STAFF SELECTION COMMISSION

COMBINED HIGHER SECONDARY LEVEL (TIER-I)

SOLVED PAPER

(12th August 2021: Shift-1)

Time Allotted- 1 hour **Max marks-** 200

Important Instructions:-

⇨ This paper contains 100 questions which are divided into 4 sections and each section contains 25 questions.
- ✓ English Language (Basic Knowledge)
- ✓ General Intelligence
- ✓ Quantitative Aptitude (Basic Arithmetic Skill)
- ✓ General Awareness

⇨ There will be 2 marks for each correct answer and also there will be negative marking of 0.50 marks for each wrong answer.
⇨ Each question is compulsory to attempt and there will be no negative marking for unattempted questions.

English Language

1. Select the most appropriate option to substitute the underlined segment in the given sentence. If there is no need to substitute it, select 'No substitution'.
The interview will be conducted by 9 a.m. till 11 a.m.
1. from 9 a.m. to 11 a.m. **2.** from 9 a.m. until 11 a.m.
3. during 9 a.m. till 11 a.m. **4.** No substitution

2. Select the most appropriate meaning of the given idiom.
Full of beans
1. Being foolish **2.** Have crazy ideas
3. Sad and dull **4.** Happy and energetic

3. Select the correct indirect form of the given sentence.
My brother said to me, "Have you read the newspaper today?"
1. My brother asked me have you read the newspaper today.
2. My brother asked me if you have read the newspaper today.
3. My brother asked me if I had read the newspaper that day.
4. My brother asked me if I had read the newspaper today.

4. In the given sentence, identify the segment which contains a grammatical error.
Please refrain to going out without a face mask.
1. Please refrain to **2.** face mask
3. without a **4.** going out

5. In the given sentence identify the segment which contains the grammatical error.
Vincent Jonson, a musician, are going to lead an 80-man naval band in the Republic Day Parade this year.
1. are going to lead
2. an 80-man naval band
3. in the Republic Day Parade this year
4. Vincent Jonson, a musician

6. Select the most appropriate antonym of the given word.
MORBID
1. cruel **2.** cheerful **3.** gloomy **4.** horrid

7. Select the INCORRECTLY spelt word.
1. Avertion **2.** Meditation **3.** Education **4.** Location

8. Select the most appropriate meaning of the underlined idiom in the given sentence.
Their marriage wasn't working but they kept up appearances.
1. maintained peace and harmony
2. kept throwing parties
3. revealed the truth
4. maintained an expression of well being

9. Select the most appropriate synonym of the given word.
ANTICIPATE
1. Expect **2.** Prefer **3.** Doubt **4.** Accept

10. Select the most appropriate ANTONYM of the given word.
AVOID
1. Bypass **2.** Dodge **3.** Meet **4.** Avert

11. Select the most appropriate option to substitute the underlined segment in the given sentence. If there is no need to substitute it, select 'No improvement'.
Did you do what I telling you to do yesterday?
1. what I have told you **2.** what I told you
3. No improvement **4.** that I am telling you

12. Given below are four jumbled sentences. Out of the given options pick the one that gives their correct order.
A. The town of Lustenau in Austria claims to have built a world record-breaking bonfire.
B. The structure took three months to build but collapsed in less than half an hour last Saturday evening.
C. Embers from the big fire fell onto nearby market traders, but local fire crews were on hand to make sure that everyone was safe.
D. According to the organizers, the pyre reached as high as 60 meters.
1. ABDC **2.** ABCD **3.** ADBC **4.** ACBD

13. Select the word which means the same as the group of words given.
An institution for the care of people who are mentally ill
1. Asylum **2.** Sanatorium
3. Infirmary **4.** Dormitory

14. Select the most appropriate synonym of the given word.
JEOPARDY
1. safety **2.** fortune **3.** peril **4.** destiny

15. Given below are four sentences in jumbled order. Select the option that gives their correct order.
A. He seemed to remain that high for nearly two years.
B. Kari, the elephant was five months old when he was given to me to take care of.
C. We grew together, that is probably why I never found out just how tall he was.
D. I was nine years old and I could reach his back if I stood on tiptoe.
1. ADCB **2.** DBCA **3.** BDAC **4.** BCAD

16. Select the misspelt word.
1. propel **2.** fulfil **3.** several **4.** strugle

17. Select the most appropriate word to fill in the blank in the given sentence.
Unable to check her _____, Alice ran after the rabbit down the rabbit hole.
1. nervousness **2.** curiosity **3.** pleasure **4.** wisdom

18. Fill in the blank with most appropriate word.
Thunder and lightning was _____ with heavy rain.
1. accrued **2.** accorded
3. accompanied **4.** accustomed

19. Select the most appropriate one-word substitution for the given words.
one who investigates and solves crimes
1. lawyer **2.** criminal **3.** journalist **4.** detective

20. Select the correct passive form of the given sentence.
Mary Kom has won numerous boxing championships.
1. Numerous boxing championships were won by Mary Kom.
2 Numerous boxing championships have been won by Mary Kom.
3. Numerous boxing championships had been won by Mary Kom.
4. Numerous boxing championships are being won by Mary Kom.

Comprehension:
In the following passage, some words have been deleted. Fill in the blanks with the help of the alternatives given. Select the most appropriate option for each number.
Seventy-year-old Bapak Gilang sat in his favourite rocking chair in his (1) _____ villa. He was staring at the evening sky (2) _____ the open window. It was already (3) _____ and it was very windy. He (4) _____ the dark clouds and felt a little (5) _____ today. He reflected that like the dusk sky, his days were also wrapped in clouds of loneliness.

21. Select the most appropriate option to fill in the blank no. 1.
1. spacious **2.** specific **3.** spreading **4.** spiral

22. Select the most appropriate option to fill in the blank no. 2.
1. between **2.** through **3.** among **4.** with

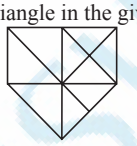
23. Select the most appropriate option to fill in the blank no. 3.
1. morning **2.** dusk **3.** dawn **4.** noon

24. Select the most appropriate option to fill in the blank no. 4.
1. stared **2.** peered **3.** glanced **4.** observed

25. Select the most appropriate option to fill in the blank no. 5.
1. delighted **2.** pensive **3.** innocent **4.** attentive

General Intelligence

26. Select the Venn diagram that best represents the relationship between the following classes.
Ridge Gourd, Vegetables, Turnip
1.  **2.**  **3.**  **4.** 

27. Find the number of triangle in the given figure.

1. 15 **2.** 13 **3.** 17 **4.** 19

28. Select the correct option that indicates the arrangement of the given words in the order in which they appear in an English dictionary.
1. Indiscipline **2.** Indetermination
3. Indelicate **4.** Indictable
5. Independent
1. 2, 3, 5, 1, 4 **2.** 3, 2, 5, 1, 4
3. 2, 3, 5, 4, 1 **4.** 3, 5, 2, 4, 1

29. Select the option in which the words share the same relationship as that shared by the given pair of words.
Sheep : Lamb
1. Leopard : Larva **2.** Panda : Infant
3. Crow : Cub **4.** Cow : Calf

30. Study the given pattern carefully and select the number that can replace the question mark (?) in it.
12 15 11
14 5 17
16 ? 19
1. 5 **2.** 3 **3.** 7 **4.** 9

31. Select the correct water image of the given letter-cluster.
E D Z M K A
1. EDΣWKA **2.** EDZMK∀ **3.** ∃DΣWK∀ **4.** EDΣWK∀

32. Three of the following four words are alike in a certain way and one is different. Select the odd one.
1. Book **2.** Newspaper
3. Magazine **4.** Publisher

33. Two statements are given, followed by three conclusions numbered I, II and III. Assuming the statements to be true, even if they seem to be at variance with commonly known facts, decide which of the conclusions logically follow(s) from the statements.
Statements:
All roads are cycles.
No cycle is a car.
Conclusions:
I. Some cycles are roads.
II. No road is a car.
III. No car is a cycle.
1. Only conclusions II and III follow
2. Only conclusions I and II follow
3. Only conclusions I and III follow
4. All the conclusions follow

34. A transparent sheet with a pattern is depicted in the given figure. Study the figure carefully and select the option that shows how the pattern would appear when the transparent sheet is folded at the dotted line.

1.  **2.**  **3.**  **4.** 

35. Select the option that is related to the third letter-cluster in the same way as the second letter-cluster is related to the first letter-cluster.
PLMO : PNMQ : : UDMS : ?
1. TNCA **2.** TQFV **3.** RNEJ **4.** TNEV

36. Introducing a boy, Lila told Anna, "He is the only son of my grandparents' only child". How is the boy related to Leela?
1. Uncle **2.** Father
3. Brother **4.** Cousin Brother

37. Select the option that is related to the third term in the same way as the second term is related to the first term.
Healthy Diet : Tiredness :: Carefulness : ?
1. Satisfied **2.** Activeness
3. Accident **4.** Successful

38. Select the option in which the numbers share the same relationship as that shared by the numbers of the given set.
(277, 14, 9)
1. (198, 15, 8) **2.** (313, 12, 13)
3. (364, 11, 12) **4.** (123, 17, 8)

39. Select the option that is related to the third number in the same way as the second number is related to the first number.
364 : 183 : : 462 : ?
1. 232 **2.** 297 **3.** 279 **4.** 223

40. In a certain code language, GATHER is coded as 107 and HONOUR is coded as 74.
How will HEAVEN be coded in that language?
1. 131 **2.** 101 **3.** 113 **4.** 110

41. Which two numbers should be interchanged to make the given equation correct?
64 + 36 ÷ 3 × 9 – 32 = 44
1. 32 and 36 **2.** 9 and 64 **3.** 64 and 36 **4.** 3 and 9

42. Ranjan in his ODI cricket career, scored 15 runs on an average in 10 matches. If he scored 14 runs on an average in the first 4 matches and 12 runs on an average in the last 4 matches, then find the average of the runs scored by him in the remaining 2 matches.
1. 24 **2.** 23 **3.** 22 **4.** 25

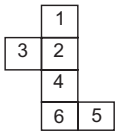
43. Select the number that can replace the question mark (?) in the given series. 46, 47, 94, 97, 388, ?
1. 419 **2.** 393 **3.** 411 **4.** 398

44. In a code language, LANCER is written as NALREC. How will NORWAY be written in that language?
1. RNOYAW **2.** RONYAW
3. YAWRON **4.** YAWNOR

45. Four letter-clusters have been given, out of which three are alike in some manner and one is different. Select the letter-cluster that is different.
1. YDWR **2.** CHSN **3.** MRGB **4.** WBYT

46. Four numbers have been given, out of which three are alike in some manner and one is different. Select the number that is different.
1. 3462 **2.** 1587 **3.** 5789 **4.** 1273

47. A cube is made by folding the given sheet. In the cube so formed, which of the following pairs of numbers will be on opposite sides?



1. 3 and 5 **2.** 1 and 2 **3.** 1 and 6 **4.** 2 and 3

48. Select the combination of letters that when sequentially placed in the blanks of the given series will complete the series.
_ k l _ l j _ j k j _ l _ l j
1. j k l k k **2.** j l k l k **3.** l k l j k **4.** k j l l k

49. Select the option figure which is embedded in figure X as its part (rotation is NOT allowed).

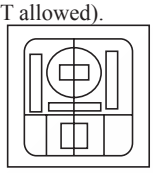
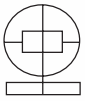
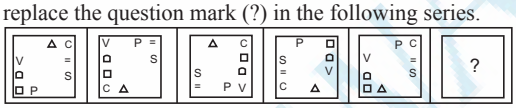


Figure X

1.  **2.**  **3.**  **4.** 

50. Select the figure from among the given options that can replace the question mark (?) in the following series.



1.  **2.**  **3.**  **4.** 

Quantitative Aptitude

51. In ΔABC, D and E are points on AB and BC, respectively, such that DE is parallel to AC. If DE = 3 cm, AC = 5 cm and the area of trapezium ACED = 32 cm^2, then what will be the area of ΔBDE?
1. $\frac{48}{5}\,cm^2$ **2.** $\frac{144}{17}\,cm^2$ **3.** 18 cm^2 **4.** 16 cm^2

52. If the five-digit number 457 ab is divisible by 3, 7 and 11, then what is the value of $a^2 + b^2 - ab$?
1. 24 **2.** 36 **3.** 33 **4.** 49

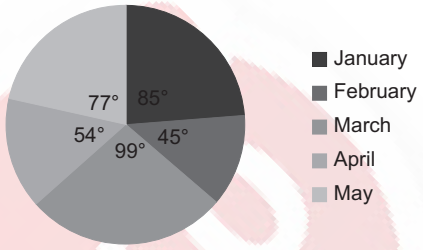
53. In a circle with centre O and radius 6.5 cm, a chord AB is at a distance 2.5 cm from the centre. If tangents at A and B intersect at P, then find the distance of P from the centre.
1. 17 cm **2.** 15 cm **3.** 16.9 cm **4.** 18 cm

54. In ΔABC, AD is the bisector of ∠A meeting BC at D. If AB = 15 cm, BC = 10 cm and the length of BD is 2 cm less than that of DC, then the lenght of AC is:
1. 18.5 cm **2.** 16 cm **3.** 22.5 cm **4.** 18 cm

55. A solid metallic sphere of radius 12 cm is melted and recast in the form of small spheres of radius 2 cm. How many small sphere are formed?
1. 864 **2.** 96 **3.** 216 **4.** 24

56. A tap can fill a tank in 4 hours. Another tap can fill the same tank in 6 hours. If both the taps are opened at the same time, then in how much time will the empty tank be filled completely?
1. 3 h **2.** 2 h 24 min
3. 2 h 30 min **4.** 2 h

57. Study the given pie chart and answer the question that follows. The pie char shows the distribution (degree wise) of the number of computers sold by a shopkeeper during five months.
Total Number of Computers Sold = 5400



If the difference between the number of computers sold in May and the number of computers sold in February is *x*, then the value of *x* will be:
1. 480 **2.** 420 **3.** 540 **4.** 450

58. The value of cosec (58° + θ) – sec (32° – θ) + sin15° sin35° sec 55° sin30° sec75° is:
1. 0 **2.** 1 **3.** $\frac{1}{2}$ **4.** 2

59. A sum of Rs. x divided among A, B and C such that the ratio of the shares of A and C is 8 : 7 and that of B and C is 3 : 2. If the difference between the shares of A and B is Rs. 240, then what is the value of x?
1. 2490 **2.** 2580 **3.** 2448 **4.** 2544

60. Chord AB and CD of a circle meet at point P (outside the circle), when produced. If AB = 9 cm, PB = $\frac{1}{3}$AB and CD = 5 cm, then the length of PD (in cm) is:
1. 4 **2.** 5 **3.** 6 **4.** 7

61. Renu spends 68% of her income. When her income by 40%, she increases her expenditure by 30%. Her savings are increased by:
1. 37.98% **2.** 62.5% **3.** 51.6% **4.** 61.25%

62. Simplify the following expression.

$$\frac{13\frac{7}{9} \div \frac{2}{3}\text{ of }\frac{1}{3} + \frac{2}{3} \times 3}{\frac{7}{5}\text{ of }325 - 20 + 7}$$

1. $\frac{32}{221}$ **2.** $\frac{33}{217}$ **3.** $\frac{31}{2210}$ **4.** $\frac{40}{1989}$

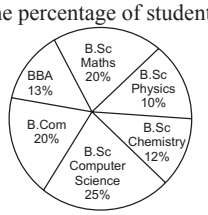
63. If $\sqrt{x} + \frac{1}{\sqrt{x}} = 2\sqrt{3}$, then what will be the value of $x^4 + \frac{1}{x^4}$?
1. 10406 **2.** 9602 **3.** 9606 **4.** 10402

64. A boat can go 15 km downstream and 8 km upstream in 2 h. It can go 20 km downstream and 12 upstream in 2 h 50 min. What is the speed (in km/h) of the boat while going downstream?
1. 20 **2.** 18 **3.** 15 **4.** 16

65. Given that $3\sqrt{3}x^3 - 8y^3 = (\sqrt{3}x + Ay)(3x^2 + By^2 + Cxy)$, the value of $(A^2 + B^2 - C^2)$ is:
1. 0 **2.** 12 **3.** 8 **4.** 4

66. If $3x - 2y + 3 = 0$, then what will be the value of $27x^3 + 54xy + 30 - 8y^3$?
1. 3 **2.** – 27 **3.** – 57 **4.** 57

67. Study the given pie chart and answer the question that follows.
Total number of students admitted in a college = 700
Distribution of the percentage of students in various courses.



Percentage-wise distribution of the number of boys.

Course	Number of boys
B.Sc. Maths	40%
B.Sc. Physics	68%
B.Sc Chemistry	58%
B.Sc. Computer Science	80%
B.Com.	75%
BBA	65%

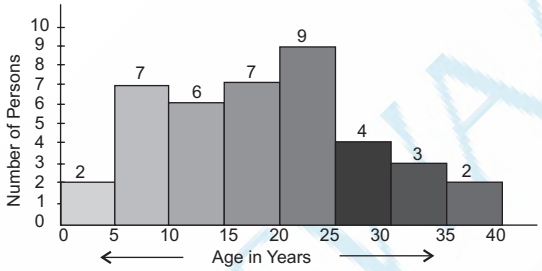
The ratio of the total number of girls admitted in B.Sc. Math to the total number of students admitted in B.Sc Math is:
1. 3 : 7 **2.** 3 : 5 **3.** 4 : 7 **4.** 2 : 5

68. If $\tan\theta + \cot\theta = 3$, then what will be the value of $\tan^2\theta + \cot^2\theta$?
1. 11 **2.** 1 **3.** –1 **4.** 7

69. If a pair of shoes marked at ₹ 350 is offered at ₹ 308, then what will be the discount percentage?
1. 14% **2.** 13.6% **3.** 12% **4.** 42%

70. The average of 40 numbers is 48.2. The average of the first 15 numbers is 45 and that of the next 22 numbers is 50.5. The 38th number is 1 more than the 39th number, and the 39th number is 3 less than the 40th number. What is the average of the 39th and 40th numbers?
1. 49 **2.** 48.5 **3.** 48 **4.** 47.5

71. Some persons went on an outstation tour. The histogram shows their ages.



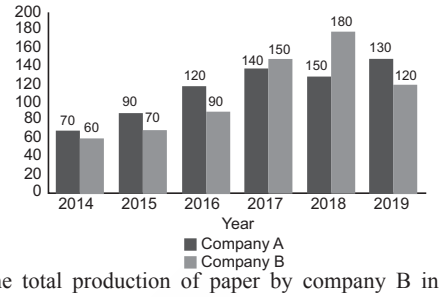
How many persons are less than 20 years of age?
1. 18 **2.** 22 **3.** 31 **4.** 25

72. What is the compound interest (in ₹) on a sum of ₹ 46,000 for $2\frac{2}{5}$ years at 15% per annum, interest being compounded annually (nearest to a ₹)?
1. 18,458 **2.** 19,458 **3.** 19,485 **4.** 18,485

73. If $\tan3\theta = \sin45° \cdot \cos45° + \cos60°$ and 3θ is an acute angle, then what will be the value of $\sin4\theta$?
1. $\frac{1}{2}$ **2.** $\frac{\sqrt{3}}{2}$ **3.** $\frac{1}{\sqrt{2}}$ **4.** 1

74. By selling an article for ₹ 3,150, a shopkeeper earns 5% profit. For how much money should he sell the article in order to gain 8%?
1. ₹ 3,180 **2.** ₹ 3,200 **3.** ₹ 3,240 **4.** ₹ 3,250

75. Study the given graph and answer the question that follows.
Production (in lakh tonnes) of paper by two companies A and B during 2014 to 2019



The total production of paper by company B in 2015 and 2017 to 2019 was what percentage less than 90% of the total production of paper by company A in 2014 to 2019 (correct to one decimal place)?
1. 17.5% **2.** 21.2% **3.** 22.4% **4.** 19.6%

General Awareness

76. Rain is liquid _____.
1. sedimentation **2.** decantation
3. precipitation **4.** condensation

77. Which Indian state is divided into Majha, Doaba and Malwa regions?
1. Madhya Pradesh **2.** Karnataka
3. Punjab **4.** Assam

78. In which of the following years did the Indian National Congress make the demand for a Constituent Assembly?
1. 1934 **2.** 1919 **3.** 1939 **4.** 1928

79. Who among the following became the first Indian-Kiwi woman to become a minister in New Zealand in 2020?
1. Seema Verma **2.** Manisha Singh
3. Anita Anand **4.** Priyanka Radhakrishnan

80. In which state will you find Mayurbhanj district, the last among the princely states, that merged with the state?
1. Kerala **2.** Jharkhand
3. Odisha **4.** Chhattisgarh

81. Who among the following cricketers is the brand ambassador of a fantasy sports gaming platform, Paytm First Games?
1. Yuvraj Singh **2.** Virat Kohli
3. Rohit Sharma **4.** Sachin Tendulkar

82. When is the National Consumer Rights Day observed in India every year?
1. 13 March **2.** 24 December
3. 24 November **4.** 2 October

83. Who among the following has received the Female Sportsperson of the Year Award at the FICCI India Sports Award in December 2020?
1. Deepika Kumari **2.** Manu Bhakhar
3. Saina Nehwal **4.** Elavenil Valarivan

84. In which of the following years PM-KISAN (Pradhan Mantri Kisan Samman Nidhi) was formally launched?
1. 2015 **2.** 2019 **3.** 2014 **4.** 2017

85. For the residents of which of the following union territories PM Narendra Modi has launched Ayushman Bharat - Pradhan Mantri Jan Arogya Yojna (AB - PMJAY) 'Sehat Scheme' in December 2020?
1. Chandigarh **2.** Jammu and Kashmir
3. Ladakh **4.** Puducherry

86. Arthunkal Feast and Vettukad Festival are church festivals from the state of _____.
1. Kerala **2.** Nagaland **3.** Sikkim **4.** Goa

87. NTPC and _____ have signed an MoU to set up a joint venture for 'renewable energy business'.
1. NHPC Limited **2.** ONGC
3. Coal India **4.** Reliance Petroleum

88. _____ is an interpreted, high-level and general-purpose programming language.
1. Cookie **2.** Spider **3.** Python **4.** Penguin

89. Who among the following had authored 'Buddha Gaya: The Hermitage of Sakya Muni' in 1878?
1. John Marshall **2.** Rajendralala Mitra
3. Alexander Cunningham **4.** HH Cole

90. Coringa is a beautiful _____ forest where the Godavari joins the backwaters of Bay of Bengal.
1. mangrove **2.** coniferous **3.** deciduous **4.** evergreen

91. Who is the second Indian footballer to play 100 international games?
1 Gurpreet Singh Sandhu **2.** Udanta Singh
3. Sunil Chhetri **4.** Bhaichung Bhutia

92. What is the pH value of acidic substances?
1. Below 1.0 **2.** Below 4.0
3. Below 2.0 **4.** Below 7.0

93. The Indian Mutiny of 1857 effectively ended in the city of _____.
1. Lucknow **2.** Amritsar
3. Gwalior **4.** Vadodara

94. Colonel (retd) Narendra Kumar, an Indian soldier and _____, passed away in December 2020.
1. wrestler **2.** boxer
3. mountaineer **4.** singer

95. _____ is a process of forming a thick oxide layer of aluminium.
1. Galvanisation **2.** Ductility
3. Corrosion **4.** Anodising

96. Which amendment of the Constitution of India incorporated Goa, Daman and Diu as the eighth union territory of India, by amending the First Schedule to the Constitution?
1. 18th **2.** 12th **3.** 10th **4.** 13th

97. Chambal is a tributary of which of the following rivers?
1. Ganga **2.** Narmada
3. Brahmaputra **4.** Yamuna

98. Which of the following is a method of describing computer algorithms using a combination of natural language and programming language?
1. Flowchart **2.** Pseudocode
3. Array **4.** Node

99. Kalbelia folk songs and dance forms are an expression of the Kalbelia community's traditional way of life. It is associated with which of the following states?
1. Haryana **2.** Maharashtra
3. Punjab **4.** Rajasthan

100. Who among the following was the first Indian to win the Miss World beauty pageant?
1. Reita Faria **2.** Diana Hayden
3. Aishwarya Rai **4.** Priyanka Chopra

Answer Key

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

Answers with Explanations

1. Option (1) is correct.
from 9 a.m. to 11 a.m
The given sentence is in future tense and the interview schedule is given here. When we give a schedule, we will mention the starting point and closing point of time. Starting and closing points will be highlighted by from and to.

2. Option (4) is correct.
Happy and energetic
If someone is full of beans, they are very lively and have a lot of energy and enthusiasm. Options 1, 2, and 3 are not the meanings of the idiom.

3. Option (3) is correct.
My brother asked me if I had read the newspaper that day.
The exercise given for conversion is: My brother said to me, "Have you read the newspaper today?"
The given exercise is a close-ended question in the present perfect tense. Since it is a question, the reporting verb has to be changed to 'asked' instead of said and a connector 'if' has to be added in between the reporting part and the part to be reported. Since 'you' refers to 'me', 'you' will be converted as 'I" and the subject 'I' should be added immediately after the reporting part; then we have to add the verb 'had' as the reporting verb is in past form. 'Today' will be changed as that day.

4. Option (1) is correct.
Please refrain to
Segment 1 is grammatically wrong. The word 'refrain' is followed by 'from'. 'Refrain from' something means to stop yourself from doing something.

5. Option (1) is correct.
are going to lead
The segment 'are going to lead' is grammatically wrong. The subject is 'Vincent Johnson'. It is singular and hence a singular verb has to be used instead of a plural verb.

6. Option (2) is correct.
Cheerful
The synonym of morbid is gloomy. The synonym of cheerful is happy. The synonym of gloomy is morbid. The synonym of horrid is unpleasant.

7. Option (1) is correct.
Avertion
Options 2, 3, and 4 are correctly spelt. Option 1 'avertion' is the wrongly spelt word. The correct spelling is 'aversion'.

8. Option (4) is correct.
maintained an expression of well being
The meaning of KEEP UP APPEARANCES is to hide something bad by pretending that nothing is wrong.

9. Option (1) is correct.
Expect
The synonym of expect is to anticipate. The synonym of prefer is to choose. The synonym of doubt is distrust.

10. Option (3) is correct.
Meet
The synonym of avoid is to evade. The synonym of dodge is to escape. The synonym of meet is to encounter. The synonym of avert is to prevent. The synonym of bypass is to avoid.

11. Option (2) is correct.
what I told you
Segment 2 of the sentence is grammatically wrong. The whole sentence is in the past tense. Option 2 is in past tense and that is the right phrase to substitute segment 2 in the sentence.

12. Option (3) is correct.
ADBC
Sentence A is the first sentence as it talks about the world record-breaking bonfire built in Austria. The opinion of the organizers is highlighted in sentence D and hence it is the second sentence. Sentence B is the third sentence that talks about the time they had taken to build the structure and how it collapsed. Sentence C is the last sentence that talks about the efforts of the fire-safety crew in ensuring the safety of everyone.

13. Option (1) is correct.
Asylum
An asylum is a mental hospital, or any other institution giving shelter and other help to poor or suffering people. A SANATORIUM is an establishment or facility offering usually long-term medical care or treatment. An INFIRMARY is a place (as in a school or prison) where sick or injured individuals receive care and treatment. A DORMITORY is a room for sleeping; especially: a large room containing numerous beds.

14. Option (3) is correct.
Peril
The synonym of safety is care. The synonym of fortune is affluence. The synonym of peril is danger. The synonym of destiny is fate. The synonym of jeopardy is peril.

15. Option (3) is correct.
BDAC
Sentence B is the first sentence as it talks about the arrival of the elephant. D is the second sentence where the speaker mentions about his age when he received the elephant. Sentence A is the third in sequence as it talks about the height of the elephant for the next two years. C is the fourth sentence which talks about the childhood days of both the speaker and the elephant.

16. Option (4) is correct.
Strugle
Words given in options 1, 2, and 3 are correctly spelt. The misspelt word is strugle. The correct spelling is 'struggle', which means fight.

17. Option (2) is correct.
Curiosity
Alice was running after a rabbit seeing the rabbit. It cannot be due to nervousness as nervousness is anxiety. It cannot be pleasure as pleasure is overjoy. It cannot be wisdom too. It is because of curiosity. Curiosity is inquisitiveness or interest.

18. Option (3) is correct.
Accompanied
Accrued is accumulated. Accorded is given. Accustomed is familiar. The sentence conveys that along with thunder and lightning, there was rainfall. So accompanied is the correct terminology to be used.

19. Option (4) is correct.
Detective
A lawyer is a person who is qualified to advise people about the law and represent them in court.A criminal is a person who breaks the law and engages in illegal activity.A journalist is a person whose job is to collect news, and write about it in newspapers or magazines or talk about it on television or radio.A detective is someone whose job is to discover what has happened in a crime or other situation and to find the people involved.

20. Option (2) is correct.
Numerous boxing championships have been won by Mary Kom.
The exercise to be converted is: Mary Kom has won numerous boxing championships. This sentence is in active voice and in the present perfect tense. It has to be converted into passive voice. The subject of the sentence is Mary Kom, the verb is 'has won' and the object is 'numerous boxing championships'. When we convert an active sentence into passive voice, the object of the active sentence will become the subject in passive. So, the phrase 'numerous boxing championships' becomes the subject and since it is in plural form, the auxiliary verb 'have' must be used and since the sentence is in present perfect form, 'been' must be used as the be verb. Then we use the third form of the verb 'won' and connector 'by' and the subject of the active voice 'Mary Kom' becomes the object of the passive voice.

21. Option (1) is correct.
Spacious
The sentence is about the villa of Bapak. The right terminology to be used in the blank is 'spacious' which is an adjective that describes the villa as large.

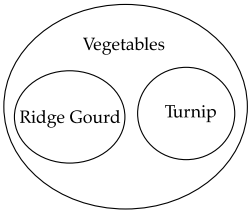
22. Option (2) is correct.
Through
The sentence says that there is an open window and he looks at the evening sky. Options 1, 3, and 4 are inapt in the context as he is enjoying the evening sky, it cannot be between the window, among the window, and with the window, but through the window. So, the correct preposition to be used is through.

23. Option (2) is correct.
Dusk
The previous sentence says that he is looking at the evening sky and hence it is not morning, dawn or noon. Dusk is the right terminology to be used to fill in the blank as dusk is sunset.

24. Option (4) is correct.
Observed
The sentence ends with an indication that he is lonely. So, he cannot stare, peer or glance at the dark clouds. He was observing the dark clouds. When we observe something, we notice it as being significant.

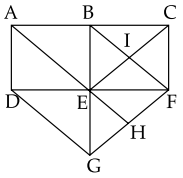
25. Option (2) is correct.
Pensive
The sentence says he is lonely. So, he cannot be delighted seeing the dark clouds, or be innocent as he is experienced and aged. He is also not attentive here. He is pensive. The synonym of pensive is being thoughtful.

26. Option (4) is correct.



We know that both Ridge Gourd and Turnip are popular vegetables hence, they will come inside in the vegetables.

27. Option (3) is correct.



We know that when Rectangle has two diagonals then we have 2 × 4 = 8 number of triangles. And we have rectangles with one diagonal then we have 2 triangles. We also know that we have triangles with perpendicular then we have 3 triangles.

Therefore, total triangles are 8 + 2 + 3 = 13.

Now, we will count random triangles which are DEG, AEC, BGF, DGF.

Hence, there are total 17 triangles.

28. Option (4) is correct.

We know that all words having first 3 letters Ind same so we will now look at 4th letter of each word which are i, e, e, i, e now we know e comes before i again we have letter e same in three word so we will look at 5th letter of those words which are having e common letter. Now 5th letter is t,l,p so l comes before t and p. therefore 3 is the first word now p comes before t so 2nd word will be 5 and so on.

Hence, 3, 5, 2, 4, 1 is the correct answer.

29. Option (4) is correct.

We know that Lamb is young one of Sheep in the same way Calf is the young one of Cow.

Hence, Cow: calf is the correct answer.

30. Option (3) is correct.

The pattern is 1st number × 4 – 3rd number × 3 = 2nd number.

Row 1: 12 × 4 – 11 × 3 = 48 – 33 = 15

Row 2: 14 × 4 – 17 × 3 = 56 – 51 = 5

Row 3: 16 × 4 – 19 × 3 = 64 – 57 = 7

Hence, 7 is the correct answer.

31. Option (4) is correct.

A water image is the reflection of an object in water, and it is the inverted image of an object turned over on its side. The water image is an inverted image of a real object, with the same LHS and RHS, but the top and bottom of the object interchanged, i.e., the top becomes the bottom, and the bottom becomes the top.

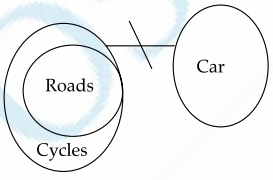
EDΣWK∀

32. Option (4) is correct.

Since publisher is publishing books, newspaper and magazines and therefore is the odd one out.

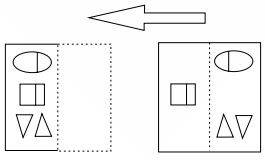
Hence, Publisher is the correct answer.

33. Option (4) is correct.



From the above Venn Diagram, it is clearly shown that all conclusions follow.

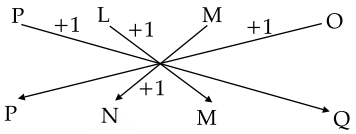
34. Option (2) is correct.



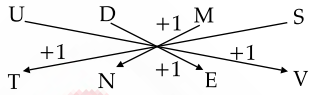
We know that when we place mirror at the right side then objects which are positioned at the left side will be shifted to right side and objects which are placed at left side will be shifted to right side and object's position will also be changed from right to left or left to right. e.g., p will form q.

35. Option (4) is correct.

The pattern is

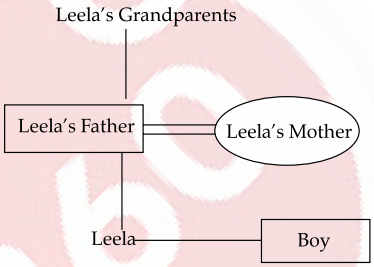


Similarly



Hence, TNEV is the correct answer.

36. Option (3) is correct.



Thus, the boy introduced by Leela to Ana is the brother of Leela.

37. Option (3) is correct.

We know that Healthy diet can help us to avoid tiredness in the same way. Carefulness can help us to avoid accidents.

Hence, accident is the correct answer.

38. Option (2) is correct.

The pattern is 2nd number^2 + 3rd number^2 = 1st number

$14^2 + 9^2 = 196 + 81 = 277$

Similarly, $12^2 + 13^2 = 144 + 169 = 313$

Hence, (313, 12, 13) is the correct answer.

39. Option (1) is correct.

The pattern is $\frac{\text{1st number}}{2}$ + 1 = 2nd number

$\frac{364}{2}$ + 1 = 183, Similarly, $\frac{462}{2}$ + 1 = 232

Hence, 232 is the correct answer.

40. Option (4) is correct.

The pattern is sum of Reverse position of letters in English Alphabet + total number of consonants

G	A	T	H	E	R
20	26	7	19	22	9

20 + 26 + 7 + 19 + 22 + 9 + (Number of consonants)

= 103 + 4 = 107

Similarly,

H	E	A	V	E	N
19	22	26	5	22	13

19 + 22 + 26 + 5 + 22 + 13 + (Number of consonants)

= 107 + 3 = 110

Hence, 110 is the correct answer.

41. Option (4) is correct.

Upon checking option 4 we get,

Using BODMAS

$64 + 36 \div 9 \times 3 - 32$

$= 64 + \frac{36}{9} \times 3 - 32 = 64 + 4 \times 3 - 32$

$= 64 + 12 - 32 = 76 - 32 = 44$

LHS = RHS.

Hence, 3 and 9 is the correct answer.

42. Option (2) is correct.

Total runs scored in 10 matches = 15 × 10 = 150.

Total runs in first 4 matches = 14 × 4 = 56.

Total runs scored last 4 Matches = 12 × 4 = 48.

Total runs scored in 8 matches = 48 + 56 = 104.

Therefore, runs scored in the remaining 2 Matches

= 150 – 104 = 46

Hence, average of 2 matches is $\frac{46}{2} = 23$.

43. Option (2) is correct.

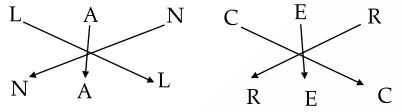
The pattern is

46	47	94	97	388	393
	+1	×2	+3	×4	+5

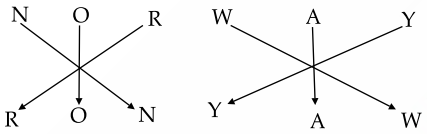
Hence, 393 is the correct answer.

44. Option (2) is correct.

The pattern is:



Similarly,



Hence, RONYAW is the correct answer.

45. Option (3) is correct.

The pattern is

Y	+5	D	Opposite letter	W	–5	R
C	+5	H	Opposite letter	S	–5	N
M	+5	R	–11	G	–5	B
W	+5	B	Opposite letter	Y	–5	T

Hence, MRGB is the correct answer.

46. Option (1) is correct.

Except 3462 all other numbers are odd.

Hence, 3462 is the correct answer.

47. Option (1) is correct.

When the cube is folded then 1 will be opposite of 4 and 2 will be opposite of 6 and 3 will be opposite to 5.

Hence, 3 and 5 is the correct answer.

48. Option (1) is correct.

First we will count the total number of letters which is 15 and 15 can be written as 15 = 5 × 3 which either we make 5 groups of each group having 3 letters or we form 3 groups having 5 letters in each group now we have letters ijk it means we will make 5 groups of each group having 3 letters in it.

jkl klj ijk jki kij

Hence, jklkk is the correct answer.

49. Option (4) is correct.

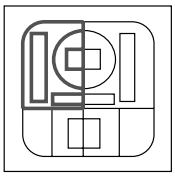
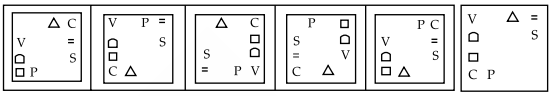


Figure X

The given figure is shown in the above figure how it is embedded.

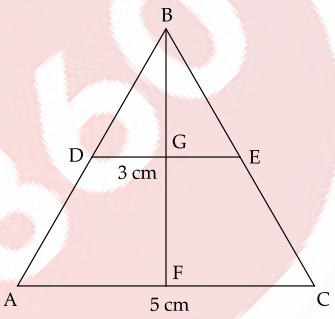
50. Option (2) is correct.



The pattern is small triangle is moving top to bottom and triangle should be at top right side hence option 4 cannot be the answer since triangle is top left side and letter C is moving from corner to corner and option 1 cannot be the answer. Now $ should move on the right side but it is placed on the corner of rectangle from this we can say option 3 is eliminated.

Therefore, we eliminated 3 options and only one option is left now.

51. Option (3) is correct.



Given:

DE = 3 cm

AC = 5 cm

And area of trapezium ACED = 32 cm^2

We have, area of trapezium

$= \frac{1}{2} \times (\text{sum of parallel sides}) \times \text{height}$

$= 32$

$\Rightarrow \quad \frac{1}{2} \times (3+5) \times GF = 32$

$\Rightarrow \quad GF = 8$ cm

Let $BG = x$ cm

Now area of $\Delta ABC = \frac{1}{2} \times \text{base} \times \text{height} = \frac{1}{2} \times 5 \times BF$

$= \frac{1}{2} \times 5 \times (BG + GF)$

$= 2.5\,(x + 8)$ cm^2

Now area of $\Delta BDE = \frac{1}{2} \times DE \times BG = 1.5 \times x$

According to the question,

Ar ΔABC = Ar ΔBDE + area of trapezium ACED

$\Rightarrow \quad 2.5\,(x + 8) = 1.5 \times x + 32 \Rightarrow x = 12$

So, area of $\Delta BDE = 1.5 \times x = 1.5 \times 12 = 18$ cm^2

52. Option (4) is correct.

Given number = 457*ab*

LCM (3, 7, 11) = 231

Consider the lowest possible value of *a* & *b*. Then number is 45700

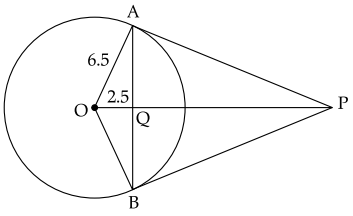
Now, when 45700 is divided by 231 then approx. quotient = 45700/231 ≈ 197

So, required number = (197 + 1) × 231 = 45738

So, $a = 3$ and $b = 8$

Now, $a^2 + b^2 - ab = 9 + 64 - 24 = 49$

53. Option (3) is correct.



Given, OA = OB = 6.5 cm

OQ = 2.5 cm

As shown in diagram,

Δ AQO and Δ BQO are right angled triangles at Q.

So, $AQ = \sqrt{(6.5^2 - 2.5^2)} = 6$ cm

So, AB = 6×2 = 12 cm

Also, Δ APO and Δ BPO are right angled triangles at A and B respectively.

And Δ AQO and Δ PAO are similar triangle, As both are right angled triangle and angle O is common in both.

Hence, $\frac{AQ}{AP} = \frac{OQ}{OA}$

$\Rightarrow \frac{6}{AP} = \frac{2.5}{6.5}$

$\Rightarrow$ AP = 15.6 cm

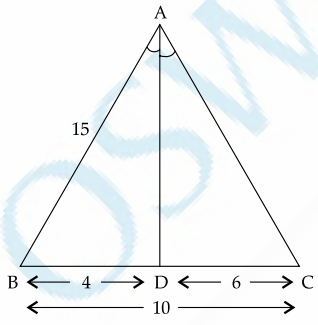
Now, in Δ AQP,

$PQ = \sqrt{AP^2 - AQ^2} = \sqrt{(15.6^2 - 6^2)}$

= 14.4 cm

Hence, OP = OQ + PQ = 2.5 + 14.4 = 16.9 cm

54. Option (3) is correct.



Given: AB = 15 cm, BC = 10 cm and AD is angle bisector of angle A.

Let DC = *x* cm

Then BD = (*x* – 2) cm

According to the question,

$x + x - 2 = 10$

$\Rightarrow x = 6$

So, DC = 6 cm and BD = 4 cm

We have,

$\Rightarrow \frac{AB}{AC} = \frac{BD}{DC}$

$\Rightarrow \frac{15}{AC} = \frac{4}{6}$

$\Rightarrow$ AC = 22.5 cm

55. Option (3) is correct.

Radius of sphere = 12 cm

We know, volume of sphere = $\frac{4}{3}\pi r^3$

So, volume of given sphere = $\frac{4}{3} \times \pi \times 12^3$

Radius of small sphere = 2 cm

So, volume of small sphere = $\frac{4}{3} \times \pi \times 2^3$

Number of small spheres formed = $\frac{\frac{4}{3} \times \pi \times 12^3}{\frac{4}{3} \times \pi \times 2^3} = 216$

56. Option (2) is correct.

Given:

Tap A can fill the tank in = 4 hr

Tap B can fill the tank in = 6 hr

Let the capacity of tank = LCM (4, 6) = 12

Filling capacity of tap A = 12/4 = 3 *l*/hr

Filling capacity of tap B = 12/6 = 2 *l*/hr

So, time taken by both tap to fill the tank

$= \frac{12}{3+2} = 2\frac{2}{5}$ hr = 2 hr 24 min

57. Option (1) is correct.

Total number of computers sold = 5400

From given Pi chart,

Then value of $x = \frac{77 - 45}{360} \times 5400 = 480$

58. Option (3) is correct.

Given:

cosec (58° + θ) – sec (32° – θ) + sin 15° . sin 35° . sec 55° . sin 30° . sec 75°

= sec(90° – 58° – θ) – sec (32° – θ) + sin 15° . sin 35° . sec (90° – 35°) . sin 30° . sec (90° – 15°)

= sec (32° – θ) – sec (32° – θ) + sin 15° . sin 35° . cosec 35° . sin 30° . cosec 15°

$= 1 \times 1 \times \frac{1}{2} = \frac{1}{2}$

59. Option (3) is correct.

The ratio of share of A and C = 8 : 7

The ratio of share of B and C = 3 : 2

So, the ratio of share of A, B and C = 8 × 2 : 3 × 7 : 2 × 7

= 16 : 21 : 14

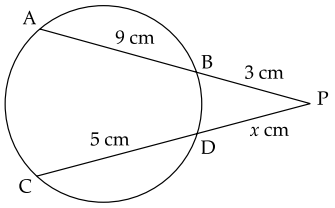
According to the question,

$21y - 16y = 240$

$y = 48$

So, total amount = 16*y* + 21*y* + 14*y* = 51 × 48 = ₹ 2448

60. Option (1) is correct.



As shown in diagram,

AB = 9 cm, CD = 5 cm

So, $PB = \frac{1}{3} \times AB = \frac{1}{3} \times 9 = 3$ cm

Let PD = x cm

We have,

$\Rightarrow$ PD × PC = PB × AB

$\Rightarrow$ $x \times (x + 5) = 3 \times 12$

$\Rightarrow$ $x \times (x + 5) = 4 \times 9$

$\Rightarrow$ $x = 4$

So, PD = 4 cm

61. Option (4) is correct.

Let Renu's income = ₹ 100

Renu spends 68% of her income. So, her expenditure = ₹ 68

So, her saving = ₹ 32

After increasing her salary by 40%, her new income = ₹ 140

According to the question, her new expenditure

$$= 68 \times \frac{130}{100} = \text{Rs. } 88.4$$

Now her new saving = 140 – 88.4 = 51.6

So, percentage increase in saving

$$= \frac{51.6 - 32}{32} \times 100 = 61.25\%$$

62. Option (1) is correct.

Given expression: $\dfrac{13\frac{7}{9} \div \frac{2}{3} \text{ of } \frac{1}{3} + \frac{2}{3} \times 3}{\frac{7}{5} \text{ of } 325 - 20 + 7}$

$$= \frac{\frac{124}{9} \div \frac{2}{9} + \frac{2}{3} \times 3}{455 - 20 + 7}$$

$$= \frac{62 + 2}{455 - 20 + 7} = \frac{64}{442} = \frac{32}{221}$$

63. Option (2) is correct.

Given:

$\Rightarrow$ $\sqrt{x} + \frac{1}{\sqrt{x}} = 2\sqrt{3}$

Squaring both sides,

$\Rightarrow$ $x + \frac{1}{x} + 2 = 12$

$\Rightarrow$ $x + \frac{1}{x} = 10$

Again, squaring both sides,

$\Rightarrow$ $x^2 + \frac{1}{x^2} + 2 = 100$

$\Rightarrow$ $x^2 + \frac{1}{x^2} = 98$

Again, squaring both sides,

$\Rightarrow$ $x^4 + \frac{1}{x^4} + 2 = 9604$

$\Rightarrow$ $x^4 + \frac{1}{x^4} = 9602$

64. Option (3) is correct.

Let the downstream speed = x km/hr

And upstream speed = y km/hr

We know, time = $\dfrac{\text{distance}}{\text{speed}}$

According to the question,

$\Rightarrow$ $\frac{15}{x} + \frac{8}{y} = 2$

Let $\frac{1}{x} = P$ and $\frac{1}{y} = Q$

$\Rightarrow$ 15P + 8Q = 2 …(1)

And $\frac{20}{x} + \frac{12}{y} = 2\frac{5}{6}$

$\Rightarrow$ 120P + 72Q = 17 …(2)

By equation (1) and (2),

$$P = \frac{1}{15} \text{ and } Q = \frac{1}{8}$$

We have, $\frac{1}{x} = P$

So, $x = 15$

So, the downstream speed = 15 km/hr

65. Option (3) is correct.

Given that:

$\Rightarrow$ $3\sqrt{3}\,x^3 - 8y^3 = \left(\sqrt{3}x + Ay\right)\left(3x^2 + By^2 + Cxy\right)$

$\Rightarrow$ $(\sqrt{3}\,x)^3 - (2y)^3 = \left(\sqrt{3}x + Ay\right)\left(3x^2 + By^2 + Cxy\right)$

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

So, $(\sqrt{3}\,x - 2y)(3x^2 + 4y^2 + 2\sqrt{3}\,xy)$

$$= \left(\sqrt{3}x + Ay\right)\left(3x^2 + By^2 + Cxy\right)$$

By comparing both side,

$$A = -2,\ B = 4 \text{ and } C = 2\sqrt{3}$$

So, $A^2 + B^2 - C^2 = 4 + 16 - 12 = 8$

66. Option (1) is correct.

Given that, $3x - 2y + 3 = 0$

$\Rightarrow$ $3x - 2y = -3$

By cubing both sides,

$\Rightarrow$ $(3x - 2y)^3 = -27$

$\Rightarrow$ $(3x)^3 - (2y)^3 - 3 \times 3x \times 2y\,(3x - 2y) = -27$

$\Rightarrow$ $27x^3 - 8y^3 - 18xy\,(-3) = -27$

$\Rightarrow$ $27x^3 - 8y^3 + 54xy = -27$

$\Rightarrow$ $27x^3 - 8y^3 + 54xy + 30 = -27 + 30$

$\Rightarrow$ $27x^3 - 8y^3 + 54xy + 30 = 3$

67. Option (2) is correct.

Total number of students admitted in college = 700

Number of students admitted in B.Sc maths = $\frac{20}{100} \times 700 = 140$

So, number of boys admitted in B.Sc maths = $\frac{40}{100} \times 140 = 56$

Now, number of girls admitted in B.Sc maths = 140 – 56 = 84

Required ratio = 84 : 140 = 3 : 5

68. Option (4) is correct.

Given expression: $\tan\theta + \cot\theta = 3$

squaring both sides,

$\Rightarrow (\tan\theta + \cot\theta)^2 = 3^2$

$\Rightarrow \tan^2\theta + \cot^2\theta + 2\tan\theta\cot\theta = 9$

$\Rightarrow \tan^2\theta + \cot^2\theta + 2 = 9$ (as $\tan\theta\cot\theta = 1$)

$\Rightarrow \tan^2\theta + \cot^2\theta = 7$

69. Option (3) is correct.

Given: The MRP of shoes = ₹ 350

And offered price = ₹ 308

So, discount percentage = $\frac{350 - 308}{350} \times 100 = 12\%$

70. Option (4) is correct.

Given:

The average of 40 numbers = 48.2

The average of 15 numbers = 45

The average of next 22 numbers = 50.5

So, the sum of 40 numbers = 48.2 × 40 = 1928

And the sum of 15 numbers = 45 × 15 = 675

And the sum of next 22 numbers = 50.5 × 22 = 1111

Let the 40th number = x

Then 39th number = $x - 3$

And 38th number = $x - 2$

According to the question,

Sum of 15 numbers + sum of next 22 numbers + ($x + x - 3 + x - 2$) = sum of all 40 numbers

$\Rightarrow 675 + 1111 + 3x - 5 = 1928$

$\Rightarrow x = 49$

So, average of 39th and 40th number

$$= \frac{x - 3 + x}{2} = \frac{2x - 3}{2} = \frac{2 \times 49 - 3}{2} = 47.5$$

71. Option (2) is correct.

As shown in bar graph,

Total number of persons less than 20 years of age = 2 + 7 + 6 + 7 = 22

72. Option (4) is correct.

Given:

Principal amount = ₹ 46000

Rate of interest = 15% per annum

And time = $2\frac{2}{5}$ years

We have, total amount = $P\left(1 + \frac{r}{100}\right)^n$

So, total amount after 2 years = $P\left(1 + \frac{15}{100}\right)^n$

$$= 46000 \times \frac{23}{20} \times \frac{23}{20} = ₹\ 60835$$

Now for 2/5 years, the rate of interest = $15 \times \frac{2}{5} = 6\%$

And principal amount = ₹ 60835

So total amount = 60835 $(1 + \frac{6}{100})$ = ₹ 64485.1

So, compound interest = 64485.1 – 46000 ≈ ₹ 18485

73. Option (2) is correct.

Given that: $\tan 3\theta = \sin 45° \cdot \cos 45° + \cos 60°$

$\Rightarrow \tan 3\theta = \frac{1}{\sqrt{2}} \cdot \frac{1}{\sqrt{2}} + \frac{1}{2}$

$\Rightarrow \tan 3\theta = \frac{1}{2} + \frac{1}{2}$

$\Rightarrow \tan 3\theta = 1$

$\Rightarrow \tan 3\theta = \tan 45°$

$\Rightarrow 3\theta = 45°$

$\Rightarrow \theta = 15°$

So, $\sin 4\theta = \sin(4 \times 15°) = \sin 60° = \frac{\sqrt{3}}{2}$

74. Option (3) is correct.

Given:

Selling price of an article = ₹ 3150

Profit = 5%

Let cost price be ₹ x

So, $x \times \frac{105}{100} = 3150$

$\Rightarrow x = 3000$

So, the cost price = ₹ 3000

Now for 8% gain, selling price = $3000 \times \frac{108}{100}$ = ₹ 3240

75. Option (1) is correct.

Total production of paper by company B in 2015 and 2017-2019 = 70 + 150 + 180 + 120 = 520 tonnes

And total production of paper by company A in 2014 to 2019 = 70 + 90 + 120 + 140 + 130 + 150 = 700 tonnes

So, 90% of the total production of a paper by the company A in 2014 to 2019 = $\frac{90}{100} \times 700 = 630$

Required percentage = $\frac{630 - 520}{630} \times 100 = 17.5\%$

76. Option (3) is correct.

Precipitation is defined in meteorology as any product of the condensation of atmospheric water vapour under the gravitational pull of clouds. Drizzle, rain, hail, snow, ice pellets, graupel, and hail are the most common types of precipitation. When a portion of the atmosphere becomes saturated with water vapour (reaches 100% relative humidity), the water condenses and "precipitates" or falls off. Because the water vapour is not condensed sufficiently for precipitation, fog and mist are colloid rather than rain.

77. Option (3) is correct.

Punjab is one of India's most prosperous states, located in the northwest region. Punjab is derived from the words Punj (Five) and Aab (Water), i.e., land of five rivers. Sutlej, Beas, Ravi, Chenab, and Jhelum are the five rivers of Punjab. In modern-day Punjab, only the Sutlej, Ravi, and Beas rivers flow. The other two rivers are now in the Pakistani state of Punjab. The province of Punjab is divided into three regions:

Majha, Doaba, and Malwa. Majha is a region in the historical Punjab region that is divided between India and Pakistan. It stretches north from the right bank of the Beas River all the way to the Jhelum River. Doaba, also known as Bist Doab, is a region of Punjab, India, located between the Beas and Sutlej rivers. "Doabi" refers to the Punjabi dialect spoken in Doaba. Malwa is a region of India located between the Sutlej and Yamuna rivers in the southeast of the state of Punjab and parts of Haryana and Rajasthan.

78. Option (1) is correct.

M. N. Roy, a forefather of the Indian Communist movement, proposed the idea of a Constituent Assembly in 1934. In 1935, it became an official demand of the Indian National Congress. Pt. Jawahar Lal Nehru presided over the INC session in Lucknow in April 1936, when the official demand for a Constituent Assembly was raised. On 15th November 1939, C. Rajagopalachari made the demand for a Constituent Assembly based on an adult franchise, which was accepted by the British in August 1940.

79. Option (4) is correct.

Priyanka Radhakrishnan was appointed as Minister for the Community and Voluntary Sector, Minister for Diversity, Inclusion, and Ethnic Communities, Minister for Youth, and Associate Minister for Social Development and Employment on November 2, 2020, becoming New Zealand's first Minister of Indian origin. Radhakrishnan received the Pravasi Bharatiya Samman award for public service from the Indian president in a virtual ceremony in January 2021.

80. Option (3) is correct.

Mayurbhanj State, led by Maharaja Pratap Chandra Bhanjdev, joined the Indian Union on January 1, 1949, and was merged with Orissa Province, which later became Odisha State. Further Information Mayurbhanj was a native state of Orissa in India (Odisha). It was one of the most populous states in the Eastern States Agency and one of three in the Bengal States Agency. The state's emblem was two peacocks because legend has it that the ancient rulers' ancestors were born from the eyes of a peafowl. Since the 15th century, the town of Baripada has served as the state's capital, and Daspur has also played an important role. The ruins of the temples and palaces constructed at the time can be found at Haripur, about 16 kilometres southeast of Baripada. The Rasikaraya temple and the Durbar hall of the Bhanj kings are the most important ruins.

81. Option (4) is correct.

Paytm First Games, a subsidiary of the digital financial service platform Paytm, has signed cricketing legend Sachin Tendulkar as its brand ambassador ahead of the 2020 Indian Premier League (IPL). Paytm was founded in August 2010 in Noida, Delhi NCR by Vijay Shekhar Sharma with a $2 million initial investment. In 2013, it expanded from a prepaid mobile and DTH recharge platform to include data cards, postpaid mobile, and landline bill payments.

82. Option (2) is correct.

Every year on December 24, National Consumer Rights Day is observed. The Consumer Protection Act 1986 received Presidential assent on this day in 1986, and thus went into effect. The Act aims to protect consumers from various forms of exploitation, such as defective goods, deficiencies in services, and unfair trade practices.

83. Option (4) is correct.

Elavenil Valarivan has been named the 2020 winner of the FICCI INDIA SPORTS AWARDS in the category of "Sports Person of the Year" by the eminent Jury chaired by Justice Mudgal. Elavenil Valarivan is an Indian sport shooter from Cuddalore, Tamil Nadu. Elavenil won a gold medal for India at the 2018. ISSF Junior World Cup, then silver at the World University Games in 2019 before winning gold at the World Junior World Cup Suhl 2019.

84. Option (2) is correct.

PM-KISAN (Pradhan Mantri Kisan Samman Nidhi) is a Government of India central sector scheme that provides income support to farmers and their families. The Center transfers ₹ 6,000 per year, in three equal installments, to the bank accounts of all landholder farmers, regardless of the size of their landholdings, under this scheme. It was released in February 2019. The scheme's goal is to meet the financial needs of Small and Marginal Farmers (SMFs) by ensuring proper crop health and yields, as well as procuring various inputs in proportion to the expected farm income at the end of each crop cycle. It is a central sector scheme funded entirely by the Government of India. The Ministry of Agriculture and Farmers Welfare is in charge of carrying it out.

85. Option (2) is correct.

Prime Minister Narendra Modi launched the SEHAT scheme under the Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB-PMJAY). The scheme's main goal is to provide health insurance coverage to all residents of Jammu and Kashmir. SEHAT is an acronym that stands for Social, Endeavour for Health, and Telemedicine. It is a Union Territory health insurance scheme. It provides free insurance coverage to all residents of J&K UT. It also provides floater financial coverage of up to Rs.5 lakh per family to all residents of the UT of J&K, as well as an operational extension of PM-JAY to 15 lakhs (approximately) additional families.

86. Option (1) is correct.

Arthunkal Perunnal (Perunnal means feast) is a ten-day annual feast held at St. Sebastian's Church in Arthunkal, an Alappuzha district coastal area. During the feast, an important event is the procession of the statue of St. Sebastian from the church to the beach and back. Devotees show their appreciation for the favour by crawling on their knees from the nearby beach to the church. Urulu Nercha is the name given to this ritual. The Madre de Deus Church, also known as Vettukad Church, is located approximately 7 kilometres from Thiruvananthapuram. This church is thought to be more than 500 years old. The annual 'Feast of Christ the King' brings the region to life every year.

87. Option (2) is correct.

NTPC Ltd. and Oil and Natural Gas Corporation Limited (ONGC) have signed a Memorandum of Understanding (MoU) to establish a Renewable Energy Joint Venture Company. The Oil and Natural Gas Corporation (ONGC) is a government-owned crude oil and natural gas corporation. The Ministry of Petroleum and Natural Gas is in charge of the operations. On August 14, 1956, the company was founded. The National Thermal Power Corporation Limited, formerly known as NTPC Limited, is an Indian statutory corporation. It is a statutory corporation established under the Companies Act of 1956 and is owned by the Government of India's Ministry of Power. On November 7, 1975, the company was founded. Mukesh Ambani of Reliance Industries Limited (RIL), one of India's largest private sector companies, owns Reliance Petroleum, an Indian petroleum company specialising in oil and energy. On September 29, 2009, RPL merged with Reliance Industries Limited. Coal India Limited is a Coal Mining and Refining Corporation owned by the Government of India. The Ministry of Coal, Government of India, with headquarters in Kolkata, West Bengal, owns it.

88. Option (3) is correct.

Python is an object-oriented, high-level programming language with dynamic semantics that is interpreted. Its high-level data structure, combined with dynamic typing and

dynamic binding, makes it appealing for rapid application development as well as use as a scripting or glue language for connecting existing components. Python's simple, easy-to-learn syntax priorities readability, lowering programme maintenance costs. Python includes modules and packages that promote programme modularity and code reuse.

89. Option (2) is correct.

Rajendralala Mitra wrote 'Buddha Gaya: The Hermitage of Sakya Muni' in 1878. His major works included "Orissa's Antiquities" (2 volumes, 1875-80), "Bodh Gaya" (1878), "Indo-Aryans" (2 volumes, 1881), and others. Bodh Gaya is one of Buddhism's four holiest sites. After 49 days of penance under the Bodhi tree, Buddha attained enlightenment here. In the third century BC, Emperor Ashoka constructed a temple to commemorate the location of Buddha's enlightenment. The period is represented by a later stone railing that surrounds this temple (1st century BC). On several reliefs, Sanchi and Barhut depict the temple.

90. Option (1) is correct.

Coringa is a beautiful mangrove forest where the Godavari meets the Bay of Bengal's backwaters. Coringa Wildlife Sanctuary is a wildlife sanctuary and estuary in Andhra Pradesh, India, near Kakinada. With 24 mangrove tree species and over 120 bird species, it is India's third-largest stretch of mangrove forests. The critically endangered white-backed vulture and the long-billed vulture live there.

91. Option (3) is correct.

Sunil Chhetri, after Bhaichung Bhutia, became the second Indian footballer to play 100 international matches. Sunil Chhetri has received the following awards and honours: The Government of India awarded him the Arjuna Award in 2011 in recognition of his outstanding achievements in sports. Padma Shri, India's fourth highest civilian award, was bestowed in 2019 and 2021 - Khel Ratna Award, India's highest sporting honour.

92. Option (4) is correct.

A solution's pH ranges from 0 to 14. Acidic solutions have a pH value ranging from 0 to 7 on the pH scale, while basic solutions have a pH value ranging from 7 to 14 on the pH scale. Solutions with a pH value of 7 on the pH scale are known as neutral solutions.

93. Option (3) is correct.

The Indian Mutiny of 1857 effectively ended in Gwalior. The Indian Mutiny of 1857 was a major revolt in India in 1857-58 against the rule of the British East India Company, which acted as the British Crown's sovereign power. The rebellion began on May 10, 1857, with a mutiny by soldiers of the Company's army in Meerut, the garrison town. The rebellion posed a significant threat to British power in the region, and it was only defeated on June 20, 1858, at Gwalior.

94. Option (3) is correct.

Colonel Narendra Kumar, an ace mountaineer who helped India secure the Siachen Glacier, died in December 2020. He was instrumental in the success of Operation Meghdoot in 1984. He was the first Indian to reach the summit of Nanda Devi. In 1965, he climbed Mount Everest, Mount Blanc (the highest peak in the Alps), and Mount Kanchenchanga.

95. Option (4) is correct.

The process of forming a thick oxide layer of aluminium is known as anodising. Because the part to be treated serves as the anode electrode of an electrolytic cell, the process is known as anodizing. This aluminium oxide coating protects it from further corrosion. It can also be used for architectural finishing. The ability of a material to be drawn or plastically deformed without fracture is referred to as ductility. Steel ductility varies according to the types and levels of alloying elements present. Galvanisation, also known as galvanization (or galvanising), is the process of applying a protective zinc coating to iron or steel to prevent rusting. The most common method is hot-dip galvanising, which involves immersing steel sections in molten zinc. Corrosion is a natural process that transforms refined metals into more chemically stable forms such as oxide, hydroxide, carbonate, or sulphide. It is the gradual decomposition of materials (usually metals) as a result of chemical or electrochemical reactions with their surroundings.

96. Option (2) is correct.

In 1961, India took control of Goa, Daman, and Diu from Portugal. Pratapsingh Rane served as Goa's first chief minister from 30th May 1987 to 9 January 1990. Gopal Singh served as Goa's first governor from 30th May 1987 to 17th July 1989. The 12th Constitutional Amendment includes Goa, Daman, and Diu as the eighth Union territory of India. The 56th Amendment to the Constitution Goa was granted the status of a separate state under this amendment on May 30, 1987. Goa became India's 25th state. The 15th Constitutional Amendment empowered the High Court to issue writs even if the cause of action arose within its territorial limits. High Court judges' retirement age has been raised. (between the ages of 60 and 62). The 20th Constitutional Amendment validates certain appointments of district judges in Uttar Pradesh that the Supreme Court declared void. The 25th Amendment to the Constitution's Fundamental property rights has been curtailed. Any law enacted to carry out Article 39 (b) or (c) cannot be challenged on the basis of a violation of rights guaranteed by Articles 14, 19, and 31.

97. Option (4) is correct.

The Chambal River is a tributary of the Yamuna River in central and northern India, and as such, it is part of the larger Ganges drainage system. The river flows north-northeast through Madhya Pradesh, then briefly through Rajasthan before turning southeast to join the Yamuna in Uttar Pradesh, which lies between Rajasthan and Madhya Pradesh. The Yamuna is the Ganga's most important tributary, rising from the Yamunotri Glacier and joining the Ganga at Allahabad. Chambal, Sind, Betwa, Ken Cities: Delhi, Mathura, Agra, and Allahabad.

98. Option (2) is correct.

Pseudocode is a technique for describing computer algorithms that combine natural language and programming languages. It is essentially a step forward in the development of the actual code. It enables the programmer to express their ideas about the organisation and sequence of a computer algorithm without having to adhere to the exact coding syntax.

99. Option (4) is correct.

Kalbelia dance is an expression of the Kalbelia community's lifestyle as a snake charmer. Kalbelias are now primarily found in the western Rajasthan districts of Jodhpur, Jaisalmer, Jalore, and Barmer, as well as the eastern Rajasthan cities of Jaipur and Pushkar. Women in flowing skirts dance to the beat of the percussion instrument 'khanjari' and the wind instrument 'pungi'.

100. Option (1) is correct.

Reita Faria is an Indian physician, former model, and Miss World 1966 winner. Reita Faria is a beauty pageant winner who won Miss World in 1966, making her the first Asian woman to do so. She was the first Asian woman to win a beauty pageant after being born in Bombay to Goan parents.

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