MODEL TEST PAPER - 2

Instructions

- This test consists of the following two Sections:
  Section – A (i) Bilingual Language Comprehension
  A (ii) Mathematical Thinking and Reasoning
  Section– B (i) Subject Knowledge – Science
  B (ii) Subject Knowledge – Social Science
- Total weightage of the question paper is 140 marks; each subsection is given 35 marks weightage.
- All questions in the question paper do not carry equal marks. The weightage for each question is given alongside.
- There is no negative marking

SECTION – A (I)
Bilingual Language Comprehension

1. दिए गए लेख को पढ़कर इस पर आधारित 1-4 प्रश्नों के उत्तर दीजिए: 2×5=10 अंक

कुछ निर्माताओं ने हाल ही में एक नया शगूफा छोड़ा है। उनका दावा है कि लड़कियों वाली गोरेपन की क्रीम लगाना मर्दों की शान के खिलाफ है। अत: उन्होंने मर्दों के लिए गोरेपन की अलग क्रीम बाजार में उतार दी है। ये दवाइयाँ किस प्रकार काम करती हैं यह जानने से पता चल जाएगा कि क्या महिलाओं और पुरुषों के लिए अलग-अलग क्रीम हो सकती है।

मनुष्य की त्वचा की ऊपरी परतों में मेलानोसाइट नामक कोशिकाएं होती हैं। इन कोशिकाओं में मेलानोसेम नामक कण पाए जाते हैं जिनमें मेलानिन नामक काले रंग का पदार्थ भरा होता है। मेलानिन का काम है धूप में मौजूद घातक पराबैंगनी किरणों से शरीर की रक्षा करना। स्वाभाविक है कि संसार के जिन भागों में धूप अधिक तेज होती है वहाँ रहने वालों की त्वचा में अधिक मेलानिन पाया जाता है। इसके विपरीत, ठंडे प्रदेशों में रहने वाले लोगों को कम मेलानिन की आवश्यकता होती है और उनका रंग गोरा होता है।

शरीर में पाए जाने वाले टायरोसिन नामक अमीनो अम्ल को मेलानिन में बदलने का काम टायरोसिनेज़ नामक एन्ज़ाइम करता है। गोरेपन की दवाइयों में पाए जाने वाले तत्त्व केवल मेलानोसोम्स को नष्ट नहीं करते, वे टायरोसिनेज की क्रिया को भी रोकते हैं। यानी मेलानिन के निर्माण की प्रक्रिया में अडंगा डालते हैं। किंतु यह शरीर के लिए हानिकारक हो सकता है। यदि मेलानिन नष्ट होता है तो सूर्य से निकलने वाली पराबैंगनी किरणें शरीर को हानि पहुँचा सकती हैं और इनसे त्वचा कैंसर का खतरा बढ़ता हैं।

1. लेख के आधार पर इनमें से कौन-सा निष्कर्ष नहीं निकाला जा सकता है?
   (a) गोरेपन को लेकर मर्दों में महिलाओं जितना क्रेज़ नहीं है
   (b) क्रीम निर्माताओं ने समाज में मर्दानगी की अवधारणा का इस्तेमाल किया है
   (c) गोरेपन की क्रीम का प्रयोग करने से त्वचा को पराबैंगनी किरणों से खतरा बढ़ता है
   (d) गोरेपन की क्रीम ठंडे प्रदेशों में नहीं इस्तेमाल होती
2. इस लेख में निम्नलिखित में से कौन-सा पहलू नहीं है?
   (a) बाज़ार के दाँव-पेंच

(b) सामाजिक पहलू
(c) वैज्ञानिक तथ्य
(d) ऐतिहासिक पहलू

3. इस लेख में कौन-कौन से छिपे संदेश हैं?
A. विज्ञापनों के पीछे की मानसिकता को समझें।
B. शरीर की प्राकृतिक संरचना से छेड़छाड़ न करें।
C. महिला और पुरूष अपने लिंग के अनुसार सौंदर्य प्रसाधन चुनें।
D. गोरेपन की क्रीम इस्तेमाल करने के बजाए खुद को धूप से बचाएँ।
(a) A और C (b) A और B
(c) B और D (d) C और D

4. सही जोड़ बनाएँ।

A.	तथ्य	1. गोरा रंग अधिक आकर्षक होता है।
B.	नज़रिया	2. स्त्री और पुरूष में मेलानोसोम एक ही तरह काम करते हैं तो गोरेपन के लिए अलग-अलग क्रीम क्यों?
C.	निष्कर्ष	3. पराबैंगनी किरणें त्वचा के लिए हानिकारक हैं।
D.	तर्क	4. गोरेपन की क्रीम का अधिक उपयोग त्वचा को नुकसान पहुँचाता है।

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

5. यदि निम्न वाक्य एक लेख से लिए गए हों तो इनमें कौन-सा पहले आना चाहिए और कौन-सा बाद में, इस आधार पर इन्हें सही क्रम में लगाएँ:
A. इससे बहुत-सी लड़कियाँ अपने साँवले रंग को लेकर हीन भावना से ग्रस्त रहती हैं।
B. गोरापन बढ़ाने का दावा करने वाली क्रीम का इस्तेमाल सबसे सुलभ तरीका माना जाता है।
C. हमारे समाज में गोरेपन से सुन्दरता को जोड़ा जाता है।
D. वे गोरे बनने की कवायद में उल्टे-सीधे सभी तरीके अपनाते हैं।
(a) B, C, D, A
(b) C, D, A, B
(c) B, A, C, B
(d) C, A, D, B

I. खाली स्थानों के लिए सबसे उपयुक्त शब्द चुनें: **3 अंक**

दक्षिण एशिया के.....6.....देशों में गोरे रंग को लेकर लोगों में खासी सनक है। इसके चलते बाज़ार में गोरेपन की क्रीम बनाने वाली कंपनियाँ लगातार.....7..... रही हैं। कुछ कंपनियों ने तो.....8.....के लिए अलग क्रीम भी निकाल दी है।

6. (a) सभी (b) गरीब
(c) कई (d) अल्प

7. (a) फायदे में (b) नुकसान में
(c) घट (d) बढ़

8. (a) बच्चों (b) पुरुषों
(c) महिलाओं (d) सभी वर्गों के लिए

II. खाली स्थानों पर सबसे उपयुक्त शब्द भरें ½×4=8p अंक

दिल्ली की सड़कों पर ट्रैफिक जाम कोई .....9.....बात नहीं है। हर तरफ गाड़ियों के हॉर्न और.....10..... आगे सरकने का भरसक प्रयत्न अब दिल्ली में नौकरी करने वालों की.....11.....बन चुका है। चींटी की चाल से चलती गाड़ियाँ प्रदूषण भी ज़्यादा फैलाती हैं और .....12..... भी ज़्यादा खर्च होता है।

9. (a) पुरानी (b) बुरी
(c) नई (d) अच्छी

10. (a) सरपट (b) गिरते-पड़ते
(c) इंच-दर-इंच (d) अचानक

11. (a) पहचान (b) आदत
(c) कोशिश (d) बीमारी

12. (a) ईंधन (b) धन
(c) दिमाग (d) मेहनत

13. ये वाक्य एक लेख से लिए गए हैं। इनमें से कौन-सा पहले आया होगा और कौन-सा बाद में, इसका सही क्रम चुनें: **2 अंक**
A. इसी प्रकार एक मानव वैज्ञानिक ने दलील दी कि धुम्रपान से लोग एक दूसरे के करीब आते हैं।
B. हाल ही में एक खुलासा हुआ है कि जब धूम्रपान के दुष्प्रभाव स्पष्ट होने लगे तो तंबाकू कंपनियों ने कुछ

दिग्गज बुद्धिजीवियों को धुम्रपान की वकालत करने के लिए घूस दी।

C दस्तावेजों से पता चला कि इस नेटवर्क के सदस्यों ने धूम्रपान के पक्ष में जोरदार अभियान छेड़ा।

D. इन सारे मामलों में यह कभी नहीं बताया जाता था कि उनके विचारों के प्रस्तुतिकरण का तंबाकू उद्योग से क्या संबंध है?

(a) B, C, A, D (b) B, D, A, C
(c) B, A, C, D (d) C, D, B, A

PASSAGE

I. Read the following passage carefully and answer to following questions: 5×2=10

How often one hears children wishing they were grown up, and old people wishing they were young again. Each age has its pleasures and pains, and the happiest person is the one who enjoys what each age gives him without wasting his time in useless regrets.

Childhood is a time when there are few responsibilities to make life more difficult. If a child has good parents, he is fed, looked after and loved, whatever he may do. It is improbable that he will ever again in his life be given so much without having to do anything in return. In addition, life is always presenting new things to the child – things that have lost their interest for older people because they are too well known. A child finds pleasure in playing in the rain, or in the snow. His first visit to a sea-side is a marvelous adventure. But a child has his pains! He is not so free to do as he wishes as he thinks his older people are; he is constantly being told not to do things, or being punished for what he has done wrong. His life is therefore not perfectly happy.

When the youngman starts to earn his own living, he becomes free from the discipline of school and parents; but at the same time he is forced to accept responsibilities. He can no longer expect other to pay for his food, his clothes and his room, but has to work if he wants to live comfortably. If he spends most of his time in playing about in the way that he used to as a child, he will go hungry. And if he breaks the laws of society as he used to break the laws of his parents, he may go to prison. If, however, he works hard, keeps out of trouble and has good health, he can have the great happiness of seeing himself make steady progress in his job and of building up for himself his ones position in society.

14. According to the author, the happiest person is **2 Marks**
   (a) The person who enjoys what each age has given him without wasting time in regretting what he hasn't got.
   (b) The child who is looked after by loving parents.
   (c) In the eyes of the child, grown up.
   (d) In the eyes of the old, the young.

15. The child's greatest sorrow is that **2 Marks**
   (a) He is not free to do as he wishes
   (b) He is always being told by elders not to do things he wants to do.
   (c) He is punished by the elders for doing what his elders are doing
   (d) To him it seems that the old people are free to do as they wish.

16 Which of the following assumptions about children are reflected in the passage **2 Marks**
   A. Children are curious by nature
   B. Children can be moulded in the form adult want them to become
   C. Adults do not let children explore all the things they want and thus spoil the pleasure of childhood.
   D. Children need to be given a direction to live on their own
   (a) A & B (b) A & C
   (c) B & D (d) all of the above

17. Which of the following best states that a young man is more responsible than a child: **2 Marks**
   (a) He has to pay for his food , clothes and his room.
   (b) If he wants to live comfortably he has to work hard.
   (c) He is free to make a success or a failure of his life.

(d) He has to earn his living.

18. The most suitable title of the passage would be **2 Marks**
    (a) The secret of the happiness of youth.
    b) Childhood and youth contrasted.
    (c) The happiness of childhood
    (d) The responsibilities of a youngman

II. Read the following passage and choose the most appropriate answer for the questions below:

Most of the world's great cities have grown haphazardly, little by little, in response to the needs of the moment; very rarely is a city planned for the remote future. The evolution of a city is like the evolution of the brain: it develops from a small centre and slowly grows and changes, leaving many old parts still functioning.

19. Which of the following is true according to the passage? **2 Marks**
    (a) In the evolution of the brain, old parts are replaced by new.
    (b) Evolution of cities is different from the evolution of the brain.
    (c) The evolution of the brain takes place gradually, not suddenly.
    (d) Cities grow in response to future needs.

20. The overall structure of the passage is based on **2 Marks**
    (a) Narration of events
    (b) Scientific facts
    (c) Argument and counter argument
    (d) Comparative analysis

21. Arrange the following sentences in the order in which they should appear in a passage. **2 Marks**
    A. This is the background with which me try to listen
    B. If you and I communicate, there should be more than a verbal understanding
    C. Secondly, each one of us has prejudices and backgrounds.
    D. There should be an understanding also by implication.
    (a) ABDC (b) BDCA
    (c) CDAB (d) BADC

Directions: (Qs. 22 to 25)Fill in the appropriate words in the blank spaces: - (½×4) = 2 Marks

Long long ago, a ship carrying a precious diamond ball, was (22) in a storm and sank into the (23) of the sea. When the king heard this, he (24) his best divers to (25) and find the ball and also announced a prize for them.

22. (a) caught (b) struck
    (c) thrown (d) encircled

23. (a) layer (b) bottom
    (c) coast (d) wave

24. (a) ordered (b) begged
    (c) invited (d) pleaded

25. (a) discover (b) dive
    (c) bring (d) come

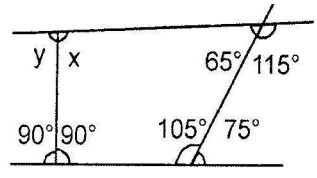
SECTION–A (II)
Mathematical Thinking & Reasoning

All questions do not carry equal marks in this section. The weightage for each question is given alongside

26. The length and breadth of a rectangle are increased by 5% and 7% respectively. Then its area increases by **1 Mark**
    (a) 112.35% (b) 35%
    (c) 3.5% (d) 12.35%

27. A rope is one-third brown, two-fifth black and the remaining 3 meters in yellow. What is the length of the rope? **1 Mark**
    (a) 15 mt. (b) 10.5 mt
    (c) 11.25 mt. (d) 12.8 mt.

28. Find the missing angle in the figure below ?



1 mark
(a) 90° (b) 80° (c) 105° (d) 100°

29. The sum of 5 consecutive odd numbers is 155.

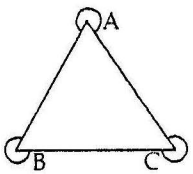
Then third no. of the series is **1 Mark**

(a) 31 (b) 27
(c) 37 (d) 35

30. If the product of two number are known , which of the following is NOT sufficient to determine the values of two number ? **1 mark**
(a) The sum of the number is 10.
(b) One number is smaller than the other
(c) The cube of one number is 27.
(d) The difference between the two numbers is 8.

31. If on a circular dining table, there are six segments in which dishes are kept then at least one segment should be greater than or equal to **1 mark**
(a) 90° (b) 80°
(c) 70° (d) 60°

32. If the area of a square is 36 cm^2. What will be the area a of the largest circle drawn within the square? **1 mark**
(a) 3 (b) 6
(c) 9 (d) 12

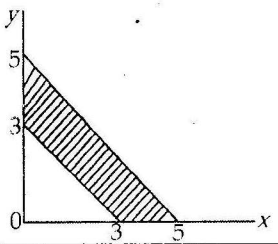
33. 

1 mark

Sum of angles A, B and C is equal to
(a) 720^0 (b) 360^0
(c) 900^0 (d) 240^0

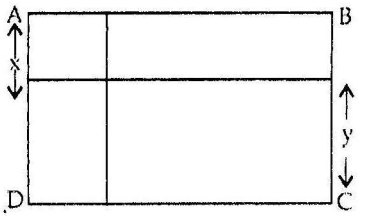
34. If $x > y$ and $y > z$ then xyz will always be **1 mark**
(a) greater than y^3
(b) equal to y^3
(c) less than y^3
(d) none of these

35. The area of the shaded reigon is **1 mark**



(a) 8 (b) 10
(c) $\frac{25}{2}$ (d) 17

36. The area of the square ABCD is W. Which of the following is true ? **1 mark**



(a) $w + x^2 + y^2 = 2xy$ (b) $w + x^2 + y^2 = 4xy$
(c) $w - x^2 - y^2 = 2xy$
(d) None of these

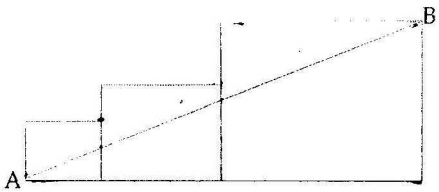
37. A has 7 fewer toffees than B. C has 2 times as many toffees as A. If B has 'n' number of toffees, which of these represents the number of toffees that C has ? **1 mark**
(a) $2n - 7$ (b) $7n - 2$
(c) $2(n - 7)$ (d) None of these

38. Rohan started from his house, walked 2 kms north, then 3kms west and then 6 km south. How far away from his house he was then ? **1 mark**
(a) 2 kms (b) 3 kms
(c) 4 kms (d) 5 kms

39. For What value of 'a' will the triangle with sides measuring a, $(a + 3)$ and $(2a - 3)$ cms be isosceles? **1 mark**
(a) 2 (b) 3
(c) 4 (d) None of these

40. A candidate who gets 20% marks fails by 10 marks but another candidate who gets 42% marks gets 34 marks more than the passing marks. What are the maximum marks? **2 marks**
(a) 300 (b) 420
(c) 200 (d) 100

41. Three squares are joined horizontally as shown below. The area of the first square is $4cm^2$, and the area of the third square is $36cm^2$. How long is the AB? **1 marks**



(a) 48 cm (b) $6\sqrt{5}$ cm

(c) $5\sqrt{6}$ (d) 12 cm

42. The average age of 35 students and a teacher is 12 years. If the age of the teacher is excluded, the average age decreases by 1. What is the age of the teacher ? **1 mark**
(a) 45 years (b) 47 years
(c) 38 years (d) Data insufficient

43. The area of the largest square that can be inscribed in a circle of unit radius is : **1 mark**
(a) 2 unit (b) 5 unit
(c) 4 unit (d) 6 unit

44. Which of the following is an irrational number ? **1 marks**
(a) $\sqrt{7}+\sqrt{7}$ (b) $\sqrt{7}-\sqrt{7}$
(c) $\sqrt{7}\times\sqrt{7}$ (d) $\sqrt{7}\div\sqrt{7}$

Directions: (for questions 45 to 49) Refer to the information below.

A college offers 3 specialisation to its students — Sociology, Philosophy, and Literature. The option to choose 2 or even 3 specialisation is available to the students. The ratio of students specialising in Sociology, Philosophy, and Literature is 5 : 4 : 6. The number of students studying Literature is half that of the total number of students which is 480. the number of students specialising only in Sociology is half that of all students specialising in Literature. The number of students specialising in Sociology and Literature, but not Philosophy, is equal to the number of students specialising in all 3 subjects. The number of students specialising in Sociology and Philosophy, but not Literature, is 10% of all students specialising in Sociology, and this number is double the number of students specialising in Philosophy and Literature, but not Sociology. **1×5 = 5Marks**

45. The total number of students studying Sociology is
(a) 160 (b) 240
(c) 200 (d) 420
(e) 170

46. The ratio of number of students specialising in 1 subject, 2 subjects, and 3 subjects is
(a) 13 : 2 : 1 (b) 12 : 10 : 17
(c) 5 : 4 : 6 (d) 3 : 2 : 1

47. The number of students specialising in Philosophy only is
(a) 120 (b) 100
(c) 210 (d) 170

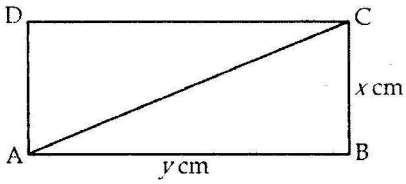
48. The number of students specialising in Sociology and Philosphy is
(a) 20 (b) 30
(c) 40 (d) 50

49. The ratio of students specialising in Philosophy to the total number of students is
(a) 1 : 3 (b) 3 : 1
(c) 5 : 24 (d) 13 : 48

50. A child is given a rich carbohydrate diet and he gains 25% of weight. He is then put on a fat-free diet and loses 20 percent of weight. On the whole. **1 mark**
(a) child has lost weight by 5%
(b) child has gained weight by 5%
(c) child has lost 5 kg
(d) the child has neither lost nor gained weight

51. Robin is 6ft. tall. He wishes to know how tall the flagpole at his school is. He measured his own shadow, which is 8 ft., and the shadow of the flagpole, which is 48 ft. What is the height of flagpole? **2 marks**
(a) 40 ft (b) 64 ft
(c) 48 ft (d) 36 ft

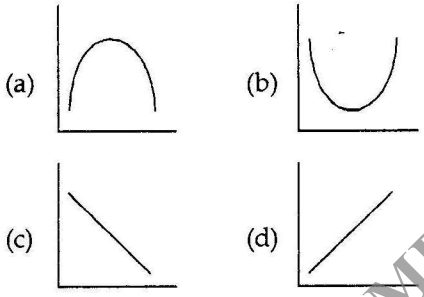
52. The sum of squares of all sides of a rectangle is 50 cm^2. What is the length of diagonal of the rectangle? **1 mark**



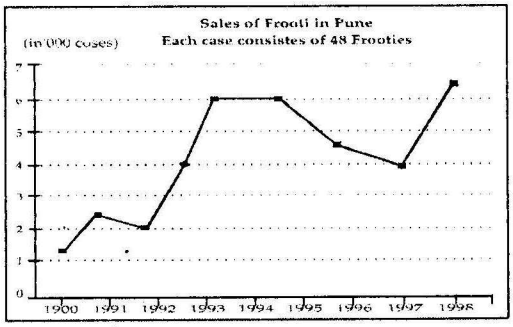
(a) 25cm (b) 05 cm
(c) 10 cm (d) $\sqrt{50}$ cm

53. The scale of map is 1 : 25000. A rectangular field when drawn on this map has dimensions 40 cm by 80 cm. The actual area of the field is **2 mark**
(a) 2×10^8 m^2 (b) 8×10^3 m^2
(c) 8×10^6 m^2 (d) 2×10^{12} m^2

54. If the price for the tickets of a movie is too low, then many people can afford to see the movie. However, if the price of the ticket is too high then only few people can watch the movie. Which of the given graphs depicts this information? **1 mark**



For questions 55 to 57 Refer to the diagram given below. **1×3=3 marks**



55. The growth in the sales of Frooti was highest in the year
(a) 1998 (b) 1992
(c) 1993 (d) 1994

56. The average sales of Frooti cases over the entire period is approximately (in thousands)
(a) 4.1 (b) 4.5
(c) 3.7 (d) 5

57. If the cost of each Frooti was Rs. 6 in 1996 and Rs. 7 in 1997, then the increase/decrease in revenue between 1996 to 1997 was (in Rs.)
(a) 1,000 (b) -500
(c) 24,000 (d) 48,000

SECTION–B (I)
Subject Knowledge – Science

This section contains 35 questions and Each question in this section carries 1 mark.

Read the following passage and answer the questions 58-61

Robert Boyle (1627-1691) an Irish scientist is regarded as the first modern chemist. He is best known for Boyle's law, which describes the inversely proportional relationship between the absolute pressure and volume of a gas, if temperature is kept constant within a closed system.

He also studied acid and alkali, and tried to find an easy way to identify them. He noticed that in factories silk clothes were dyed using plant juices; thus, he began testing with plant juices to see if they would help in identifying acids and alkali.

In one of the experiment Boyle tested acid and alkali with juice from red cabbage. He found that when acid is added to juice of red cabbage, it turns from purple to red. When alkali is added the juice turns from purple to green. He found that juices from violet flower turned purple with acid and greenish yellow with alkali. He also observed colour change with litmus, a juice from lichen. Litmus is still used in chemistry laboratories around the world for identifying

(d) All of the above

80. The salivary enzymes become ineffective in our stomach due to:
(a) alkaline pH of the medium
(b) acidic pH of the medium
(c) bile absorption
(d) none of the above

81. Graphite can be used to lubricate machines because:
(a) Its structure allows it to melt at low temperature.
(b) It consists of layers that slide over one another.
(c) It consists of small, round atoms loosely bound to each other.
(d) It contains atom that strongly bounded to four other carbon atoms.

82 The growth of the body of a living being takes place when:
(a) anabolism exceeds catabolism
(b) he takes more food
(c) he performs more physical exercise
(d) catabolism exceeds anabolism

83. Which of the following represents a case of unstable equilibrium?
(a) a student standing on one leg
(b) a foot ball
(c) a sleeping person
(d) all are true

84. A body floats with 1/3 of its volume outside the water and ¾ of volume outside another liquid. The Density of the other liquid is
(a) 8/3 (b) 2/3
(c) 4/3 (d) None of these

85. A swimming pool is filled with imaginary liquid which is optically rarer than air. For a person looking at the pool from outside, the apparent depth of pool will be:
(a) less than the real depth
(b) same as real depth
(c) more than the real depth
(d) can not be predicted.

86. Combustion of candle is a/an
(a) exothermic reaction
(b) physical change
(c) endothermic reaction
(d) none of these

87. Which one of the following is a physical change?
(a) Burning of magnesium wire
(b) Rusting of iron
(c) Heating of copper wire by electricity
(d) None of these

88. Biodegradable wastes can usually be converted into useful substances with the help of:
(a) Bacteria (b) Viruses
(c) Protozoans (d) Marine organisms

89. A fibrous bond which joins muscles to bones is known as
(a) Ligament (b) Nerve fibre
(c) Tendon (d) None of these

90. The sum total of all the chemical reactions in the body of a living organism is called:
(a) anabolism (b) organelle
(c) catabolism (d) metabolism

91. The phenomenon of moon changing shapes every night (phases of moon). is mainly due to:
(a) distance of the moon from the earth.
(b) Distance of the moon from the sun.
(c) Revolution of the earth on its axis.
(d) Position of the sun and the moon relative to the earth.

92. A chemical change is always accompanied by:
(a) evolution of light
(b) either evolution or absorption of heat
(c) only evolution of heat
(d) only absorption of heat

SECTION - B (II)
Subject Knowledge - Social Science

All Questions do not carry equal weightage in this section. The weightage for each section is given alongside.

93. In the history of India's freedom struggle, the Lahore session of the Indian national congress 1929 plays a very important role because
   (a) rift between extremists and moderates was resolved in this session.
   (b) A resolution was passed rejecting two nations theory in that session.
   (c) The congress passed a resolution demanding complete independence.

94. Which of the following statement(s) is/are correct regarding the Indus valley civilization?
   A. Indus valley people produced all the major crops but lacked the art of cultivating cotton.
   B. The Harappa towns were basically divided into two parts-citadel and the lower town.
   C. No town in the entire Indus valley area used ornamental bricks.
   (a) A &B only (b) B & C only
   (c) A & B only (d) all of the above

95. Which of the following statements best describes the difference between Moderates and Extremists? **1 mark**
   (a) Moderates believed in passive resistance
   (b) Extremists believed in persuasion
   (c) The moderates believed in mass awareness while the extremists believed in mass participation.
   (d) All of the above.

Read the following excerpt and answer the questions that follow:-

Essentially, the battle is to formulate a Lokpal bill that will allow for impartial and effective inquiries into complaints against public officials. The civil activist camp is correct in pointing out that the official draft is weak and ineffectual. For instance, rather than allow the Lokpal (or ombudsman) to probe all corruption relation complaints against public officials received from the general public, it restricts such inquiries to those forwarded by the Lok Sabha speaker or the Rajya Sabha Chairperson. The reluctance of the centre to draft a tough Lokpal Bill has been coupled with a longstanding reluctance to enact it; one or another version of the bill has been introduced in the Lok Sabha eight times since 1968 only to find the House being dissolved before it could be passed. Mr. Hazare and his supporters have demanded that the Jan Lokpal bill drafted by civil society activists be adopted instead. But this piece of legislation, although having much more teeth, is not without that the selection committee for the Lokpal must include Nobel laureates of Indian origin and recent Magsaysay award winners. It also makes drastic changes is the existing criminal justice system by envisaging the Lokpal as something of a supercop, under whose jurisdiction a good portion of the Central Bureau of Investigation will be subsumed. The challenge is to formulate a Lokpal bill that has the teeth lacking in the government draft and is free from the angularities of the civil society version.

96. A discussion on 'Lokpal' was followed by **1 mark**
   (a) Right to Information
   (b) Narmada Bachao Andolan
   (c) Anti- Corruption Movement
   (d) Anit - Land acquistion movement

97. Which of the following is a 'false' statement? **1 mark**
   (a) The Lokpal is an ombudsman, who would look into people's grievances against public officials.
   (b) Jan Lokpal bill is drafted by civil society activists.
   (c) The Lokpal bill was drafted by the central government.
   (d) The Lokpal bill was made into an Act in 1968 and is now being amended.

(d) All of the above

80. The salivary enzymes become ineffective in our stomach due to:
(a) alkaline pH of the medium
(b) acidic pH of the medium
(c) bile absorption
(d) none of the above

81. Graphite can be used to lubricate machines because:
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(d) Position of the sun and the moon relative to the earth.

92. A chemical change is always accompanied by:
(a) evolution of light
(b) either evolution or absorption of heat
(c) only evolution of heat
(d) only absorption of heat

(c) 3,1,2 (d) 1,2,3

106. During the time of which Mughal Emperor did the English East India company establish if first factory in India? **1 mark**
(a) Akbar (b) Jahangir
(c) Shahjahan (d) Aurangzeb

107. Match the two lists given below:- **2 marks**

List I	List II
A. Cyclone	1. A violent storm formed with water which causes heavy rains and fierce winds and these can causes floods.
B. Hurricane	2. Huge oceanic wanes which are generated due to earthquakes or volcanic eruption or storms.
C. Typhoon	3. Tropical cyclone occurring in the western pacific and Indian ocean.
D. Tsunamis	4. A violent tropical storm or wind in which the air moves very fast.

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

108. Though coffee and tea both are cultivated on hill slopes, there are some differences in their cultivation. Choose the correct statement (s) in this context; **1 mark**
1. Coffee is propagated by seeds but tea is propagated by stem cutting only
2. Coffee plant requires a hot and humid climate of tropical areas whereas tea can be cultivated in both tropical and subtropical areas.

(a) 1 only (b) 2 only
(c) Both 1 and 2 (d) neither 1 nor 2

109. Which of the following is Lord Macaulay associated with? **1 mark**
(a) reforms is the army
(b) codification of laws and starting English education in India
(c) permanent settlement
(d) abolition of sati

110. Which of the following statements are correct about Tipu Sultan? **1 mark**
1. He fought French alliance
2. He fell fighting against the British
3. He had no quarrel with the Marathas
4. He made no treaty with the British

(a) 1,2 and 3 only (b) 1&2 only
(c) 3 & 4 only (d) All of the above

111. Which of the following is incorrect regarding the term 'Dictatorship'? **1 mark**
(a) concentration of power in the hands of one man
(b) absence of low for orderly succession
(c) people have no say in the government of the country and they are under fear and terror
(d) ruler is accountable to people for his action.

112. Which of the following is a non-constitutional body? **1 mark**
(a) Finance Commission
(b) National Human Rights Commission
(c) Election Commission
(d) None of the above

113. Choose the correct chronological order of the following events during India's freedom struggle? **1 mark**
1. Minto-Morley Reforms
2. Dandi March
3. Chauri-Chaura Outrage
4. Montagu-Cholmsford Reforms

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

114. Which of the following statement(s) is/are correct? **1 mark**
1. The boundaries of a National Park are defined by legislation.
2. A Biosphere Reserve is declared to conserve a few specific of flora and fauna.
3. In a wildlife sanctuary, limited biotic interference is permitted.

(a) 1 only (b) 2 and 3
(c) 1 and 3 (d) 1, 2 and 3

115.A geographic area with an altitude of 100 m. has following characteristics! **2 marks**

Month	J	F	M	A	M	J	Ju	A	S	O	N	D
Average Max temp°C	31	31	31	31	30	30	29	28	29	29	30	31
Average Min temp°C	21	21	21	21	21	21	20	20	20	20	20	20
Rainfall (mm)	51	85	188	158	139	121	134	168	185	221	198	86

If this geographic area were to have a natural forest, which on of the following would it most likely, be?

(a) Moist temperate Coniferous forest
(b) Montana subtropical forest
(c) Temperate forest
(d) Tropical rain forest

116.Which of the following gives the correct meaning of statutory Liquidity Ratio? **1 mark**

(a) Amount of money a bank should land to agriculture.
(b) Loans Deposit ratio of Book
(c) Amount of deposit Maintained with the RBI
(d) None of the above

117.Under which condition, does a country, normally devalue its currency? **1 mark**

(a) When satisfying donor countries demand.
(b) When there is excess currency in circulation.
(c) When there is a surplus in her balance of payment.
(d) When there is a deficit in her balance of payment.

118.A low inflation situation/economy is marked by **1 mark**

(a) High interest rates
(b) Low interest rates
(c) Increase in money supply
(d) Increase in imports

Aurobind Ghosh wrote a series of articles known as 'Doctrine of Passive Resistance'.

119.Which of the following movements is associated with it? **1 mark**

(a) Swadeshi and Boycott movement
(b) Civil Disobedience movement
(c) Non-Cooperation movement
(d) Young Bengal movement

120.Which of these statements about Southern rives is wrong? **1 mark**

(a) They flow through open and shallow valleys.
(b) They are rain fed and not perennial.
(c) They do not provide ideal conditions for the development of irrigation.
(d) They often shift their courses.

Answers

1.	(c)	2.	(d)	3.	(a)	4.	(b)	5.	(d)
6.	(c)	7.	(a)	8.	(b)	9.	(c)	10.	(c)
11.	(b)	12.	(a)	13.	(a)	14.	(a)	15.	(a)
16.	(b)	17.	(c)	18.	(b)	19.	(c)	20.	(d)
21.	(b)	22.	(b)	23.	(b)	24.	(a)	25.	(b)
26.	(d)	27.	(c)	28.	(b)	29.	(a)	30.	(b)
31.	(d)	32.	(c)	33.	(c)	34.	(d)	35.	(a)
36.	(c)	37.	(c)	38.	(d)	39.	(d)	40.	(c)
41.	(b)	42.	(b)	43.	(a)	44.	(a)	45.	(c)
46.	(a)	47.	(b)	48.	(d)	49.	(a)	50.	(d)
51.	(d)	52.	(a)	53.	(d)	54.	(c)	55.	(c)
56.	(a)	57.	(d)	58.	(d)	59.	(d)	60.	(c)
61.	(b)	62.	(c)	63.	(a)	64.	(d)	65.	(c)
66.	(a)	67.	(c)	68.	(c)	69.	(a)	70.	(c)
71.	(c)	72.	(c)	73.	(d)	74.	(b)	75.	(a)
76.	(c)	77.	(c)	78.	(a)	79.	(a)	80.	(b)
81.	(b)	82.	(a)	83.	(a)	84.	(a)	85.	(c)
86.	(a)	87.	(c)	88.	(a)	89.	(a)	90.	(d)
91.	(d)	92.	(b)	93.	(c)	94.	(c)	95.	(c)
96.	(a)	97.	(c)	98.	(b)	99.	(a)	100.	(b)
101.	(d)	102.	(b)	103.	(d)	104.	(b)	105.	(a)
106.	(d)	107.	(b)	108.	(b)	109.	(b)	110.	(b)
111.	(d)	112.	(b)	113.	(b)	114.	(c)	115.	(a)
116.	(c)	117.	(d)	118.	(b)	119.	(a)	120.	(a)

Explanatory Answers

26. (d) Area = $1.05 \times 1.07 = 1.1235$

$\therefore$ Increase = $\frac{1.1235 - 1}{1} \times 100 = 12.35\%$.

27. (c) If the total length is x, then the yellow part is

$x - \frac{x}{3} - \frac{2x}{5} = 3, \frac{15x - 5x - 6x}{15} = 3$

$4x = 45 \quad \Rightarrow x = 11.25$ metres.

28. (b) $x = 360^0 - (90^0 + 105^0 + 65^0) = 100°$

$\therefore$ $y = 180^0 - x = 80°$.

29. (a) Let the first term of the series be x.
Then, other terms are x, x + 2, x + 4, x + 6, x + 8
Now, x + x + 2 + x + 4 + x + 6 + x + 8 = 155
5x + 20 = 155, i.e. 5x = 135
$\Rightarrow$ x = 27
$\therefore$ Third term is x + 4 = 27 + 4 = 31.

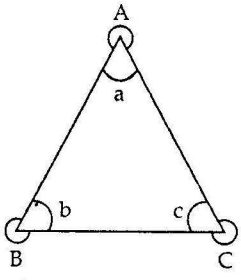
30. (b) All other information other than given in option (b) are sufficient to determine the values of two numbers.

31. (d) Correct answer is ≥ 60 and the meaning of '$\geq$' is written in the question, 'grater than or equal to' Average angle = $\frac{360}{6} = 60°$

$\Rightarrow$ At least one segment $\geq 60°$.

32. (c) Diameter = 6
$\therefore$ Area = $\pi (3)^2 = 9\pi$

33. (c)



It being a triangle,
$\angle a + \angle b + \angle c = 180°$
Also,
$\angle a + \angle A = 360°$
$\angle b + \angle B = 360°$
$\angle c + \angle C = 360°$
$\therefore$ $\angle A + \angle B + \angle C = 3(360) - 180 = 900°$.

34. (d) None of these
$\because$ x > y and y > z
Product of any of these two variables can be greater than a single variable if x, y, z are positive. Even if x, y, z have negative values, we cannot make judgements about xyz.

35. (a) Area of the shaded region = area of the right angle triangle with sides (5, 5) – area of the right angle triangle with sides (3, 3)

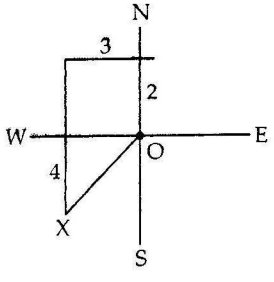
$= \left(\frac{1}{2} \times 5 \times 5\right) - \left(\frac{1}{2} \times 3 \times 3\right)$

$= \frac{25}{2} - \frac{9}{2} = \frac{16}{2} = 8.$

36. (c) Side of the square ABCD = x + y
$\therefore$ Its area, $W = (x + y)^2$
$W = x^2 + y^2 + 2xy$
$\Rightarrow$ $W - x^2 - y^2 = 2xy$.

37. (c) If B = n (i.e. B has 'n' number of toffees)
Then, A = n – 7 and C = 2(A)
i.e. C = 2(n – 7).

38. (d)



Let O be the starting point, then

$OX = \sqrt{(3)^2 + (4)^2} = 5.$

39. (d) The two sides will be equal when a = 3, but the sides of the triangle will be 3 cms, 6 cms and 3 cms and then it will not result in a triangle at all as sum of two sides is not greater than the third side.

40.(c) Let the Max. Marks be x then, for the first candidate

$\left(\frac{20}{100}\times x\right)$ + 10 Marks = Passing marks

$\left(\frac{x}{5}+10\right)$ = Passing marks

For the other candidate

$\left(\frac{42}{100}\times x\right)=\left(\frac{x}{5}+10\right)+34$

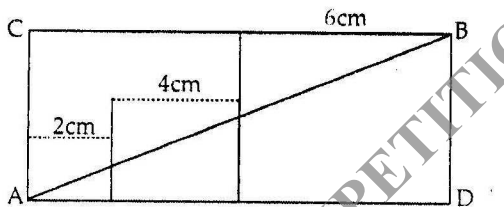
$\frac{21}{50}x=\frac{x}{5}+44$

$\frac{21}{50}x-\frac{x}{5}=44$

$\frac{11x}{50}=44 \Rightarrow x=\frac{44\times 50}{11}$

$\Rightarrow x = 200$ Ans.

41.(b)



Joining A to C and B to C and similarly A to D and B to E, we get that ACBD is a rectangle of length (2+4+6) cm and breadth 6 cm. Now ABCD is a right angle triangle and therefore, by Pythagoras,

$AB=\sqrt{(12)^2+(6)^2}=\sqrt{180}=6\sqrt{5}$ cm Ans.

(Note that the side of each square shown in the figure can be calculated by taking the square root of its area)

42.(b) Let $x_1, x_2,$ --------x_{35} denote the age of 35 students respectively and x_{36} be the age of the teacher

Then $\frac{(x_1+x_2+---+x_{36})}{36}=12$

$(x_1+x_2+\ldots\ldots\ldots\ldots+x_{36})=432$ ..... (1)

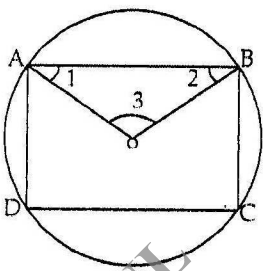
And $\frac{(x_1+x_2\ldots\ldots\ldots+x_{35})}{35}=11$ $x_1+x_2+\ldots\ldots\ldots+$

$x_{35}=385$ .....(2)

$x_{36}=432-358$ [(1) - (2)]

= 47 yes

43.(a)



OA = OB = 1 unit (radius)

ABCD being a Square, each of its angle is 90°. OA & OB divide this angle into two equal parts.

$\therefore \angle 1 = \angle 2$ 45°

$\Rightarrow \angle 3 = 90°$ [$\angle 1+\angle 2+\angle 3=180°$]

$\therefore$ By pythagoras,

$(OA)^2+(OB)^2=(AB)^2$

$(1)^2+(1)^2=(AB)^2 \Rightarrow AB=\sqrt{2}$

$\therefore$ area of the square = $(\sqrt{2})^2$ units

= 2 units

44.(a) Consider

$\sqrt{7}-\sqrt{7}=0$ which is rational

$\sqrt{7}\times\sqrt{7}=7$ is also rational

$\sqrt{7}\div\sqrt{7}=1$ is also rational

50.(d) Let the Original weight of the child be x kg.

When the child gains 25%

i.e. $\frac{25}{100}$ kg is gained

The new weight = $x+\frac{25x}{100}=\frac{5}{4}x$ kg

Now, the child loses 20% weight

i.e. 20% of kg is lost

i.e. $\frac{20}{100} \times \frac{5}{4} x = \frac{x}{4}$

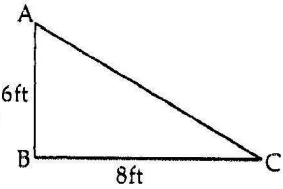
New weight after losing 20% = $\frac{5x}{4} - \frac{x}{4}$

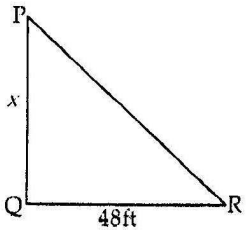
$= \frac{4x}{4}$

$= x$

$\therefore$ the child neither gains nor loses the weight.

51.(d)





Let AB denote Robin whose height is 6ft and PQ be the flagpole at school. Let BC and QR be their respective shadows

Clearly $\Delta ABC \sim \Delta PQR$

$\frac{AB}{PQ} = \frac{BC}{QR} \Rightarrow \frac{6}{x} = \frac{8}{48}$

$\Rightarrow 8x = 48 \times 6$

$\therefore x = \frac{6 \times 48}{8} = 36$ ft

52.(a)Sum of Squares of all sides = $(x^2 + y^2 + x^2 + y^2)$

$\Rightarrow 50cm^2 = 2x^2 + 2y^2$

or $x^2 + y^2 = 25cm^2$ (1)

In ΔABC, $\angle B = 90°$ (each angle of a rectangle is 90°)

$\therefore$ By Pythagoras,

$x^2 + y^2 = AC^2$ [By 1]

$\Rightarrow AC^2 = 25\ cm^2$

$\therefore AC = 25$ cm

53.(d)The scale 1:2500 indicates that 1 unit is actually equal to 25000 units

Therefore if the breadth is 40 cm on the map it means that the actual breadth is (40×25000) cm $= (10)^6$ similarly, actual length = (80×25000) cm $= 2 \times (10)^6$

Actual area = $(10)^6 \times 2 \times (10)^6 = 2 \times 10^{12}$ Ans.

54.(c)Notice that the given information shows inverse relationship between the price of the ticket and the number of people watching it. Only (c) option represents this inverse relationship.

55. (d) Growth sales in 1998 = $\frac{6.5 - 4}{4} = 62.5$

Growth sales in 1992= $\frac{2 - 2.5}{2.5}$ = negative growth

Growth sales in 1993 = $\frac{4 - 2}{2} = 100\%$

Growth sales in 1994 = $\frac{6 - 4}{4} = 50\%$

Hence the highest growth is in 1993.

56.(a) Average sales =

$$\frac{1.5 + 2.5 + 2 + 4 + 6 + 6 + 4.5 + 4 + 6.5}{9}$$

$= 4.11$

57.(a) Sales is 1996 = 4500 cases × 48 per case × Rs. 6
= 1,296,000

Sales in 1997 = 4000 cases × 48 per case × Rs. 7
= 1,344,000

Increase in revenue is Rs 48,000