STAFF SELECTION COMMISSION

COMBINED HIGHER SECONDARY LEVEL (TIER-I)

SOLVED PAPER

(5th 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. Sentences of a paragraph are given below in jumbled order. Arrange the sentences in the right order to form a meaningful and coherent paragraph.

A. As a result, he had a debt of 500 million US dollars at the time of his death.

B. Unfortunately, he began spending lavishly on anything he desired, not what he actually needed.

C. Michael Jackson, called the 'King of Pop Music', stayed at the top of his career for many years.

D. He was respected for his work culture; he would spend long nights at the studio to fix a note correctly in a song.

1. CDBA **2.** ADCB **3.** DBAC **4.** BADC

2. Select the option that can be used as a one-word substitute for the given group of words.

A new project or business activity involving some risk

1. Experiment **2.** Tabbo
3. Venture (n) **4.** Entrepreneur

3. Select the INCORRECTLY spelt word.

1. Evidence **2.** Resolute
3. Discussion **4.** Hautily

4. Select the most appropriate word to fill in the blank.

Today you may not _____ what you hear, but that is the truth and you have to accept it.

1. enjoy **2.** reply **3.** like **4.** answer

5. Select the most appropriate ANTONYM of the given word.

Accustomed

1. Fabulous **2.** Terrific **3.** Unusual **4.** Ordinary

6. Select the option that expresses the given sentences in direct speech.

The students asked the teacher where they could find the information for their project.

1. The teacher said to the students, "Where you can find the information for your project".

2. The teacher said to the students, "I will tell you where you can find the information for your project".

3. The students asked the teacher, "Where can we find the information for our project?"

4. The students said to the teacher, "Where can you find the information for out project?"

7. Select the most appropriate synonym of the given word.

Forbid

1. Close **2.** Encourage **3.** Adieu **4.** Prohibit

8. Select the INCORRECTLY spelt word.

1. Invitation **2.** Irritation **3.** Possesions **4.** Protection

9. Select the most appropriate word to fill in the blank.

His voice was _____ by the sound of the helicopter.

1. drowned **2.** driven **3.** dawned **4.** drawn

10. The following sentence has been divided into parts. One of them may contain an error. Select the part that contains the error from the given options. If you don't find any error, mark 'No error' as your answer.

A probe has been ordered / by the incident / that occurred at the celebrations.

1. A probe has been ordered **2.** by the incident
3. No error
4. that occurred at the celebrations

11. Select the option that expresses the given sentence in passive voice.

Sai Kumari gave Akhila a bouquet of lilies on her birthday.

1. Akhila is given a bouquet of lilies on her birthday by Sai Kumari.

2. Akhila was gave a bouquet of lilies on her birthday by Sai Kumari.

3. Akhila was given a bouquet of lilies on her birthday by Sai Kumari.

4. Akhila gave a bouquet of lilies on her birthday to Sai Kumari.

12. Select the most appropriate synonym of the given word.

Despicable

1. Commendable **2.** Contemptible
3. Laudable **4.** Desirable

13. 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 required'.

Lavanya was happy to see that the tree they had planted the previous year <u>has grow quite taller.</u>

1. No substitution required **2.** had grown quite tallest
3. had grown quite tall **4.** had grow quite taller

14. Select the most appropriate meaning of the given idiom.

To have eggs on one's face

1. To be embarrassed because of one's action
2. To apply egg yolk on one's face for making it look beautiful
3. To buy eggs and break them
4. To throw eggs on a speaker's face

15. Select the most appropriate ANTONYM of the given word.

Disheveled

1. Untidy **2.** Cluttered **3.** Ordered **4.** Unkempt

16. The following sentence has been split into four segments. Identify the segment that contains a grammatical error.
The sports day events / will be conducted / from 3:30 p.m. and 5:30 p.m. / on Saturday.
1. from 3:30 p.m. and 5:30 p.m. **2.** The sports day events
3. on Saturday **4.** will be conducted

17. Select the option that can be used as a one-word substitute for the given group of words.
The branch of physics concerned with the properties of sound
1. Mechanics **2.** Acoustics **3.** Optics **4.** Photonics

18. Sentences of a paragraph are given below in jumbled order. Arrange the sentences in the right order to form a meaningful and coherent paragraph.
A. Humans work because they have to; they play because they want to.
B. The most useful definitions are those that clarify the relationship of sports to play, games and contests.
C. "Play," wrote the German theorist Carl Diem, "is purposeless activity, for its own sake, the opposite of work."
D. Sports are part of every culture, past and present, but each culture has its own definition of sports.
1. ABCD **2.** BADC **3.** DCBA **5.** DBCA

19. 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 required'.
India has identified <u>a nose-based vaccine</u> against Covid-19 that could be a 'game -changer'.
1. No substitution required **2.** a nasal vaccine
3. an aural vaccine **4.** a sense-based vaccine

20. Select the most appropriate meaning of the given idiom.
Thick as thieves
1. Telling lies all the time **2.** Being very dishonest
3. Never helping anyone **4.** Having a close friendship

Comprehension:
In the following passage, some words have been deleted. Select the most appropriate option to fill in each blank.
Meghalaya, a hilly state of India, is located in the northeastern part of the country. It is (1) _____ by the Indian state of Assam in the north and northeast and (2) _____
Bangladesh in the south and southwest. The state capital is (3) _____ hill town of Shillong, located in east-central Meghalaya. Meghalaya is an upland area formed by a (4) _____ block of the Deccan plateau. Its summits vary in (5) _____ from 4,000 to 6,000 feet (1,220 to 1,830 metres).

21. Select the most appropriate option to fill in blank no.1.
1. bind **2.** bounded **3.** bonded **4.** bounding

22. Select the most appropriate option to fill in blank no.2.
1. besides **2.** by **3.** with **4.** near

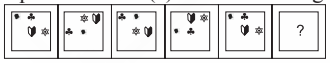
23. Select the most appropriate option to fill in blank no.3.
l. a **2.** only **3.** the **4.** one

24. Select the most appropriate option to fill in blank no.4.
1. withdrawn **2.** standing **3.** detached **4.** removed

25. Select the most appropriate option to fill in blank no. 5.
1. distance **2.** elevation **3.** increase **4.** rise

General Intelligence

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



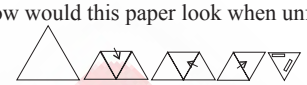
1.  **2.**  **3.**  **4.** 

27. Select the option that is related to the third term in the same way as the second term is related to the first term.
OUTSTAY : AOSTTUY :: ROUGHLY : ?
1. GUROHLY **2.** ORGULHY
3. GHLORUY **4.** GUORYLH

28. The District Transport Authority has started special bus services for college going students. One bus starts from village P. The number of girls in the bus is one-fourth of the number of boys. In village Q, 20 boys leave the bus at their college stop and ten girls enter the bus. Now the number of boys and girls is equal. How many students enter the bus in the beginning?
1. 50 **2.** 40 **3.** 30 **4.** 60

29. Select the number from among the given options that can replace the question mark (?) in the following series.
71, 56, 44, 35, 29, ?
1. 26 **2.** 29 **3.** 20 **4.** 23

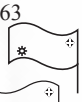
30. The sequence of folding a piece of paper and the manner in which the folded paper has been cut is shown in the following figures. How would this paper look when unfolded?



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

31. Four numbers have been given, out of which there are alike in some manner and one is different. Select the number that is different.
1. 308 **2.** 229 **3.** 137 **4.** 463

32. Select the correct mirror image of the given figure when the mirror is placed at the right side.



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

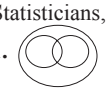
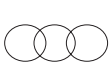
33. Select the option that is related to the third word in the same way as the second word is related to the first word.
Flock : Sheep : Crowd : ?
1. Fly **2.** Fish **3.** Human **4.** Swans

34. Select the option in which the numbers are related in the same way as are the numbers of the following set.
47 : 58 : 71
1. 68 : 80 : 88 **2.** 72 : 81 : 90
3. 76 : 89 : 105 **4.** 89 : 98 : 106

35. Select the correct option that indicates the arrangement of the given words in the order in which they appear in an English dictionary.
1. Inhaler **2.** lnimitable **3.** lnhabitant **4.** lngenuous
5. Inheritance
1. 4,3,1,5,2 **2.** 4,5,2,1,3 **3.** 4,1,3,5,2 **4.** 4,3,5,1,2

36. Four options have been given, out of which three are alike in some manner and one is different. Select the option that is different.
1. Indonesia **2.** Bangladesh
3. Singapore **4.** Sri Lanka

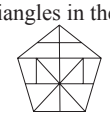
37. In a certain code language, EXTREME is written as VCGIVNV. How will INITIAL be written in that language?
1. RMSHRZP **2.** SNRGSAO
3. RMRGRZO **4.** SMSGSZP

38. Select the Venn diagram that best represents the relationship between the following classes.
Statisticians, Men, Pathologists
1.  **2.**  **3.**  **4.** 

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

40. Which two digits and signs need to be interchanged so as to balance the given equation?
65 + 13 – 119 ÷ 32 × 8 = 175
1. 5 and 8; – and × **2.** 8 and 3; × and ÷
3. 9 and 8; + and ÷ **4.** 2 and 9; + and ×

41. Find the number of triangles in the given figure.



1. 19 **2.** 16 **3.** 17 **4.** 18

42. Select the option that is related to the third number in the same way as the second number is related to the first number.
18: 163 : : 24 : ?
1. 298 **2.** 289 **3.** 216 **4.** 222

43. In a certain code language, VICTORY is coded as 29472435 and HASTY is coded as 278119. How will SUBLIME be coded in that language?
1. 1213141585 **2.** 1514131285
3. 2143152558 **4.** 2134152558

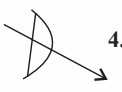
44. Select the option in which the words share the same relationship as that shared by the given pair of words.
Mosquito : Swarm
1. Shark : School **2.** Cat : Murder
3. Monkey : Pride **4.** Snake : Sleuth

45. Ruchi's husband's grandfather is Abhinav, whose grandson's father is Viyan. If Abhinav and his wife have only one son, how is Viyan related to Ruchi's husband?
1. Cousin **2.** Brother-in-law
3. Father **4.** Uncle

46. Read the given statements and conclusions carefully. Assuming that the information given in the statements is true, even if it appears to be at variance with commonly known facts, decide which of the given conclusions logically follow(s) from the statements.
Statements:
Some dogs are bulls.
All bulls are donkeys.
Conclusions:
I. All dogs are donkeys.
II. Some donkeys are dogs.
1. Only conclusion I follows. if
2. Only conclusion II follows.
3. Neither conclusion I nor II follows.
4. Both conclusions I and II follow.

47. 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. TXBV **2.** QUFZ **3.** KOLF **4.** GKPJ

48. Select the option that is embedded in the given figure (rotation is NOT allowed).

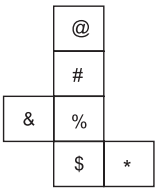
1.  **2.**  **3.**  **4.** 

49. Study the given pattern carefully and select the number that can replace the question mark (?) in it.

13	50	8
12	39	5
15	51	?

1. 10 **2.** 12 **3.** 7 **4.** 9

50.



A cube is made by folding the given sheet. In the cube so formed, what would be the symbol on the opposite side of '$'?
1. & **2.** # **3.** * **4.** @

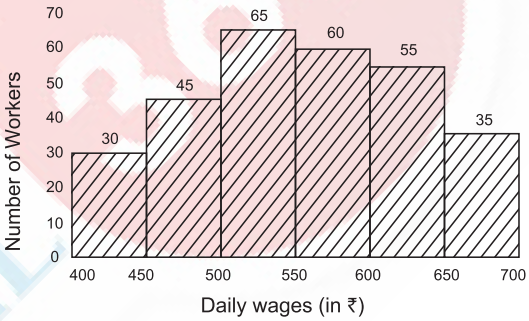
Quantitative Aptitude

51. The simple interest on a sum of ₹8,000 at a certain rate per cent per .annum for 3 years is ₹3,600. What will be the amount (in ₹) of the same sum after 2 years at the same rate, if the interest is compounded 8-monthly?
1. 10,580 **2.** 10,450 **3.** 10,684 **4.** 11,239

52. A can complete a work in 20 days, while B can complete the same work in 25 days. Both worked together for 10 days and then C alone completed the remaining work in 10 days. In how many days will A, B and C together complete the same work?
1. 5 days **2.** 10 days **3.** 12 days **4.** 8 days

53. The speed of a train is 78 km/h. It crosses a tunnel in 45 s and overtakes a person walking at a speed of 6 km/h, in the same direction, in 15 s. The length (in m) of the tunnel is:
1. 780 **2.** 675 **3.** 975 **4.** 650

54. Study-the given graph which shows the number of workers with their daily wages and answer the question that follows.



What is the ratio of the total number of workers whose daily wages are ₹450 or above but less than ₹500 to the total number of workers whose daily wages are ₹650 or above?
1. 7 : 9 **2.** 5 : 2 **3.** 2 : 5 **4.** 9 : 7

55. The radius of a sphere is 9 cm. It is melted and drawn into a wire of radius 0.3 cm. The length of the wire is:
1. 112 m **2.** 118 m **3.** 106 m **4.** 108 m

56. In ΔXYZ, P is the midpoint of side XZ and Q is a point on side XY such that QZ bisects PY. If XQ = 24 cm, then what is the length (in cm) of QY ?
1. 18 **2.** 12 **3.** 6 **4.** 8

57. If $\cos\theta = \frac{\sqrt{3}}{2}$, then the value of

$$\frac{2-\sin^2\theta}{1-\cot^2\theta} + (\sec^2\theta + \operatorname{cosec}\theta) \text{ is :}$$

1. $\frac{59}{24}$ **2.** $-\frac{25}{12}$ **3.** $-\frac{59}{24}$ **4.** $\frac{25}{12}$

58. Two successive discounts each of x% on the marked price of an article are equal to a single discount of ₹ 350. If the marked price of the article is ₹ 800, then the value of x is:
1. 22.5 % **2.** 27.5 % **3.** 20 % **4.** 25 %

59. If tan x = cot (48° + 2x), and 0° < x < 90°, then what is the value of x?
1. 12° **2.** 16° **3.** 14° **4.** 21°

60. In a circle, AB and DC are two chords. When AB and DC are produced, they meet at P. If PC = 2.8 cm, PB = 3.15 cm an AB = 3.85 cm, then CD = ?
1. 7.875 cm **2.** 5.075 cm **3.** 6.975 cm **4.** 4.175 cm

61. The value of $\frac{\tan 50^\circ + \sec 50^\circ}{\cot 40^\circ + \operatorname{cosec} 40^\circ} + \cos^2 65^\circ + \sin 65^\circ \cos 25^\circ + \tan 30^\circ$ is:
1. $1+\sqrt{3}$ **2.** $\frac{6+\sqrt{3}}{3}$
3. $\frac{\sqrt{3}\left(\sqrt{3}+1\right)}{3}$ **4.** $2+\sqrt{3}$

62. The average height of a certain number of students in a group is 155.6 cm. If 12 students having an average height of 150.5 cm join the group and 7 students having an average height of 159 cm leave the group, the average height of the students in the group will decrease by 34 mm. What is the number of students, initially, in the group?
1. 40 **2.** 30 **3.** 20 **4.** 25

63. If x + y + z = 13, $x^2 + y^2 + z^2 = 91$ and $xz = y^2$, then the difference between z and x is:
1. 3 **2.** 8 **3.** 5 **4.** 9

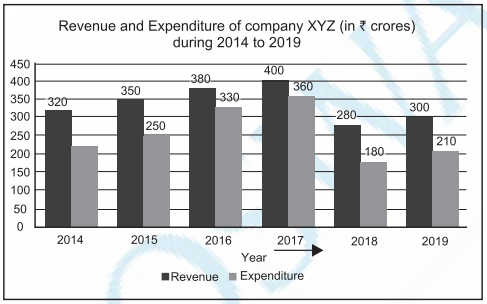
64. The value of $\frac{5}{4} \times 2\frac{2}{3} \div \frac{5}{9}$ of $1\frac{1}{5} + \frac{2}{25} \times 4\frac{1}{6} \div \frac{2}{7}$ of $2\frac{1}{3}$ is :
1. $3\frac{1}{2}$ **2.** $2\frac{1}{2}$ **3.** $1\frac{1}{2}$ **4.** $5\frac{1}{2}$

65. If $x^2 + 4y^2 + 3z^2 + \frac{19}{4} = 2\sqrt{3}(x+y+z)$, then the value of (x – 4y + 3z) is :
1. $\frac{\sqrt{3}}{2}$ **2.** $\sqrt{3}$ **3.** $2\sqrt{3}$ **4.** $\frac{\sqrt{3}}{3}$

66. The coefficient of x^3y in $(x - 2y) \times (5x + y)^3$ is :
1. 250 **2.** – 150 **3.** – 175 **4.** 75

67. A bag contains coins of denomination ₹1, ₹2 and ₹5 in the ratio of 4 : 5 : 8. If the total value of these coins is ₹432, then what is the number of ₹2 coins?
1. 50 **2.** 30 **3.** 60 **4.** 40

68. Study the given graph and answer the question that follows:



The total revenue of the company in 2014, 2016 and 2018 is what percentage of the total expenditure in 2015 to 2017 and 2019 (correct to one decimal place)?
1. 85.2% **2.** 84.3% **3.** 83.4% **4.** 81.6%

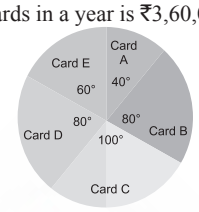
69. A person sold an article at a loss of 12%. Had he sold it at a gain of 10.5%. he would have got ₹112.50 more. What is the original selling price (in ₹) of the article?
1. 440.00 **2.** 552.50 **3.** 500.00 **4.** 560.00

70. The price of a commodity increases by 28%. However, the expenditure on it increases by 12%. What Is the percentage increase or decrease in its consumption?
1. 12.5 % Increase **2.** 16% Decrease
3. 16% Increase **4.** 12.5 % Decrease

71. In an isosceles triangle ABC, AB - AC and AD is perpendicular to BC. If AD = 12 cm and the perimeter of ΔABC is 36 cm, then the length of BC (in cm) is :
1. 12 **2.** 5 **3.** 13 **4.** 10

72. A chord PQ of a circle C_1 of radius 9.25 cm touches another circle C_2 that is concentric to C_1, and the radius of C_2 is 3 cm. What is the length (in cm) of PQ?
1. 19.5 **2.** 12 **3.** 15 **4.** 17.5

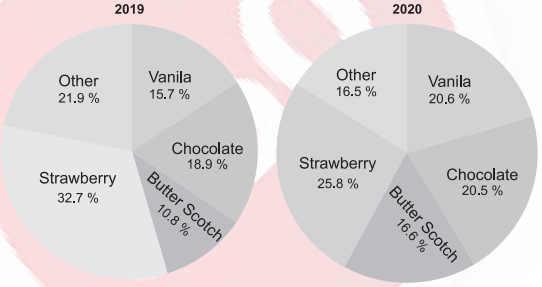
73. The pie chart shows the money spent by Aditya through credit cards of different banks. The total money spent by him through credit cards in a year is ₹3,60,000.



1. ₹ 1,80,000 **2.** ₹ 2,000 **3.** ₹ 40,000 **4.** ₹ 20,000

74. If the five-digit number 672 xy is divisible by 3, 7 and 11, then what is the value of (6x + 5y)?
1. 17 **2.** 24 **3.** 23 **4.** 16

75. Study the given pie-charts and answer the question that follows. The pie charts represent the popularity of ice-cream flavours among families in the years 2019 and 2020.



If 1% increase resulted in annual additional sales of ₹ 10,000 then how much (in ₹), did the combined Strawberry, other and Butterscotch sales increase from 2019 to 2020?
1. 2,13,000 **2.** 3,12,000 **3.** 1,23,000 **4.** 1,32,000

General Awareness

76. Which of the following is a vector quantity?
1. Electric field **2.** Electric current
3. Electric charge **4.** Electric flux

77. Which country ranked first in the 'Human Development Report 2020' released by the United Nations Development Programme?
1. Switzerland **2.** Norway **3.** Hong Kong **4.** Germany

78. Who among the following sportsmen is the brand ambassador of SBOTOP, which is a global online betting platform?
1. Sushil Kumar **2.** Rohit Sharma
3. Bajrang Punia **4.** Dwayne Bravo

79. Who among the following persons was elected, unopposed, as the President of Hockey India in November 2020?
1. Gyanendro Ningombam **2.** David John
3. Mohd Mushtaque Ahmad **4.** Harendra Singh

80. Which of the following parts of the body/glands maintains the body temperature?
1. Adrenal **2.** Hypothalamus
3. Pituitary **4.** Thyroid

81. Who among the following persons was awarded the Padma Shri for social work in 2019?
1. Devarapalli Prakash Rao **2.** Anup Ranjan Pandey
3. Ramaswami Venkataswami **4.** Narsingh Dev Jamwal

82. According to the Constitution of India a Judge of the Supreme Court cannot be removed from office except by an order of the _____.
1. Vice President **2.** Prime Minister
3. Attorney General **4.** President

83. Kisan Fasal Rahat Yojana, which will replace (PMFBY) Pradhan Mantri Fasal Bima Yojna, has been launched by which of the following states government in December 2020?
1. Punjab **2.** Jharkhand
3. Andhra Pradesh **4.** Chhattisgarh

84. In which of the following years did the Prime Minister of India, Narendra Modi launch Atal Pension Yojana?
1. 2020 **2.** 2018 **3.** 2014 **4.** 2015

85. Who was appointed as the first Surveyor General of India in 1815?
1. Henry Walpole **2.** Colin Mackenzie
3. John Hodgson **4.** Thomas Hickey

86. Dandeli Wildlife Sanctuary is located in which of the following states?
1. Jharkhand **2.** Karnataka **3.** Sikkim **4.** Kerala

87. Raja Parba is a unique festival celebrating the onset of monsoon and the earth's womanhood. It is celebrated in which of the following states?
1. Uttar Pradesh **2.** Odisha **3.** Meghalaya **4.** Bihar

88. Which of the following is a salt-water lake?
1. Kolleru **2.** Pangong Tso **3.** Nainital **4.** Loktak

89. Where is Mount Diavolo, an important mountain peak in the Andaman and Nicobar Islands, located?
1. Middle Andaman **2.** North Andaman
3. South Andaman **4.** Great Nicobar

90. Which of the following hormone is secreted by brain that helps to regulate sleep-wake cycles?
1. Insulin **2.** Melatonin **3.** Aldosterone **4.** Oxytoxin

91. In which of the following districts was Telangana's first rescue and rehabilitation centre for monkeys, launched in December 2020?
1. Mulugu **2.** Adilabad
3. Nirmal **4.** Narayanpet

92. _____'s foster mother Mahapajapati Gotami was the first woman to be ordained as bhikkhuni.
1. Ashoka **2.** Arjuna **3.** Buddha **4.** Bindusara

93. Ustad Iqbal Ahmed Khan, a recipient of the Sangeet Natak Academy Award, belongs to the _____ Gharana.
1. Gwalior **2.** Jaipur-Atrauli **3.** Agra **4.** Dilli

94. In which year did the Central Government of India appoint the States Reorganisation Commission?
1. 1951 **2.** 1958 **3.** 1953 **4.** 1950

95. Shanti Swarup Bhatnagar Prize is associated with which of the following disciplines?
1. Literature **2.** Science and Technology
3. Sports **4.** Music

96. Who among the following was the first Indian Governor of the Reserve Bank of India?
1. CD Deshmukh **2.** Liaquat All Khan
3. Morarji Desai **4.** KG Neogy

97. In which of the following North Eastern states is the first ever specialised 'Ginger' Processing Plant being revived in December 2020?
1. Mizoram **2.** Assam **3.** Meghalaya **4.** Sikkim

98. Which of the following is one of the file formats used for web graphics?
1. .exe **2.** .txt **3.** .gif **4.** .docx

99. FIFA World Cup 2022 venue, Ahmad Bin Ali Stadium, which was built by Indian construction giant Larsen & Turbo is located in which of the following countries?
l. Bahrain **2.** Saudi Arabia **3.** Qatar **4.** Oman

100. _____ is an advanced discipline that teaches students how to analyse and find patterns in large amounts of data.
1. Data science **2.** Computer science
3. Software development **4.** Computer programming

Answer Key

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

Answers with Explanations

1. Option (1) is correct.
CDBA
Sentence C introduces Michael Jackson. So, C is the first sentence. Sentence D describes the way he gained respect and speaks about his hard work. So, D is the second sentence. B speaks about the way he started lavishly spending money on unnecessary things and hence B is the third sentence and A describes his fall and the way he became a debtor.

2. Option (3) is correct.
Venture (N)
An experiment is a test that is done in order to learn something or to discover if something works or is true. Taboo is a prohibition or interdiction of anything; exclusion from use or practice. An entrepreneuris a person who makes money by starting or running businesses, especially when this involves taking financial risks. So, venture is the one-word substitute for the given meaning.

3. Option (4) is correct.
Hautily
Words given in options 1,2,and 3 are correctly spelt. The incorrectly spelt word is hautily. The correct spelling is haughtily. The meaning is proudly.

4. Option (3) is correct.
Like
Options 1, 2 and 4 will not fit in the context. Like is the correct word that can be used to fill in the blank.

5. Option (3) is correct.
Unusual
The synonym of accustomed is familiar. Fabulous is wonderful. Terrific is enormous. Ordinary is normal. Unusual is the antonym of accustomed.

6. Option (3) is correct.
The students asked the teacher, "Where can we find the information for our project?"

The exercise given for conversion is: The students asked the teacher where they could find the information for their project. The given exercise is in reported speech. It has to be transformed into direct speech. Direct speech repeats the exact words spoken by someone. When we use direct speech, we place the words spoken between quotation marks. If the verb reported is in the past tense in the reported speech, it must be changed to simple present tense. The speakers are the students, which is in plural form. The pronoun 'they' of the reported speech refers to the students. It must be changed to 'we'. Their project becomes our project.

7. **Option (4) is correct.**
Prohibit
The synonym of close is to shut /near/nearby. The synonym of encourage is to inspire. The synonym of adieu is good bye. The synonym of prohibit is forbid/ban.

8. **Option (3) is correct.**
Possessions
Words in options 1, 2, and 4 are correctly spelt. Option 3 'possesions' is wrongly spelt. The correct spelling is POSSESSIONS.

9. **Option (1) is correct.**
Drowned
The meaning of driven is motivated. The meaning of dawned is began. The meaning of drawn is haggard. The meaning of drowned is go down/sink. The words given in options 2,3,and 4 are inappropriate and inapt to the context. The correct option is 'drowned'.

10. **Option (2) is correct.**
By the incident
The part that contains the error is part 2 'by the incident' which is grammatically wrong. It must be 'for the incident' instead of 'by the incident'. Ordered for means using the position or authority to tell somebody to do something.

11. **Option (3) is correct.**
Akhila was given a bouquet of lilies on her birthday by Sai Kumari.
The sentence given for conversion is: Saikumari gave Akhila a bouquet of lilies on her birthday. This sentence is in the active form and in the simple past tense. This must be converted into passive form. Here 'sai Kumari' is the subject and 'Akhila' is the indirect object and 'a bouquet of lilies' is direct object. The indirect object is the beneficiary of an action. So, when we convert an active sentence into passive, the indirect object will become the subject of the passive sentence. The verb is 'gave' which is in the past form.
When we convert this sentence into passive, the structure will be: S + Be verb in past form (Was)+third form of the verb (given) + Direct Object of the active sentence (a bouquet of lilies) + adverbial phrase (on her birthday) + by+ object (Sai Kumari).

12. **Option (2) is correct.**
Contemptible
The synonym of commendable is praiseworthy. The synonym of contemptible is despicable. The synonym of laudable is praiseworthy. The synonym of desirable is necessary.

13. **Option (3) is correct.**
Had gown quite tall
The given sentence is in simple past tense and past perfect tense. The last segment of the sentence contains a major grammatical error. Present form of the auxiliary verb 'has' is used there in the sentence and the wrong form of the verb 'grow' is used instead of 'grown'. The comparative form of the adjective 'taller' is used. As no comparison is made herein the sentence,the adjective must be in positive degree 'tall'.

14. **Option (1) is correct.**
To be embarrassed because of one's action.
The idiom given is 'to have eggs on one's face'.If someone has egg on their face or has egg all over their face, they have been made to look foolish.

15. **Option (3) is correct.**
Ordered
The synonym of dishevelled is disordered or untidy. The synonym of untidy is dishevelled. The synonym of cluttered is messy. The synonym of unkempt is dishevelled. The words given in options 1,2, and 4 are the synonyms of the word 'dishevelled'. So, the word given in option 3 is the antonym of the word.

16. **Option (1) is correct.**
From 3.30 p.m. and 5.30 p.m.
The error lies in the third segment. The sentence is about a sports event and the starting and closing time of the event. When we speak about the starting and closing point of an event we use 'from' and 'to'. Here we find 'from…and' which is wrong.

17. **Option (2) is correct.**
Acoustics
Mechanics the science of how machines work. Optics is the scientific study of sight and light. Photonics is the branch of technology concerned with the properties and transmission of photons, for example in fibre optics.

18. **Option (4) is correct.**
DBCA
Sentence D is the first sentence as it introduces the role of sports in culture. Sentence B is the second sentence as it talks about the aspects of sports as how it is considered to play, and how it is considered part of games and contests. Sentence C is the third sentence which gives a definition to the word 'play' and A is the last sentence as it stresses on human involvement in playing.

19. **Option (2) is correct.**
A nasal vaccine
Nasal means of or for the nose. Nasal vaccine is a vaccine that is given through the nose. Options 1,3, and 4 are inappropriate.

20. **Option (4) is correct.**
Having a close friendship
The meaning of the term thick as thieves refers to the closeness between two people, it describes a friendship which is very intimate and bonded.

21. **Option (2) is correct.**
Bounded
The first sentence of the passage is about the Indian State Meghalaya. The second sentence is about the places that are in the circumference of Meghalaya. The words that are given in options 1,3 and 4 are inapt to the context. Option 2 is bounded which means circumscribed.

22. **Option (2) is correct.**
By
The words that are given in options 1,3 and 4 are inapt to the context. By is the correct word as it denotes the proximity.

23. **Option (3) is correct.**
The
The capital city of the state is specified in this sentence. Just before the name of the capital city, adjective 'hill town' is used. So, to denote and specify the adjective, we must use definite article 'the'.

24. **Option (3) is correct.**
Detached
This sentence speaks about the formation of Meghalaya and it specifies that the state was formed by a separated part of the Deccan

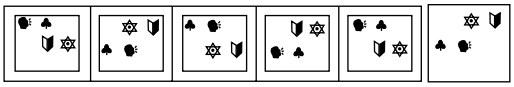
Plateau. Withdrawn, standing and removed are inappropriate in this context. The right term to be used is 'detached'.

25. Option (2) is correct.

Elevation

This sentence is about the peak or pinnacle of the Meghalayan hills. The words, distance, increase and rise are inappropriate. The right terminology to be used is 'elevation'. Elevation is the distance above sea level.

26. Option (1) is correct.



The top elements are moving in the middle position and objects at middle position are shifted to top position and this kept going on and the left objects is shifted to right and right object is shifted to left.

27. Option (3) is correct.

The pattern is that alphabets are arranged in ascending order according to the English Alphabet.

Similarly, ROUGHLY will be coded as GHLORUY.

28. Option (1) is correct.

Let total number of Student in Bus P = x.

Number of girls in bus P = $\frac{1}{4}$ of Boys.

4 Girls = 1 Boy.

At village Q

20 boys leave the bus at their college stop and ten girls enter the bus.

Number of Girls = Girls + 10.

Number of Boys = Boys – 20.

Now the number of boys and girls is equal.

$\Rightarrow$ Girls + 10 = Boys – 20. (4 girls = Boy)

$\Rightarrow$ Girls + 10 = 4 Girls – 20

$\Rightarrow$ 4 Girls – 4 = 20 + 10

$\Rightarrow$ 3 Girls = 30

$\Rightarrow$ Girls = 10

Boys = 4 × 10

So, Boys = 40

Therefore, the total number of students is 50.

29. Option (1) is correct.

The pattern is: 71 – 15 = 56

56 – 12 = 44

44 – 9 = 35

35 – 6 = 29

29 – 3 = 26

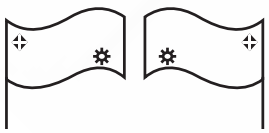
30. Option (2) is correct.

When we unfolded the paper then objects will appear exactly but on the opposite side. This is just we are making copy of another sheet but on the opposite side of the paper.

31. Option (1) is correct.

The pattern is that except 308 all others are prime numbers.

32. Option (3) is correct.



When we place the mirror on the right side then objects which appear on the left side will appear on the right side and the objects which appear on the right side will appear on the left side.

33. Option (3) is correct.

The gathering of sheep is called Flock in the same way the gathering of humans is called Crowd.

34. Option (2) is correct.

The pattern is that 1st number + (Digit sum of 2nd number) = 2nd number. 47 + (4 + 7) = 47 + 11 = 58

and 58 + (5 + 8) = 58 + 13 = 71

Similarly, 72 + (7 + 2) = 72 + 9 = 81

And 81 + (8 + 1) = 81 + 9 = 90

Hence, (72 : 81 : 90) is the correct answer.

35. Option (1) is correct.

We have In same in all word so we will start now from 3rd letter of each word which are h, i, h, g, h now we know that g comes before h and i so the first word will be 4. Now h is in 3 words so we will look for 4th letter of those words having h as 3rd letter, Now again a is in both 1 and 3. Now we will look for 5th letter which are l,b now we know b comes before l hence 3 will be 2nd word etc.

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

36. Option (2) is correct.

Except Bangladesh all other countries are Island nations.

37. Option (3) is correct.

E opposite letter V

X opposite letter C

T opposite letter G

R opposite letter I

E opposite letter V

M opposite letter N

E opposite letter V

Similarly,

I opposite letter R

N opposite letter M

I opposite letter R

T opposite letter G

I opposite letter R

A opposite letter Z

L opposite letter O

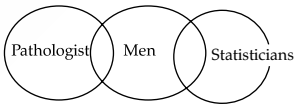
Hence, RMRGRZO is the correct answer.

38. Option (3) is correct.

Given that: Statisticians, Men, Pathologists

We know that some men can be pathologist and some men can be statisticians and it is not necessary that some pathologists are statisticians.

Hence, the best suited venn diagram for the given classes is as follows:



39. Option (3) is correct.

First we count the total number of spaces and letters which is 16 and 16 will be written as 4×4 it means that we will make 4 groups with 4 letters in each group.

Kjii kjii kjii kjii

Hence, ijiiji is the correct answer.

40. Option (3) is correct.

Upon checking option 3 and interchange 9 and 8; + and ÷

Using BODMAS Rule

65 ÷ 13 – 118 + 32 × 9

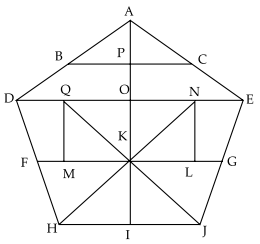
$\Rightarrow$ 5 – 118 + 288

$\Rightarrow$ 293 – 118

$\Rightarrow$ 175

Therefore, LHS = RHS.

41. Option (4) is correct.



ABP, APC, ABC, ADO, AOE, ADE, QMK, QKO, KON, NKL, KHI, KIJ, KHJ, KJG, KFH, QJE, QKN, DHN.

Hence, there are 18 triangles.

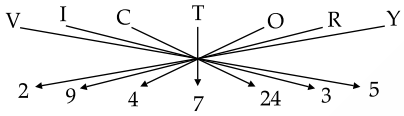
42. Option (2) is correct.

The pattern is $18\ (18 \div 2) + 1 \quad = 18 \times 9 + 1 = 162 + 1 = 163$

Similarly, $24\ (24 \div 2) + 1 \quad = 24 \times 12 + 1 = 288 + 1 = 289$

43. Option (3) is correct.

The pattern is that consonants are coded as opposite letter alphabetically, and vowels are coded as ascending order position numerical value in alphabetically and written in reverse order.



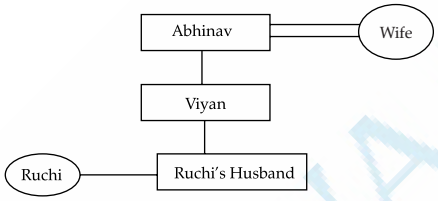
A (1), E (2), I (3), O (4), U (5)

Similarly, SUBLIME will be coded as 2143152558.

44. Option (1) is correct.

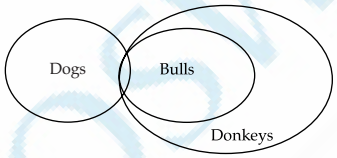
A group of Mosquito is called Swarm in the same way a group of Shark is called school.

45. Option (3) is correct.



Hence, Viyan is the father of Ruchi's husband.

46. Option (2) is correct.



From the above Venn Diagram, we can say that only conclusion II follows.

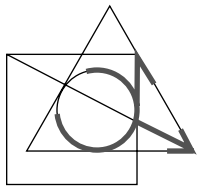
47. Option (1) is correct.

T	+4	X	opposite letter	C	–6	V
Q	+4	U	opposite letter	F	–6	Z
K	+4	O	opposite letter	L	–6	F
G	+4	K	opposite letter	P	–6	J

Therefore, in place of B it should C.

Hence, TXBV is the correct answer.

48. Option (2) is correct.



The above figure shows how the figure is embedded in the given figure.

49. Option (3) is correct.

The pattern is on taking Row wise we get,

Row 1

$\{2^{nd} - (1^{st}$ number $\times 2)\} \div 3 = 3$rd number

$\Rightarrow \quad \{39 - (12 \times 2)\} \div 3$

$\Rightarrow \quad (39 - 24) \div 3$

$\Rightarrow \quad 15 \div 3 = 5$

Row 2

$\Rightarrow \quad \{50 - (13 \times 2)\} \div 3$

$\Rightarrow \quad (50 - 26) \div 3$

$\Rightarrow \quad 24 \div 3 = 8$

Similarly,

Row 3

$\Rightarrow \quad \{51 - (15 \times 2)\} \div 3$

$\Rightarrow \quad (51 - 30) \div 3$

$\Rightarrow \quad 21 \div 3 = 7$

50. Option (2) is correct.

The opposite of @ is % and & is *.

Now the opposite of $ is #.

51. Option (3) is correct.

Given: Principal amount = ₹ 8000

Time = 3 years

SI = ₹ 3600

Let rate of interest = R% per annum

We have,

$$\Rightarrow \quad SI = \frac{P \times R \times T}{100}$$

$$\Rightarrow \quad 3600 = \frac{8000 \times R \times 3}{100}$$

$$\Rightarrow \quad R = 15\% \text{ per annum}$$

So, rate of interest for 8 months $= 15 \times \frac{8}{12}$

$= 10\%$ per 8 months

Time = 2 year

Number of cycles for compound interest

$= 24/8 = 3$

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

$$\Rightarrow \quad A = 8000\ (1 + \frac{10}{100})^3$$

$$\Rightarrow \quad A = 8000 \times \frac{11}{10} \times \frac{11}{10} \times \frac{11}{10}$$

$= 10648$

So, total amount after 2 years = 10648

52. Option (2) is correct.

Given: A can complete the work in = 20 days

B can complete the work in = 25 days

Total work = LCM (20, 25) = 100 unit

A's per day work = 100/20 = 5 unit/day

B's per day work = 100/25 = 4 unit/day

Remaining work after 10 days = 100 – (5 + 4) × 10 = 10 unit

Time taken by C to finish 10 unit work = 10 days

So, C's per day work = 10/10 = 1 unit/day

Time taken by A, B and C together to finish the work = $\frac{100}{5+4+1} = 10 \text{ days}$

53. Option (2) is correct.

Given: Speed of train = 78 km/hr = $78 \times \frac{5}{18} = \frac{65}{3}$ m/s

Speed of man = 6 km/hr = $6 \times \frac{5}{18} = \frac{5}{3} \frac{\text{m}}{\text{s}}$

Let the length of train = l m

Time taken by train to cross the man walking in the same direction = 15 s

We have, Distance = speed × time

$\Rightarrow l = \left(\frac{65}{3} - \frac{5}{3}\right) \times 15$

$\Rightarrow l = (20) \times 15 = 300 \text{ m}$

Time taken by train to cross the tunnel = 45 s

Let the length of tunnel = x m

So, $l + x = \left(\frac{65}{3}\right) \times 45$

$\Rightarrow 300 + x = 975$

$\Rightarrow x = 975 - 300 = 675$

So, the length of tunnel = 675 m

54. Option (4) is correct.

The number of workers whose daily wages are in between ₹ 450 and ₹ 500 = 45

The number of workers whose daily wages are ₹ 650 and above = 35

Required ratio = 45 : 35 = 9 : 7

55. Option (4) is correct.

Given: The radius of sphere = 9 cm

The radius of wire = 0.3 cm

Let the length of wire = l cm

We have, Volume of sphere = Volume of wire

$\Rightarrow \frac{4}{3} \times \pi \times r^3 = \pi \times r^2 \times l$

$\Rightarrow \frac{4}{3} \times 9^3 = 0.3^2 \times l \Rightarrow l = 10800$ cm

So, the length of wire = 10800 cm = 108 m

56. Option (2) is correct.

Let D be the midpoint of QZ

So, according to the midpoint theorem,

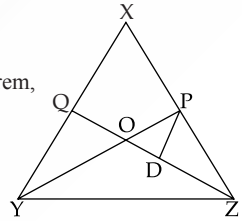
PD/XQ = 1/2

So, PD = 12 cm

$\angle QOY = \angle DOP$

PO = YO

$\angle QYO = \angle OPD$ ($\because$ PD || XY)



So, $\Delta POD \cong \Delta QOY$

So, QY = PD = 12 cm

$\therefore$ The length (in cm) of QY is 12 cm

57. Option (1) is correct.

Given: $\cos\theta = \frac{\sqrt{3}}{2}$

$\Rightarrow \cos\theta = \cos 30°$

So, $\theta = 30°$

Then, $\frac{2 - \sin^2\theta}{1 - \cot^2\theta} + (\sec^2\theta + \text{cosec}\,\theta)$

$\Rightarrow \frac{2 - \sin^2 30°}{1 - \cot^2 30°} + (\sec^2 30° + \text{cosec}\, 30°)$

$= \frac{2 - \frac{1}{4}}{1 - 3} + \left(\frac{4}{3} + 2\right)$

$= \frac{\frac{7}{4}}{-2} + \left(\frac{10}{3}\right)$

$= \left(-\frac{7}{8}\right) + \left(\frac{10}{3}\right) = \frac{59}{24}$

58. Option (4) is correct.

Given:

Marked price of article = ₹ 800

Discount amount = ₹ 350

Two successive discounts of x% is equivalent to single discount = $x + x - x^2/100 = 2x - x^2/100$

According to the question,

$\Rightarrow 800 \times \left(2x - \frac{x^2}{100}\right) = 350$

$\Rightarrow \left(2x - \frac{x^2}{100}\right) = \frac{7}{16} \Rightarrow x = 25$

59. Option (3) is correct.

Given: $\tan x = \cot(48° + 2x)$

We know,

$\cot(90° - x) = \tan x$

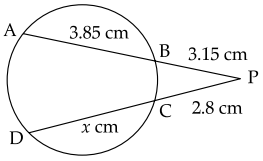
So, $\cot(90° - x) = \cot(48° + 2x)$

$\Rightarrow 90° - x = 48° + 2x$

$\Rightarrow 3x = 90° - 48° = 42°$

$\Rightarrow x = 14°$

60. Option (2) is correct.



As shown in diagram,

PC = 2.8 cm, PB = 3.15 cm, AB = 3.85 cm

So, PA = PB + AB = 3.15 + 3.85 = 7 cm

Let CD = x cm

As we know, PC × PD = PB × PA

$\Rightarrow 2.8 \times (2.8 + x) = 3.15 \times 7$

$\Rightarrow 2.8 + x = 7.875$

$\Rightarrow x = 5.075$

So, CD = 5.075 cm

61. Option (2) is correct.

Given:

$$\Rightarrow \frac{\tan 50^\circ + \sec 50^\circ}{\cot 40^\circ + \operatorname{cosec} 40^\circ} + \cos^2 65^\circ + \sin 65^\circ \cdot \cos 25^\circ + \tan 30^\circ$$

$$= \frac{\frac{\sin 50^\circ}{\cos 50^\circ} + \frac{1}{\cos 50^\circ}}{\frac{\cos 40^\circ}{\sin 40^\circ} + \frac{1}{\sin 40^\circ}} + \cos^2 65^\circ + \sin 65^\circ \cdot \cos (90^\circ - 65^\circ) + \tan 30^\circ$$

$$= \frac{\frac{\sin 50^\circ + 1}{\cos 50^\circ}}{\frac{\cos 40^\circ + 1}{\sin 40}} + \cos^2 65^\circ + \sin 65^\circ \cdot \sin 65^\circ + \tan 30^\circ$$

$$= \frac{\frac{\sin(90^\circ - 40^\circ) + 1}{\cos(90^\circ - 40^\circ)}}{\frac{\cos 40^\circ + 1}{\sin 40^\circ}} + \cos^2 65^\circ + \sin^2 65 + \tan 30^\circ$$

$$= \frac{\frac{\cos 40^\circ + 1}{\sin 40^\circ}}{\frac{\cos 40^\circ + 1}{\sin 40^\circ}} + 1 + \tan 30^\circ = 1 + 1 + \frac{1}{\sqrt{3}}$$

$$= \frac{2\sqrt{3}+1}{\sqrt{3}} \times \frac{\sqrt{3}}{\sqrt{3}} = \frac{6+\sqrt{3}}{3}$$

62. Option (3) is correct.

Let the number of students in the group = x

Then total height of x students = $155.6x$ cm

Now, total height increased by = $12 \times 150.5 = 1806$ cm

Then, total height decreased by = $7 \times 159 = 1113$ cm

Now total change in height = $1808 - 1113 = 693$ cm

The final number of students = $x + 12 - 7 = x + 5$

According to the question,

$155.6x + 693 = (155.6 - 3.4) \times (x + 5)$

So, $x = 20$

So, the number of students in the group = 20

63. Option (2) is correct.

Given: $x^2 + y^2 + z^2 = 91$ and $xz = y^2$

$x + y + z = 13$

squaring both sides,

$(x + y + z)^2 = 169$

$\Rightarrow x^2 + y^2 + z^2 + 2(xy + yz + zx) = 169$

$\Rightarrow 91 + 2(xy + yz + zx) = 169$

$\Rightarrow xy + yz + y^2 = 39$ (as $xz = y^2$)

$\Rightarrow y(x + z + y) = 39$

$\Rightarrow y \times 13 = 39$

$\Rightarrow y = 3$

So, $xz = 9$

We have, $x^2 + y^2 + z^2 = 91$

$\Rightarrow x^2 + xz + z^2 = 91$

$\Rightarrow x^2 + xz - 3xz + z^2 = 91 - 3xz$

$\Rightarrow x^2 - 2xz + z^2 = 91 - 3 \times 9$

$\Rightarrow (x - z)^2 = 64$

$\Rightarrow x - z = 8$

64. Option (4) is correct.

Given: $\frac{5}{4} \times 2\frac{2}{3} \div \frac{5}{9}$ of $1\frac{1}{5} + \frac{2}{25} \times 4\frac{1}{6} \div \frac{2}{7}$ of $2\frac{1}{3}$

$$= \frac{5}{4} \times \frac{8}{3} \div \frac{5}{9} \times \frac{6}{5} + \frac{2}{25} \times \frac{25}{6} \div \frac{2}{7} \times \frac{7}{3}$$

$$= \frac{5}{4} \times \frac{8}{3} \div \frac{2}{3} + \frac{2}{25} \times \frac{25}{6} \div \frac{2}{3}$$

$$= \frac{5}{4} \times \frac{8}{3} \times \frac{3}{2} + \frac{2}{25} \times \frac{25}{6} \times \frac{3}{2}$$

$$= 5 + \frac{1}{2} = 5\frac{1}{2}$$

65. Option (2) is correct.

Given: $x^2 + 4y^2 + 3z^2 + \frac{19}{4}$

$= 2\sqrt{3}(x + y + z)$

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

$+ (3z^2 - 2\sqrt{3}\,z + 1) = 0$

$= (x - \sqrt{3})^2 + (2y - \frac{\sqrt{3}}{2})^2 + (\sqrt{3}z - 1)^2 = 0$

So, $x = \sqrt{3}$, $y = \frac{\sqrt{3}}{4}$

And $z = \frac{1}{\sqrt{3}}$

So, $x - 4y + 3z = \sqrt{3} - 4 \times \frac{\sqrt{3}}{4} + 3 \times \frac{1}{\sqrt{3}}$

$= \sqrt{3} - \sqrt{3} + \sqrt{3} = \sqrt{3}$

66. Option (3) is correct.

Given: $(x - 2y)(5x + y)^3$

$= (x - 2y)(125x^3 + y^3 + 15xy(5x + y))$

$= (x - 2y)(125x^3 + y^3 + 75x^2y + 15xy^2)$

$\Rightarrow$ coefficient of x^3y in above expression

$= -250 + 75 = -175$

67. Option (4) is correct.

Let the number of coins of ₹ 1, ₹ 2 and ₹ 5 are $4x$, $5x$ and $8x$ respectively. As per the question,

$\Rightarrow 4x + 2 \times 5x + 5 \times 8x = 432$

$\Rightarrow 54x = 432$

$\Rightarrow x = 8$

So, number of ₹ 2 coins = $5 \times 8 = 40$

68. Option (1) is correct.

Total revenue of the company in 2014, 2016 and 2018

= 320 + 380 + 280 = ₹ 980 cr

Total expenditure of the company in 2015 to 2017 and 2019

= 250 + 330 + 360 + 210 = ₹ 1150 cr

Required percentage = $\frac{980}{1150} \times 100 = 85.2\%$

69. Option (1) is correct.

Given: A person sold an article at a loss of 12%.

Had he sold it at a gain of 10.5%, he would have got ₹ 112.50 more. Let the cost price of article = ₹ X

Then $\frac{22.5}{100} \times x = 112.5$

$\Rightarrow x = 500$

So, original selling price of article = $500 \times \frac{88}{100} = \text{Rs. } 440$

70. Option (4) is correct.

Given: Percentage increase in the price of commodity = 28%

Percentage increase in the expenditure = 12%

Let consumption percentage change = x%

By successive increment, $12 = 28 + x + \frac{28x}{100}$

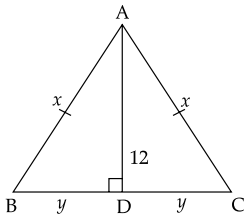
$\Rightarrow \quad 1200 = 2800 + 128x$

$\Rightarrow \quad 128x = -1600$

$\Rightarrow \quad x = -12.5\%$

So, there is a decrease of 12.5% in the consumption of commodity.

71. Option (4) is correct.



Given: In Δ ABC, AB = AC, AD = 12 cm

And Δ ADB and Δ ADC are right angle triangle.

Perimeter of Δ ABC = 36 cm

Let AB = AC = x cm and BD = DC = y cm

Now perimeter of Δ ABC = $x + x + 2y = 36$

$\Rightarrow x + y = 18$

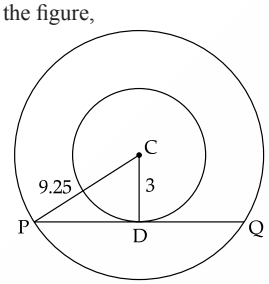
In Δ ADB, by Pythagoras triples (5, 12, 13),

AB = 13 cm and BD = DC = 5 cm

So, BC = BD + DC = 5 + 5 = 10 cm

72. Option (4) is correct.

As shown in the figure,



PC = 9.25 cm and CD = 3cm

In right angle triangle Δ PCD,

We know, $PC^2 = PD^2 + CD^2$

$\Rightarrow \quad 9.25^2 = PD^2 + 3^2$

$\Rightarrow \quad PD = 8.75$ cm

So, $PQ = 2PD = 2 \times 8.75 = 17.5$ cm

73. Option (4) is correct.

Given:

Total money spent by credit card in whole year = ₹ 360000

Total angle at centre of a circle = 360°

Total money spent by card C = $\frac{100}{360} \times 360000$ = ₹ 100000

Total money spent by card C = $\frac{80}{360} \times 360000$

= ₹ 80000

So, required difference = 100000 – 80000 = ₹ 20000

74. Option (1) is correct.

The given number = 672xy

By divisibility rule of 3, the sum $6 + 7 + 2 + x + y$ or $15 + x + y$ should be divisible by 3.

So, $\quad x + y = 0$ or 3

$\Rightarrow \quad x + y = 3 \quad \ldots(1)$

By divisibility rule of 11,

$(6 + 2 + y) - (x + 7) = 0$

$\Rightarrow \quad x - y = 1 \quad \ldots(2)$

By equation (1) and (2), $\quad x = 2$ and $y = 1$

So, $\quad 6x + 5y = 6 \times 2 + 5 \times 1 = 17$

75. Option (3) is correct.

Combined sale of strawberry, other and butterscotch in 2019

= 15.7% + 18.9% + 10.8% = 45.4%

Combined sale of strawberry, other and butterscotch in 2020

= 20.6% + 20.5% + 16.6% = 57.7%

As given, 1% increase resulted in annual additional sales of ₹ 10000.

Then, total increase in sales from 2019 to 2020 in above flavours = (57.7 – 45.4) × 10000 = ₹ 123000

76. Option (1) is correct.

The electric field is measured as a vector quantity. It has magnitude as well as direction. The magnitude of the electric field strength is defined by the method of measurement. A scalar quantity is an electric current. When a physical quantity has both magnitude and direction, it is defined as a vector quantity; however, some other factors indicate that electric current is a scalar quantity. Because it is the dot product of two vector quantities, the electric field and the perpendicular differential area, electric flux is a scalar quantity. The magnitude of an electric charge has no direction.

77. Option (2) is correct.

The United Nations Development Programme's 'Human Development Report 2020' ranked Norway first. According to the United Nations Development Programme's 2020 Human Development Report, India has dropped two places on the Human Development Index (HDI). In 2019, Asia's third-largest economy was ranked 131st out of 189 countries. The HDI is a measure of a country's health, education, and standard of living, and it determines a country's average achievement in three basic human development scales: education, life expectancy, and per capita income. India was ranked 129th (out of 189) in 2018. It is a summary measure of average achievement in key dimensions of human development.

78. Option (4) is correct.

SBOTOP, a global online betting platform, has Dwayne Bravo as its brand ambassador. Dwayne Bravo, a West Indian cricket legend, has been named the first cricket ambassador for the "SBOTOP" sports book brand. Celton Manx, an Isle of Man betting company, has named the West Indies cricketer as the cricket ambassador for its flagship sportsbook. Dwayne Bravo has represented the West Indies in every format of the game. Sbotop offers online Sportsbook, Casino, and Virtual Gaming services, all of which are accessible from your desktop, mobile, or tablet device. Dwayne John Bravo is a former West Indies cricket captain and former Trinidadian cricketer. Bravo is a genuine all-rounder who bats right-handed and bowls right-arm medium-fast.

79. Option (1) is correct.

Gyanendra Ningombam of Manipur was elected unopposed as President of Hockey India on November 6, 2020. He has been elected for a two-year term. Ningombam becomes the first President from the North East region to lead Hockey India after being elected unopposed. He previously served as acting President following the resignation of Mohd Mushtaque Ahmad in July of this year. Ningombam was the Chief Executive Officer of Manipur Hockey from 2009 to 2014 and has been involved with the organisation for over a decade.

80. Option (2) is correct.

The hypothalamus body parts/glands regulate body temperature. The hypothalamus is a critical part of your brain that regulates many of your basic bodily functions. Some hypothalamic disorders cause hormonal and weight issues. It also keeps the body temperature stable. The thyroid gland is an important hormone gland that regulates metabolism, growth, and development in the human body. It aids in the regulation of many body functions by continuously releasing a consistent amount of thyroid hormones into the bloodstream. Several hormones are produced by the pituitary gland, a pea-sized gland located at the base of the brain. Each of these hormones affects a different part of the body (a target organ or tissue). The pituitary gland is known as the master gland because it regulates the function of most other endocrine glands. Adrenal glands are small, triangular-shaped glands located on top of both kidneys. Adrenal glands produce hormones that aid in the regulation of your metabolism, immune system, blood pressure, stress response, and other vital functions.

81. Option (1) is correct.

In 2019, Devarapalli Prakash Rao was awarded the Padma Shri for his social work. Devarapalli Prakash Rao (November 11, 1958 – January 13, 2021) was an Indian social worker from Odisha. On the occasion of India's Commonwealth Day in 2014, he was awarded the Padma Shri by the then-President for his contributions to education and blood donation for poor and orphaned children living in various slums in Cuttack. He was the owner of a tea shop.

82. Option (4) is correct.

A Supreme Court Judge cannot be removed from office except by an order of the President, according to the Indian Constitution. A Supreme Court Judge may be removed from office only by an order of the President issued after an address by each House of Parliament supported by a majority of the total membership of that House and by a majority of not less than two-thirds of the members of that House present and voting has been presented to the President in the same session for such removal on the ground of proven misbehaviour or incapacity. Under the clause, Parliament may regulate the procedure for presenting an address and the investigation and proof of a Judge's misbehaviour or incapacity (4). Before entering his office, every person appointed to be a Supreme Court Judge shall take and subscribe to an oath or affirmation in the form prescribed in the Third Schedule before the President or some other person appointed on his behalf. No one who has served as a Supreme Court Judge may plead or act in any court or before any authority within the territory of India.

83. Option (2) is correct.

The Jharkhand state government announced the Kisan Fasal Rahat Yojana, which will replace the (PMFBY) Pradhan Mantri Fasal Bima Yojana in December 2020. Jharkhand Chief Minister Hemant Soren announced the Kisan Fasal Rahat Yojana on December 29, 2020, but it will take three months to take effect. It is a compensation scheme designed to protect Jharkhand farmers from crop damage caused by natural disasters. It is a compensation scheme designed to protect Jharkhand farmers from crop damage caused by natural disasters. It will apply to both landowners and landless farmers. The Department of Agriculture, Animal Husbandry, and Co-operatives will be the implementing agency, working in collaboration with a project management unit, which will be a consultancy firm in charge of technical requirements. "Food safety, crop diversification, rapid agricultural development, and paving the way for competition" are among the scheme's goals. It is not a premium-paying insurance scheme.

84. Option (4) is correct.

The Atal Pension Yojana, formerly known as the Swavalamban Yojana, is an Indian government-sponsored pension scheme aimed primarily at the unorganised sector. Finance Minister Arun Jaitley mentioned it in his 2015 Budget speech. Prime Minister Narendra Modi unveiled it on May 9, 2015, in Kolkata. Swavalamban Yojana was a government-sponsored pension scheme in India aimed at the unorganised sector. It applied to all unorganised sector citizens who enrolled in the National Pension Scheme (NPS) administered by the Pension Fund Regulatory and Development Authority (PFRDA) Act 2013. The Government of India contributed $1,000 per year to each NPS account opened in 2010-11 and for the next three years, 2011-12, 2012-13, and 2013-14, under the scheme. The benefit was only available to NPS members who made a minimum contribution of $1,000 and a maximum contribution of $12,000 per year. The scheme was announced in the Finance Minister's 2010-11 Budget. The grants came from the Government of India.

85. Option (2) is correct.

Colin Mackenzie was appointed the first Surveyor General of India in 1815. He served in this capacity from 1815 to 1821. The Surveyor General of India is the head of the Department of Survey of India, which is part of the Government of India's Ministry of Science and Technology. In 1810, Colin Mackenzie was appointed Surveyor General of the Madras Presidency, but this position was abolished in 1815. In 1767, the East India Company commissioned James Rennell to survey the Bengal Presidency. As of December 2020, the current Surveyor General is Major General Girish Kumar.

86. Option (2) is correct.

Karnataka is home to the Dandeli Wildlife Sanctuary. Dandeli Wildlife Sanctuary is a birdwatcher's paradise, home to nearly 200 species of birds, the most famous of which are the great hornbill (also known as the great Indian hornbill or great pied hornbill) and the Malabar pied hornbill. It is also India's only known tiger reserve with frequent sightings of the elusive Black Panther. It's also home to the Indian sloth bear, Indian pangolin, giant Malabar squirrel, dhole, Indian jackal, and muntjac (barking deer). Indian elephant and Indian peafowl sightings are fairly common. Dandeli Wildlife Sanctuary's main reptilians are the king cobra and the mugger crocodile (Indian crocodile).

87. Option (2) is correct.

Raja Parba is a one-of-a-kind festival commemorating the arrival of the monsoon and the earth's womanhood. It is observed in Odisha. The second day of the festival marks the start of the solar month of Mithuna, during which the rainy season begins. It occurs in mid-June, and the first day is known as Pahili Raja, the second as Mithuna Sankranti, and

the third as Bhudaaha or Basi Raja. The final day is known as Basumati snana, and it is when the ladies bathe the grinding stone as a symbol of Bhumi in turmeric paste and adorn it with flowers, sindoor, and so on. Mother Bhumi is given a variety of seasonal fruits. The day before the first day is known as Sajabaja or the preparatory day, and it is when the house, kitchen, and grinding stones are cleaned and spices are ground for three days. Women and girls take three days off from work to wear new Sarees, Alatas, and ornaments. It is comparable to the Ambubachi Mela.

88. Option (2) is correct.

Pangong Lake, at nearly 4,350 metres above sea level, is the world's highest saltwater lake. Its water, which appears to be dyed blue, contrasts sharply with the arid mountains that surround it. Pangong Lake is nearly 160 kilometres long, with one-third in India and the other two-thirds in China. Pangong Lake, one of the most famous lakes in Leh Ladakh, derives its name from the Tibetan word, "Pangong Tso", which means "high grassland lake". Despite its salinity, the lake freezes completely during the winter. It has a landlocked basin that is separated from the Indus River basin by a small elevated ridge, but it is thought to have been a part of the latter in prehistoric times.

89. Option (1) is correct.

Middle Andaman is home to Mount Diavolo, an important mountain peak in the Andaman and Nicobar Islands. Middle Andaman Island's highest point is Mount Diavolo. It is 295 metres above sea level. Mount Diavolo (Mount Diavolo) is a mountain with the region font code Asia/Pacific in the Union Territory of Andaman and Nicobar Islands (Andaman and Nicobar Islands), India (Asia). It is situated at a height of 403 metres above sea level. Its coordinates in DMS (Degrees Minutes Seconds) are 12°42'0" N and 92°55'0" E, or 12.7 and 92.9167. It has the UTM position DV90 and the Joint Operations Graphics reference ND46-14.

90. Option (2) is correct.

The brain secretes melatonin hormone, which aids in the regulation of sleep-wake cycles. Melatonin is a hormone that is primarily produced by the pineal gland at night and has long been linked to the regulation of the sleep-wake cycle. It is commonly used as a dietary supplement for the short-term treatment of insomnia, such as jet lag or shift work, and is typically taken orally. However, evidence of its utility for this purpose is lacking. A 2017 study discovered that use increased sleep onset by six minutes but did not affect total time asleep. Melatonin supplements have few side effects when taken in low doses for short periods. Melatonin side effects are uncommon, occurring in 1 to 10 patients out of every 1000.

91. Option (3) is correct.

Telangana's first monkey rescue and rehabilitation centre opened in the Nirmal district in December 2020. The first monkey rescue and rehabilitation centre opened in Telangana's northern district of Nirmal. The forest department has established a campus in Chincholi village to house up to 200 monkeys for 10 to 15 days before releasing them into the forest. Four special enclosures with a capacity of 50 monkeys each are being prepared. Gram Panchayat captured monkeys will be sterilised and housed on campus before being released in interior forest areas identified by the department. "Adult female monkeys will undergo sterilisation by laparoscopy and vasectomy will be taken up on adult male monkeys.

92. Option (3) is correct.

Mahapajapati Gotami, Buddha's foster mother, was the first woman to be ordained as a bhikkhuni. The Buddha's foster mother, stepmother, and maternal aunt (mother's sister) were all named Mahapajapati Gotami. She was the first woman in the Buddhist tradition to seek ordination for women, which she did directly from Gautama Buddha, and she became the first bhikkhuni (Buddhist nun). According to legend, Maya and Mahapajapati Gotami were Koliyan princesses and Suppabuddha's sisters. Mahapajapati was the Buddha's maternal aunt as well as his adoptive mother, raising him after his birth mother, Maya, died. She was regarded as the most loving mother, having raised Siddhartha as her child.

93. Option (4) is correct.

The Dilli Gharana is represented by Ustad Iqbal Ahmed Khan, who received the Sangeet Natak Academy Award. Ustad Iqbal Ahmed Khan (1954 – 17 December 2020) was a Delhi Gharana Indian classical vocalist. Khan was born in 1954 into a musically illustrious family. His maternal and paternal grandfathers were Ustad Chand Khan and Ustad Jahan Khan, respectively. He was raised in the Delhi Gharana musical family. He began performing music when he was four years old, guided by his grandfather and teacher, Ustad Chand Khan. He continued the family tradition by actively promoting Amir Khusro's musical works. He also wrote music for popular television shows and plays.

94. Option (3) is correct.

In 1953, the Central Government of India established the States Reorganisation Commission. In December 1953, Prime Minister Jawaharlal Nehru appointed the States Reorganisation Commission with the mission of reorganising Indian states. Fazal Ali, the retired Chief Justice of the Supreme Court, presided over the new commission, which also included H. N. Kunzru and K. M. Panikkar. Govind Ballabh Pant, who served as Home Minister from December 1954, oversaw the commission's efforts. On September 30, 1955, the States Reorganisation Commission submitted a report with recommendations for the reorganisation of India's states, which was then debated by the Indian parliament. Following that, bills were passed to amend the constitution and oversee the state reorganisation.

95. Option (2) is correct.

Science and technology are associated with the Shanti Swarup Bhatnagar Prize. The Shanti Swarup Bhatnagar Prize for Science and Technology (SSB) is an annual science award given by the Council of Scientific and Industrial Research (CSIR) in India for notable and outstanding applied or fundamental research in biology, chemistry, environmental science, engineering, mathematics, medicine, and physics. The prize recognises outstanding Indian work in science and technology, as determined by the CSIR awarding committee. It is India's most prestigious award in multidisciplinary science. The award is named after Shanti Swarup Bhatnagar, the first Director of the Council of Scientific and Industrial Research. It was first given in 1958. Any Indian citizen up to the age of 45 who is engaged in research in any field of science and technology is eligible for the prize. The prize is awarded solely based on contributions made in India during the five years preceding the award year. The award includes a citation, a plaque, and a cash prize of ₹ 5 lakhs. In addition, recipients receive ₹ 15,000 per month until they reach the age of 65.

96. Option (1) is correct.

CD Deshmukh was the Reserve Bank of India's first Indian Governor. He was an Indian civil servant and the first Indian appointed by British Raj authorities as Governor of the Reserve Bank of India in 1943. He later served as the Union Cabinet's Finance Minister (1950–1956). During this time,

he also became a founding member of the Governing Body of (NCAER), the National Council of Applied Economic Research in New Delhi, which was established in 1956 at the request of Prime Minister Jawaharlal Nehru. Following their resignation from the Union Cabinet, he served as Chairman of the UGC (1956–1961). He was the University of Delhi's Vice-Chancellor (1962–67). From 1945 to 1964, he was President of the Indian Statistical Institute and Honorary Chairman of the National Book Trust (1957–60). He established the India International Center in 1959 and served as its Lifetime President. In addition, he was the chairman of the Indian Institute of Public Administration.

97. Option (3) is correct.

The first-ever specialised 'Ginger' Processing Plant in Meghalaya was reopened in December 2020. The North East's first specialised "Ginger" Processing Plant, located in Meghalaya's district Ri-Bhoui, is being revitalised and is expected to reopen in early 2021. The only ginger processing plant in North-East India was built around 2004 but has been dormant for many years. The North Eastern Regional Agricultural Marketing Corporation (NERAMAC) has taken on the responsibility of reviving it and has begun the process of reopening the closed plant through a public-private partnership (PPP). The plant, which will be located at the Export Promotion Industrial Park (EPIP), Raja Bhagan, Byrnihat Hatt, will not only process ginger but will also aid in the production of products such as waxed ginger, ginger paste, ginger powder, ginger flakes, and ginger oil, among others.

98. Option (3) is correct.

For use in web graphics the gif format is used. JPG, GIF, and PNG are the three graphic file formats commonly used on the web. Index colour is used in the GIF and PNG image formats. They save an image file with a minimised colour palette and keys to where those colours should be located in the image. GIF and PNG image file sizes are generally proportional to the number of colours used. The most common colour numbers are 2, 4, 8, 16, 32, 64, 128, and 256. GIF and PNG image formats are best suited for images with flat colours (no gradients) and sharp edges. Logos, logotypes, and illustrations without gradients are common examples of these types of images. The JPG image format was created to store and compress realistic images and artwork in an efficient manner (both in colour and greyscale). The JPG format does an excellent job of compressing images with many colours and colour gradations. Transparency cannot be saved in JPG format. You can choose the level of compression when saving images in JPG format to balance file size and image quality. The file size is proportional to the image's actual size (in pixels).

99. Option (3) is correct.

Ahmad Bin Ali Stadium, the FIFA World Cup 2022 venue built by Indian construction giant Larsen & Turbo, is located in Qatar. The Al-Rayyan Stadium, also known as the Ahmed bin Ali Stadium, is a multi-purpose stadium in Al Rayyan, Qatar. It is currently primarily used for football matches and is home to Al-Rayyan Sports Club and Al-Kharitiyath Sports Club. The stadium, which opened in 2003, could seat 21,282 people. The new Al Rayyan Stadium can seat 40,740 people. The Ahmed bin Ali Stadium is one of eight stadiums being renovated in preparation for the FIFA World Cup Qatar 2022. The new stadium's construction began in early 2016. This was accomplished through collaboration between Al-Balagh and Larsen & Toubro. The stadium will be reduced to 21,000 seats after the World Cup. The stadium was dedicated on December 18, 2020, Qatar's National Day, exactly two years before the country hosts the 2022 FIFA World Cup final. The stadium served as one of two venues for the FIFA Club World Cup 2020.

100. Option (1) is correct.

Data science is a specialised field that teaches students how to analyse and discover patterns in massive amounts of data. Data science is a process that aims to help people make better decisions. Data should be collected to properly analyse the situation to make better decisions. After analysing the situation, data scientists can make decisions to improve various outcomes. Data science is a branch of applied mathematics and statistics that generates useful information from large amounts of complex data, also known as big data. Data science, also known as data-driven science, combines aspects of various fields with the help of computation to interpret massive amounts of data for decision-making purposes.

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