work seriously
(2) joined his father's business
(3) started a business
(4) became businesslike

Directions (70 - 72) : In the following questions, out of the four alternatives choose the one which can be substituted for the given words/sentence.

70. An assembly of worshippers

- (1) Configuration
(2) Confrontation
(3) Congregation
(4) Conflagration

71. A person who lives by himself

- (1) Extrovert (2) Prophet
(3) Monk (4) Recluse

72. A medicine to nullify the effect of poison

- (1) Antidote (2) Anticlimax
(3) Antibody (4) Antigen

Directions (73-74) : In the following questions, a part of the sentence is printed in bold. Below are given alternatives to the bold part at (1), (2), (3) which may improve the sentence. Choose the correct alternative. In case no improvement is needed, your answer is (4).

73. Complete the formalities of registration of the workshop before you enter the hall.

- (1) formalities to register for
(2) formalities to registering for
(3) formalities of registration for
(4) No improvement

74. If a man remains as careful as he is in the beginning, there will be no failure.

- (1) he was in the beginning
(2) he in the beginning
(3) he at the beginning
(4) No improvement

Directions (75-79) : In the following questions, a sentence has been given in Active/Passive Voice. Out of the four alternatives suggested, select the one which best expresses the same sentence in Passive /Active Voice.

75. A fresh batch of eggs was collected by the farmer's wife.

- (1) The farmer's wife had collected a fresh batch of eggs.
(2) The farmer's wife will be collecting a fresh batch of eggs.
(3) The farmer's wife was collecting a fresh batch of eggs.
(4) The farmer's wife collected a fresh batch of eggs.

76. I shall have written the letter.

- (1) The letter is being written by me.
(2) The letter will have been written by me.
(3) The letter will be written by me.
(4) The letter has been written by me.

77. Then her face was bowed.

- (1) Then she bowed her face.
(2) Then her face has been bowed.
(3) Then she was being bowed her face.
(4) Her face was bowed by then.

78. The walls had not been decorated by us.

- (1) We have not decorated the walls.
(2) We had not decorated the walls.
(3) We have not been decorating the walls.
(4) We had not been decorating the walls.

79. We must endure what we cannot cure.

- (1) What cannot cured must endured.
(2) What could be cure must be endured.
(3) What we cure must be endured.
(4) What cannot be cured must be endured.

Directions (80-84) : In the following questions, a sentence has been given in Direct/Indirect. Out of the four alternatives suggested, select the one which best expresses the same sentence in Indirect/Direct.

80. Suresh asked Prasad whether he had watched the cricket match on television the previous night.

(1) Suresh said to Prasad, "Did you watch the cricket match on television last night?"

(2) Suresh asked Prasad, "Did you watch the cricket match on television previous night?"

(3) Suresh asked Prasad, "Have you watched the cricket match on television last night?"

(4) Suresh said to Prasad, "Did you watch the cricket match on television last night?"

81. Father said to me, "You are idling away your time."

(1) Father told me that you were idling away your time.

(2) Father told me that I was idling away my time.

(3) Father told me that I am idling away my time.

(4) Father told me that you are idling away your time.

82. The captain said to his men, "Fall into line."

(1) The captain said to his men that they can fall into line.

(2) The captain commanded his men to fall into line.

(3) The captain warned his men to fall into line.

(4) The captain told his men that they should fall into line.

83. The priest said, "May God pardon this sinner!"

(1) The priest prayed that God would pardon this sinner.

(2) The priest prayed that God might pardon that sinner.

(3) The priest prayed if God will pardon that sinner.

(4) The priest said that God might pardon the sinner.

84. Ashmita advised me to go and see a doctor.

(1) "Shouldn't you go, and see a doctor?" asked Ashmita.

(2) "You should go and see a doctor," said Ashmita.

(3) Ashmita asked me, "Will you go and see a doctor?"

(4) Ashmita told me, "Go and see the doctor."

Directions (85-90): In the following questions, the 1st and the last sentences of the passage/parts of the sentence are numbered 1 and 6. The rest of the passage/sentence is split into four parts and named P, Q, R and S. These four parts are not given in their proper order. Read the passage/sentence and find out which of the four combinations is correct. Then find the correct answer.

85. 1. The first illness I read about was cholera.

P. I sat for a while, too frightened to move.

Q. I came to malaria.

R. As I read the list of symptoms, it seemed to me that perhaps I had cholera myself.

S. Then, in a kind of dream, I started to turn the pages of the book again.

6. Yes, there was no doubt about it — I had malaria too.

(1) RSQP (2) PQSR

(3) SPQR (4) QSPR

86. 1. Lata was caught in a traffic jam.

P. Would she really have to miss the interview?

Q. But the vehicles on either side looked as though they would be there forever.

R. The reason was that she was due to appear for an interview in less than half-an-hour.

S. She was fretting: she could not afford to be late.

6. Or, worse — would she arrive late and create a bad first impression?

(1) RSQP (2) RSPQ

(3) SRQP (4) SRPQ

87. 1. When you are debating whether to

P. but also helps you stay

Q. take your evening walk or skip it

R. not only keeps your weight in check

S. remember that taking a long walk

6. calm and relaxed.

(1) RPQS (2) QSRP

(3) SRPQ (4) QRSP

88. 1. The enzymes in washing powder

P. making them able to survive

Q. come from bacteria

R. to live in hot springs

S. that have evolved

6. the rigours of the hot cycle.

(1) PQSR (2) QSRP

(3) SQRP (4) QSPR

89. 1. The lion used to be very widely distributed in Africa and Asia.

P. There are special forest zones set aside for wild-life in various countries.

Q. Indiscriminate killing has caused the number to fall.

R. Today they are a relatively rare species.

S. If the species survives at all, it will be only in national parks.

6. No hunting is permitted in such reserved areas.

(1) RQSP (2) SRPQ

(3) RSPQ (4) QSPR

90. 1. After the tornado had hit the coastal areas,

P. my house was gone,

Q. I became a pauper overnight

R. my fields were completely destroyed,

S. my livestock was lost and

6. though my neighbour's house remained untouched.

(1) QRPS (2) PRSQ

(3) RPQS (4) SQPR

Directions (91-95): In the following questions, in the following passage some of the words have been left out. Read the passage carefully and choose the correct answer to each question out of the four alternatives and fill in the blanks.

91. The first illness I read about was cholera.

I sat for a while, too frightened to move.

I came to malaria.

As I read the list of symptoms, it seemed to me that perhaps I had cholera myself.

Then, in a kind of dream, I started to turn the pages of the book again.

Yes, there was no doubt about it — I had malaria too.

Lata was caught in a traffic jam.

Would she really have to miss the interview?

But the vehicles on either side looked as though they would be there forever.

The reason was that she was due to appear for an interview in less than half-an-hour.

She was fretting: she could not afford to be late.

Or, worse — would she arrive late and create a bad first impression?

When you are debating whether to

but also helps you stay

When I go into a stranger's library I (91) round the bookshelves. This is to know the type of person he is and I feel that I know the (92) to his mind. A house without books is a (93) house, no matter how rich the carpets are.

These only tell you whether he (94) a lot of money, but the books tell you whether he has a mind as well. It is not a (95) of money that we do not buy books.

91. (1) look (2) wander

(3) wonder (4) run

92. (1) key (2) solution

(3) secret (4) mystery

93. (1) unlucky (2) bad

(3) characterless

(4) bleak

94. (1) have (2) has had

(3) had (4) has

95. (1) issue (2) cause

(3) reason (4) question

Directions (96-100): In the following questions, you have a brief passage with 5 questions following the passage. Read the passage carefully and choose the best answer to each question out of the four alternatives.

As the rulers of the planet, humans like to think that it is the large creatures who will emerge victorious from the struggle for survival. However, nature teaches us the opposite: it is often the smallest species which are the toughest and most adaptable. A perfect example is the hummingbird, which is found in the Americas. One species of hummingbird known as the bee hummingbird ranks as the world's smallest and lightest bird and it is barely visible when it is in flight.

Hummingbirds are the only birds that can fly backwards. They feed mainly on the nectar of flowers, a liquid that is rich in energy. Nectar is an ideal food source, for hummingbirds need an incredible amount of energy to sustain their body metabolism. A hummingbird's wings flap at a rate of about 80 times per second and its tiny heart beats more than 1000 times per minute. This is why

they must consume relatively large quantities of food. In the course of a day, a hummingbird consumes about half its body weight in nectar.

96. Which of the following statements about the bee hummingbird is true?

(1) It could fly high beyond the clouds.

(2) It cannot be seen when it is in flight.

(3) It is obviously visible when it flies.

(4) It escapes our sight when it is in flight.

97. Hummingbirds need a lot of energy in order to

(1) sustain a steady rhythm of heart-beat

(2) win in the struggle for survival

(3) maintain their body metabolism

(4) flap their wings and fly backwards

98. The hummingbirds are exclusive in the sense that

(1) they consume half their body weight every day

(2) they can fly backwards

(3) they subsist only on nectar

(4) their pulse rate is more than 1000 per minute

99. The word 'incredible' in the passage means

(1) unbelievable

(2) phenomenal

(3) tremendous

(4) inexhaustible

100. Nature has made man realize the fact that

(1) humans who rule the planet are the most powerful beings on Earth

(2) the largest and the smallest species are equally tough and strong

(3) the large creatures emerge victorious from the struggle for survival

(4) the smallest creatures are the toughest and most adaptable

QUANTITATIVE APTITUDE

101. If 120 is 20% of a number, then 120% of that number will be

(1) 360 (2) 720

(3) 20 (4) 120

102. In a division sum, the divisor is 3 times the quotient and 6 times the remainder. If the remainder is 2, then the dividend is

(1) 50 (2) 48

(3) 36 (4) 28

103. $\frac{1}{7} + \left(999 \frac{692}{693}\right) \times 99$ is equal

to

(1) 1 (2) 99000

(3) 99800 (4) 99900

104. Let $\sqrt[3]{a} = \sqrt[3]{26} + \sqrt[3]{7} + \sqrt[3]{63}$. Then

(1) $a < 729$ but $a > 216$

(2) $a < 216$

(3) $a > 729$ (4) $a = 729$

105. The number of prime factors in $6^{333} \times 7^{222} \times 8^{111}$

(1) 1221 (2) 1222

(3) 1111 (4) 1211

106. The greatest among 1.5, 1.05, 105, 1.5 is

(1) 1.05 (2) 1.05

(3) 1.5 (4) 1.5

107.
$$4\frac{1}{7} - 2\frac{1}{4} + \frac{2}{3\frac{1}{2} + 1\frac{1}{7}} + 2 + \frac{1}{2 + \frac{1}{5 - \frac{1}{5}}}$$

is equal to

(1) 1 (2) 4

(3) 3 (4) 2

108. If $x : y = 3 : 4$ and $y : z = 3 : 4$,

then $\frac{x+y+z}{3x}$ is equal to

(1) $\frac{13}{27}$ (2) $\frac{1}{2}$

$$(3) \frac{73}{84} \quad (4) \frac{37}{48}$$

109. The value of

$$\frac{\sqrt{72} \times \sqrt{363} \times \sqrt{175}}{\sqrt{32} \times \sqrt{147} \times \sqrt{252}}$$

$$(1) \frac{55}{42} \quad (2) \frac{45}{56}$$

$$(3) \frac{45}{28} \quad (4) \frac{55}{28}$$

110. Zinc and copper are in the ratio 5 : 3 in 400 gm of an alloy. How much of copper (in grams) should be added to make the ratio 5 : 4 ?

$$(1) 50 \quad (2) 66$$

$$(3) 72 \quad (4) 200$$

111. The average age of A and B is 20 years. If A is to be replaced by C, the average would be 19 years. The average age of C and A is 21 years. The ages of A, B and C in order (in years) are

$$(1) 18, 22, 20 \quad (2) 18, 20, 22$$

$$(3) 22, 18, 20 \quad (4) 22, 20, 18$$

112. A reduction of 10% in the price of a commodity enables a person to buy 25 kg more for Rs. 225. The original price of the commodity per kg was

$$(1) ₹ 2 \quad (2) ₹ 1$$

$$(3) ₹ 2.50 \quad (4) ₹ 1.50$$

113. One type of liquid contains 20% water and the second type of liquid contains 35% of water. A glass is filled with 10 parts of first liquid and 4 parts of second liquid. The water in the new mixture in the glass is

$$(1) 37\% \quad (2) 46\%$$

$$(3) 12\frac{1}{7}\% \quad (4) 24\frac{2}{7}\%$$

114. At the beginning of a partnership business, the capital of B was $\frac{3}{2}$ times that of A. After 8 months B withdrew $\frac{1}{2}$ of his capital and after 10 months A withdrew

$\frac{1}{4}$ th of his capital. At the end of the year, if the profit incurred is Rs. 53,000, find the amount received by A.

$$(1) ₹ 30,800 \quad (2) ₹ 32,000$$

$$(3) ₹ 30,000 \quad (4) ₹ 23,000$$

115. If x, y, z are three sums of money such that y is the simple interest on x and z is the simple interest on y for the same time and at the same rate of interest, then we have

$$(1) z^2 = xy \quad (2) xyz = 1$$

$$(3) x^2 = yz \quad (4) y^2 = zx$$

116. Mohan sold his watch at 10% loss. If he had sold it for Rs. 45 more, he would have made 5% profit. The selling price (in Rs.) of the watch was

$$(1) 300 \quad (2) 900$$

$$(3) 110 \quad (4) 270$$

117. A vendor loses the selling price of 4 oranges on selling 36 oranges. His loss per cent is

$$(1) 12\frac{1}{2}\% \quad (2) 9\%$$

$$(3) 10\% \quad (4) 11\frac{1}{2}\%$$

118. Successive discounts of 30% and 20% is equivalent to a single discount of

$$(1) 50\% \quad (2) 40\%$$

$$(3) 44\% \quad (4) 10\%$$

119. If $\frac{xy}{x+y} = a, \frac{xz}{x+z} = b$ and $\frac{yz}{y+z} = c$, where a, b, c are all non-zero numbers, then x equals to

$$(1) \frac{2abc}{ab+bc-ac}$$

$$(2) \frac{2abc}{ab+ac-bc}$$

$$(3) \frac{2abc}{ac+bc-ab}$$

$$(4) \frac{2abc}{ab+bc+ac}$$

120. If $6x - 5y = 13, 7x + 2y = 23$ then $11x + 18y =$

$$(1) -15 \quad (2) 51$$

$$(3) 33 \quad (4) 15$$

121. If $x + y + z = 13$ and $x^2 + y^2 + z^2 = 69$, then $xy + z(x + y)$ is equal to

$$(1) 70 \quad (2) 40$$

$$(3) 50 \quad (4) 60$$

122. Two trains, of same length, are running in parallel tracks in the same direction with speed 60 km/hour and 90 km/hour respectively. The latter completely crosses the former in 30 seconds. The length of each train (in metres) is

$$(1) 125 \quad (2) 150$$

$$(3) 100 \quad (4) 115$$

123. A and B can together finish a work in 30 days. They worked together for 20 days and then B left. After another 20 days, A finished the remaining work. The number of days in which B alone can finish the work is

$$(1) 50 \quad (2) 48$$

$$(3) 54 \quad (4) 60$$

124. PQ is a chord of length 8 cm, of a circle with centre O and of radius 5 cm. The tangents at P and Q intersect at a point T. The length of TP is

$$(1) \frac{20}{3} \text{ cm} \quad (2) \frac{21}{4} \text{ cm}$$

$$(3) \frac{10}{3} \text{ cm} \quad (4) \frac{15}{4} \text{ cm}$$

125. The area of the triangle formed by the graphs of $3x + 4y = 12$, x -axis and y -axis (in sq. units) is

$$(1) 4 \quad (2) 12$$

$$(3) 6 \quad (4) 8$$

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

$$(1) 8 \quad (2) 9$$

$$(3) 2 \quad (4) 4$$

127. The side QR of an equilateral triangle PQR is produced to the point S in such a way that QR = RS and P is joined to S. Then the measure of $\angle PSR$ is

$$(1) 30^\circ \quad (2) 15^\circ$$

$$(3) 60^\circ \quad (4) 45^\circ$$

128. ABC is an isosceles triangle with $AB = AC$. The side BA is produced to D such that $AB = AD$. If $\angle ABC = 30^\circ$, then $\angle BCD$ is equal to

- (1) 45° (2) 90°
(3) 30° (4) 60°

129. ABCD is a trapezium in which $AB \parallel DC$ and $AB = 2 CD$. The diagonals AC and BD meet at O. The ratio of areas of triangles AOB and COD is

- (1) 1 : 2 (2) 1 : $\sqrt{2}$
(3) 4 : 1 (4) 1 : 4

130. The altitude drawn to the base of an isosceles triangle is 8 cm and its perimeter is 64 cm. The area (in cm^2) of the triangle is

- (1) 240 (2) 180
(3) 360 (4) 120

131. Three solid iron cubes of edges 4 cm, 5 cm and 6 cm are melted together to make a new cube. 62 cm^3 of the melted material is lost due to improper handling. The area (in cm^2) of the whole surface of the newly formed cube is

- (1) 294 (2) 343
(3) 125 (4) 216

132. If the ratio of volumes of two cones is 2 : 3 and the ratio of the radii of their bases is 1 : 2, then the ratio of their heights will be

- (1) 3 : 4 (2) 4 : 3
(3) 3 : 8 (4) 8 : 3

133. A right pyramid stands on a base 16 cm square and its height is 15 cm. The area (in cm^2) of its slant surface is

- (1) 514 (2) 544
(3) 344 (4) 444

134. If a chord of a circle is equal to the radius of the circle, then the angle subtended by the chord at a point on the minor arc is

- (1) 150° (2) 60°
(3) 120° (4) 30°

135. The length of each side of a rhombus is equal to the length of the side of a square whose diagonal is $40\sqrt{2}$ cm. If the lengths of the diagonals of the

rhombus are in the ratio 3 : 4, then its area (in cm^2) is-

- (1) 1550 (2) 1600
(3) 1535 (4) 1536

136. The greatest value of $\sin^4 \theta + \cos^4 \theta$ is

- (1) 2 (2) 3
(3) $\frac{1}{2}$ (4) 1

137. If $3\sin \theta + 5\cos \theta = 5$ then $5\sin \theta - 3\cos \theta$ is equal to

- (1) ± 3 (2) ± 5
(3) 1 (4) ± 2

138. If $\sin \theta + \sin^2 \theta = 1$ then the value of $\cos^2 \theta + \cos^4 \theta$ is

- (1) 2 (2) 4
(3) 0 (4) 1

139. From two points on the ground and lying on a straight line through the foot of a pillar, the two angles of elevation of the top of the pillar are complementary to each other. If the distances of the two points from the foot of the pillar are 9 metres and 16 metres and the two points lie on the same side of the pillar, then the height of the pillar is

- (1) 5 m (2) 10 m
(3) 7 m (4) 12 m

140. The sum of interior angles of a regular polygon is 1440° . The number of sides of the polygon is

- (1) 10 (2) 12
(3) 6 (4) 8

141. The base of a right prism is a right-angled triangle whose sides are 5 cm, 12 cm and 13 cm. If the area of the total surface of the prism is 360 cm^2 , then its height (in cm) is

- (1) 10 (2) 12
(3) 9 (4) 11

142. The product $\cos 1^\circ \cos 2^\circ \cos 3^\circ \cos 4^\circ \dots \cos 100^\circ$ is equal to

- (1) -1 (2) $\frac{1}{4}$
(3) 1 (4) 0

143. Three pipes A, B and C can fill a tank in 6 hours. After working together for 2 hours, C is closed and A and B fill the tank

in 8 hours. The time (in hours) in which the tank can be filled by pipe C alone is

- (1) 10 (2) 12
(3) 8 (4) 9

144. The radii of two circles are 10 cm and 24 cm. The radius of a circle whose area is the sum of the areas of these two circles is

- (1) 36 cm (2) 17 cm
(3) 34 cm (4) 26 cm

145. The value of

$$(x^{b+c})^{b-c} (x^{c+a})^{c-a} (x^{a+b})^{a-b}$$

($x \neq 0$) is

- (1) 1 (2) 2
(3) -1 (4) 0

146. LCM of two numbers is 2079 and their HCF is 27. If one of the numbers is 189, the other number is

- (1) 297 (2) 584
(3) 189 (4) 216

Directions (147-148) The table shows the percentage of total population of a city in different age groups. Study the table and answer the questions.

Age group	Percent
Up to 15	20.00
16 - 25	18.25
26 - 35	16.75
36 - 45	16.25
46 - 55	15.00
56 - 65	12.50
66 and above	1.25

147. If there are 22 million people below 36 years, then the number of people (in millions) in the age group 56 - 65 is

- (1) 5 (2) 5.5
(3) 3 (4) 3.5

148. If the difference between the number of people in the age groups 46 - 55 and 16 - 25 is 0.975 million, then the total population (in millions) of the city is

- (1) 27 (2) 30
(3) 22 (4) 25

Directions (149-150) : Study the following graph and answer the questions.



- 149.** If the imports of company X in 2007 were increased by 40%, what would be the ratio of exports to the increased imports ?
 (1) 1.25 (2) 1.75
 (3) 0.25 (4) 0.75
- 150.** In 2005, the exports of company X were double that of company Y in that year. If the imports of company X during the year were Rs. 180 crores, what was the amount (in crore Rs.) of imports of company Y during the year ?
 (1) 212 (2) 210
 (3) 315 (4) 282

GENERAL AWARENESS

- 151.** A supply function expresses the relationship between
 (1) price and output
 (2) price and selling cost
 (3) price and demand
 (4) price and consumption
- 152.** Goods which are meant either for consumption or for investment are called
 (1) Final goods
 (2) Giffen goods
 (3) Inferior goods
 (4) Intermediate goods
- 153.** Variation in Cash Reserve Ratio and Open Market Operations are instruments of
 (1) Budgetary policy
 (2) Trade policy
 (3) Fiscal policy
 (4) Monetary policy

- 154.** Who said "Man is a social animal" ?
 (1) Aristotle (2) Rousseau
 (3) Laski (4) Plato
- 155.** "Marginal Cost" equals
 (1) total cost minus total benefit for the last unit produced
 (2) total cost divided by total benefit for the last unit produced
 (3) total cost divided by quantity
 (4) the change in total cost divided by the change in quantity
- 156.** Extreme forms of markets are
 (1) Perfect competition; Oligopoly
 (2) Oligopoly; Monopoly
 (3) Perfect competition; Monopoly
 (4) Perfect competition; Monopolistic competition
- 157.** The President of India has the discretionary power to
 (1) impose President's Rule in a state
 (2) appoint the Prime Minister
 (3) appoint the Chief Election Commissioner
 (4) declare Financial Emergency
- 158.** The script of the Indus Valley Civilization is
 (1) Kharosthi
 (2) Undeciphered
 (3) Brahmi (4) Tamil
- 159.** Which one of the following literary pieces was written by Krishna Devaraya ?
 (1) *Kaviraja Marga*
 (2) *Ushaparinayam*
 (3) *Anukta Malyada*
 (4) *Katha Saristhaga*
- 160.** Name three important forms of Satyagraha.
 (1) Non-cooperation, civil disobedience and boycott
 (2) Boycott, civil disobedience and rebellion
 (3) Non-cooperation, revolution and referendum
 (4) Revolution, plebiscite and boycott

- 161.** Which Article empowers the President to impose Financial Emergency ?
 (1) Article 356 (2) Article 364
 (3) Article 352 (4) Article 360
- 162.** Which of the following subjects does **not** figure in the Concurrent List of our Constitution ?
 (1) Stock Exchanges and futures markets
 (2) Protection of wild animals and birds
 (3) Forests
 (4) Trade unions
- 163.** The "Grand Canyon" is on the river
 (1) Colorado (2) Columbia
 (3) Ohio (4) Mississippi
- 164.** When the East India Company was formed, the Mughal emperor in India was
 (1) Jehangir (2) Humayun
 (3) Aurangzeb (4) Akbar
- 165.** Which one of the following events did **not** take place during the Viceroyalty of Lord Curzon ?
 (A) Establishment of the Department of Archaeology
 (2) Second Delhi Durbar
 (3) Formation of Indian National Congress
 (4) Partition of Bengal
- 166.** Who among the following played a prominent role during the "Reign of Terror" in France ?
 (1) Voltaire (2) Marat
 (3) Robespierre
 (4) Montesquieu
- 167.** The highest waterfall of India is in the state of
 (1) Andhra Pradesh
 (2) Assam
 (3) Maharashtra
 (4) Karnataka
- 168.** Soil which is prone to intensive leaching due to rain is called
 (1) Laterite (2) Black
 (3) Alluvial (4) Red
- 169.** The formation of 'Mushroom rock' in desert region is an example of

- (1) Deflation (2) Attrition
(3) Abrasion (4) Erosion
- 170.** Hydroponics is a method of culture of plants without using
(1) water (2) light
(3) sand (4) soil
- 171.** The non-green heterotrophic plants of plant kingdom are
(1) mosses (2) ferns
(3) algae (4) fungi
- 172.** Which gland in the human body regulates the secretion of hormones from the pituitary gland?
(1) Thymus gland
(2) Thyroid gland
(3) Adrenal gland
(4) Hypothalamus gland
- 173.** The old and worn-out red blood corpuscles are destroyed in
(1) Liver
(2) Stomach
(3) Bone marrow
(4) Spleen
- 174.** Subtropical high pressure belts are otherwise called
(1) Furious fifties
(2) Screeching sixties
(3) Horse latitudes
(4) Roaring forties
- 175.** Self pollination will lead to
(1) inbreeding
(2) rare breeding
(3) overbreeding
(4) outbreeding
- 176.** In any spreadsheet, the address of the first cell is
(1) OA (2) IA
(3) AO (4) AI
- 177.** Match List I with List II and choose the correct response :
List I List II
a. Vitamin B₁ 1. Pyridoxine
b. Vitamin B₂ 2. Cyanocobalamin
c. Vitamin B₆ 3. Thiamine
d. Vitamin B₁₂ 4. Riboflavin
(1) a-1, b-2, c-3, d-4
(2) a-2, b-3, c-4, d-1
(3) a-3, b-4, c-1, d-2
(4) a-4, b-1, c-2, d-3
- 178.** Ohm's law is valid in case of
(1) semiconductor
(2) conductor
(3) superconductor
(4) insulator
- 179.** The Laser is a beam of radiations which are
(1) Non-coherent and monochromatic
(2) Coherent and monochromatic
(3) Non-coherent and non-monochromatic
(4) Coherent and non-monochromatic
- 180.** Centigrade and Fahrenheit temperatures are the same at
(1) 32° (2) 40°
(3) -273° (4) -40°
- 181.** The dimensional formula for universal gravitational constant is
(1) $M^{-1} L^3 T^{-2}$ (2) $ML^2 T^{-2}$
(3) M^{-2} (4) $M^{-1} L^3 T^{-2}$
- 182.** The pH of lemon juice is expected to be
(1) equal to 7
(2) nothing can be predicted
(3) less than 7
(4) more than 7
- 183.** An example of heterocyclic compound is
(1) Naphthalene
(2) Furan
(3) Benzene
(4) Anthracene
- 184.** In electro-refining, the pure metal is deposited on
(1) vessel (2) electrolyte
(3) cathode (4) anode
- 185.** Which one of the following is correctly matched?
(1) Secondary consumer - Grass
(2) Decomposer - Bacteria
(3) Producer - Deer
(4) Primary consumer - Leopard
- 186.** The deciduous trees will
(1) shed their leaves every year
(2) not lose their leaves
(3) synthesise their own food
(4) depend on others for their food
- 187.** Identify the DBMS among the following
(1) MS-Access
(2) MS-PowerPoint
(3) PL/SQL
(4) MS-Excel
- 188.** The database in which records are organised in a tree-like structure is
(1) Network database
(2) Hierarchical database
(3) Relational database
(4) Object-oriented database
- 189.** Natural rubber is a polymer of
(1) Vinyl acetate
(2) Propene
(3) Isoprene
(4) Styrene
- 190.** Which one of the following films was **not** directed by Satyajit Ray?
(1) *Aparajita*
(2) *Charulata*
(3) *Pather Panchali*
(4) *Salaam Bombay*
- 191.** The endangered species are listed in what colour data book?
(1) Black (2) Red
(3) Green (4) Blue
- 192.** Which country won the maximum number of medals in the Asian Athletic Championships held in Pune recently?
(1) Japan
(2) Saudi Arabia
(3) Bahrain
(4) China
- 193.** Which country will host the next World Cup Football in 2014?
(1) France (2) Chile
(3) Brazil (4) Spain
- 194.** Which one of the following ancient monuments in Delhi is **not** a World Heritage Monument?
(1) Red Fort
(2) Jantar Mantar
(3) Humayun's Tomb
(4) Qutub Minar
- 195.** Which one of the following organizations and its headquarters are **wrongly** matched?

Organizations Headquarters

(1) Interpol — Lyon

(2) Universal Postal Union
— Berne

(3) Food and Agriculture
— Organization Rome

(4) International Civil
— Aviation Organization London

196. Who is the author of the book
"The State of the Nation" ?

- (1) Mark Tully
- (2) Vinod Mehta
- (3) Kuldip Nayar
- (4) Fali S. Nariman

197. Among the following Nobel laureates, who was **not** a recipient of the Nobel Prize for Peace?

- (1) Sir Winston Churchill
- (2) Woodrow Wilson
- (3) Linus C. Pauling
- (4) Norman Ernest Borlaug

198. Which Union Territory in India has four districts but none of its districts has a common boundary with its other districts ?

- (1) Puducherry
- (2) Dadra and Nagar Haveli
- (3) Andaman and Nicobar Islands
- (4) Chandigarh

199. The Keibul Lamjao, the only floating National Park in the world is in

- (1) Manipur
- (2) Mizoram
- (3) Assam
- (4) Meghalaya

200. Which one of the following days is **not** observed in the month of October ?

- (1) Indian Air-force Day
- (2) U.N. Day
- (3) World Environment Day
- (4) International Day of Non-violence