

STAFF SELECTION COMMISSION
COMBINED HIGHER SECONDARY LEVEL (TIER-I)
SOLVED PAPER

(19th March 2018: 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. In the following question, some part of the sentence may have errors. Find out which part of the sentence has an error and select the appropriate option. If a sentence is free from error, select 'No Error'.
What happen (1)/ at your (2)/ college today? (3)/ No error (4)
1. 1 2. 2 3. 3 4. 4
2. In the following question, some part of the sentence may have errors. Find out which part of the sentence has an error and select the appropriate option.
Some girls are taking prior permission to (1)/ sport a loosely tied plait on the days (2)/ they had washed their hair. (3)/ No error (4)
1. 1 2. 2 3. 3 4. 4
3. In the following question, the sentence given with blank to be filled in with an appropriate word. Select the correct alternative out of the four and indicate it by selecting the appropriate option.
Her trekking was met _____ obstacles.
1. with 2. from 3. by 4. of
4. In the following question, the sentence given with blank to be filled in with an appropriate word. Select the correct alternative out of the four and indicate it by selecting the appropriate option.
Aryabhata was the first astronomer to state _____ that the earth is round and it rotates on its axis.
1. symphatically 2. automatically
3. emphatically 4. accidentally
5. In the following question, out of the given four alternatives, select the one which best expresses the meaning of the given word.
Barbarous
1. Refined 2. Polite 3. Crude 4. Civilized
6. In the following question, out of the given four alternatives, select the one which best expresses the meaning of the given word.
Pejorative
1. Right 2. Discussion
3. Derogatory 4. Complimentary
7. In the following question, out of the given four alternatives, select the one which is opposite in meaning of the given word.
Decimate
1. Preserve 2. Destroy 3. Execute 4. Abate
8. In the following question, out of the given four alternatives, select the one which is opposite in meaning of the given word.
Adjure
1. Order 2. Require 3. Advise 4. Disclaim

9. Rearrange the parts of the sentence in correct order.
Cities have
P : intellectual stimulus Q : always provided
R : and educational leadership
1. PQR 2. RQP 3. QPR 4. PRQ
10. A sentence has been given in Active/Passive Voice. Out of the four given alternatives, select the one which best expresses the same sentence in Passive/Active Voice.
The watchman opened the gate.
1. The gate opened the watch man.
2. The gate is being opened by the watchman.
3. The gate was opened by the watchman.
4. The gate is opened by the watchman.
11. A sentence has been given in Direct/Indirect Speech. Out of the four given alternatives, select the one which best expresses the same sentence in Indirect/Direct Speech.
He said, "I am hungry."
1. He inform about his hunger. 2. He says he was hungry.
3. He was feeling hungry. 4. He said that he was hungry.
12. In the following question, a word has been written in four different ways out of which only one is correctly spelt. Select the correctly spelt word.
1. Apeareance 2. Appearence
3. Appearance 4. Appearance

Comprehension:

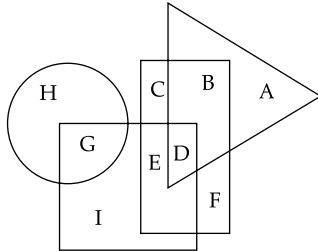
- For Questions 13 to 17:** In the following passage, some of the words have been left out. Read the passage carefully and select the correct answer for the given blank out of the four alternatives.
- Many a travelogue I read nowadays are about how the traveller went on a road less travelled _____ some off-the-track trek or to an unknown destination or simply into the wild. How no internet _____ is what you need to reconnect with yourself! How leaving your watch and phone _____ and going into the world of no check-ins and no updates would bring you solitude! These write-ups are laced with adjectives describing the geography of the region and filled with _____ details of the author's days in that remote place. And, ironically, they all end with a strange advice to travel, and tell no one. I beg to _____.
13. road less travelled _____ some off-the-track trek
1. but 2. or 3. but also 4. also
 14. How no internet _____ is what you need to
1. connectivity 2. to connect
3. connects 4. connecting
 15. watch and phone _____ and going into
1. under 2. below 3. backside 4. behind

16. and filled with _____ details of the author's
1. hour 2. second 3. time 4. minute
17. and tell no one. I beg to _____
1. differ 2. different
3. difference 4. differentiation
18. In the following question, out of the four alternatives, select the alternative which best expresses the meaning of the idiom/phrase. A bad patch
1. A potholed road. 2. A medical bandage.
3. A period of difficulty. 4. Shoddy repair work.
19. In the following question, out of the four alternatives, select the alternative which best expresses the meaning of the idiom/phrase. A dime a dozen
1. A very expensive proposition.
2. Something which appears cheap but which will prove expensive in the long run.
3. Something which appears attractive but has zero value.
4. Very common and of no particular value.
20. In the following question, out of the four alternatives, select the alternative which is the best substitute of the words/sentence. Wrap or cover for warmth
1. Encourage 2. Muffle 3. Divulge 4. Expose
21. In the following question, out of the four alternatives, select the alternative which is the best substitute of the words/sentence. Keen interest or enthusiasm
1. Lassitude 2. Lethargy 3. Avidity 4. Soporific
22. In the following question, out of the four alternatives, select the alternative which will improve the bracketed part of the sentence. In case no improvement is needed, select "no improvement".
The realisation came when we noticed that our children (had becoming) too dependent on us.
1. had become 2. has become
3. has become 4. no improvement
23. In the following question, out of the four alternatives, select the alternative which will improve the bracketed part of the sentence. In case no improvement is needed, select "no improvement".
The technical aspect of English that deals with ironies (has always intrigue) my inquisitive mind.
1. is always intrigued 2. will always intrigued
3. has always intrigued 4. no improvement
24. The question below consists of a set of labelled sentences. Out of the four options given, select the most logical order of the sentences to form a coherent paragraph. It is ethics and A-values that have the inherent B-of motivation into inspiration C-potential to transform the spirit
1. ABC 2. ACB 3. CBA 4. CAB
25. In the following question, four words are given out of which one word is correctly spelt. Select the correctly spelt word.
1. anotate 2. annotate 3. annotatte 4. anottate
29. In the following question, select the odd word pair from the given alternatives.
1. Oxygen – Gas 2. Metal – Platinum
3. Liquid – Water 4. Solid – Iron
30. In the following question, four number pairs are given. The number on left side of (–) is related to the number on the right side of (–) with some Logic/Rule/Relation. Three are similar on basis of same Logic/Rule/Relation. Select the odd one out from the
1. 27 – 32 2. 31 – 36 3. 33 – 38 4. 23 – 27
31. In the following question, select the odd letter/letters from the given alternatives.
1. SPMJ 2. XURO 3. NKHE 4. ZWSP
32. Arrange the given words in the sequence in which they occur in the dictionary.
1. Tinned 2. Timber 3. Tinkle
4. Thunderstorm 5. Thursday
1. 53214 2. 21345 3. 45231 4. 12435
33. In the following question, select the missing number from the given series. 17, 20, 23, 26, 29, ?
1. 31 2. 34 3. 30 4. 32
34. A series is given with one term missing. Select the correct alternative from the given ones that will complete the series. FT, JX, NB, RF, ?
1. TX 2. LJ 3. VJ 4. YJ
35. Present age of Amit is twice of Baman's present age. After 5 years Baman's age will be 4 times of the Chetan's present age. If Chetan celebrated his sixth birthday 7 years ago, then what will be the present age (in years) of Amit?
1. 98 2. 110 3. 94 4. 92
36. From the given alternatives, select the word which CANNOT be formed using the letters of the given word. Compassionate
1. Pass 2. Moss 3. Passion 4. Comply
37. In a certain code language, "RAPID" is written as "GLSDU". How is "WATER" written in that code language?
1. DZHKM 2. UHWDZ 3. VHKDZ 4. MKHDZ
38. In a certain code language, '-' represents '×', '+' represents '+', '÷' represents '÷' and '×' represents '-'. Find out the answer to the following question.
 $18 \div 12 - 5 + 30 \times 6 = ?$
1. 19 2. 15 3. 41 4. 14
39. The following equation is incorrect. Which two signs should be interchanged to correct the equation?
 $20 + 14 \div 35 - 10 \times 12 = 10$
1. + and × 2. + and ÷ 3. - and + 4. ÷ and ×
40. If $16\#2 = 16$, $12\#6 = 36$ and $6\#1 = 3$, then find the value of $4\#4 = ?$
1. 2 2. 4 3. 10 4. 8
41. Which of the following terms follows the trend of the given list? ABCABABAB, ABABCABAB, ABABABCAB, ABABABABC, ACBABABAB, _____
1. ABABCABAB 2. ABCABABAB
3. ABACBABAB 4. ABABACBAB
42. A village woman walks 2.5 km South starting from her home in search of water. She then turns West and walks 1.5 km, then she turns South and walks 0.5 km, then she turns to her left and walks 1.5 km. Where is she now with respect to her home?
1. 2 km South 2. 3 km North
3. 3 km South 4. 2 km North
43. In the question two statements are given, followed by two conclusions, I and II. You have to consider the statements to be true even if it seems to be at variance from commonly known facts. You have to decide which of the given conclusions, if any, follows from the given statements.
Statement I: All tickets are coupons
Statement II: All cards are tickets
Conclusion I: Some coupons are cards
Conclusion II: Some cards are coupons

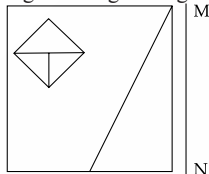
General Intelligence

26. In the following question, select the related word pair from the given alternatives.
Road : Asphalt :: ? : ?
1. Sugarcane : Sugar 2. Cloth : Shirt
3. Pen : Pencil 4. Metal : Ore
27. In the following question, select the related number from the given alternatives.
697 : 976 :: 532 : ?
1. 320 2. 354 3. 237 4. 325
28. In the following question, select the related letter/letters from the given alternatives.
RTU : SUW :: CEF : ?
1. FGI 2. DGH 3. EGF 4. DFH

1. Only conclusion I follows
 2. Only conclusion II follows
 3. Both conclusions I and II follow
 4. Neither conclusion I nor conclusion II follows
44. In the following figure, rectangle represents Opticians, circle represents illustrators, triangle represents Photographers and square represents Football players. Which set of letters represents Football players who are both photographers as well as Opticians?

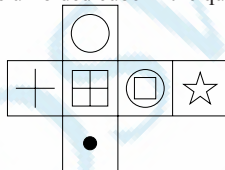


1. D
 2. ED
 3. DF
 4. EDF
45. A series is given with one term missing. Select the correct alternative from the given ones that will complete the series. KHQ, HEN, EBK, ?, YVE
1. ZWF
 2. AXG
 3. CZI
 4. BYH
46. In the following question, select the missing number from the given series. 6, 9, 13, 18, 24, ?
1. 31
 2. 34
 3. 29
 4. 28
47. In the following question, four groups of three numbers are given. In each group the second and third number are related to the first number by a Logic/Rule/Relation. Three are similar on basis of same Logic/Rule/Relation. Select the odd one out from the given alternatives.
1. (5, 16, 22)
 2. (6, 19, 25)
 3. (4, 13, 17)
 4. (9, 28, 37)
48. If a mirror is placed on the line MN, then which of the answer figure is the right image of the given figure?



- 1.
- 2.
- 3.
- 4.

49. Which of the following cube in the answer figure cannot be made based on the unfolded cube in the question figure?



- 1.
- 2.
- 3.
- 4.

50. A word is represented by only one set of number as gives in any one of the alternatives. The sets of numbers gives in the alternatives by two classes of alphabets as shown in the given two matrices. The columns and rows of Matrix-I are numbered from 0 to 4 and that of Matrix-II are numbered from 5 to 9. A letter from these matrices can be represented first by its row and next by its column, for example 'D' can be represented by 24, 41 etc and 'Y' can be represented by 57, 98 etc. Similarly,

you have to identify the set for the word 'BREW'.

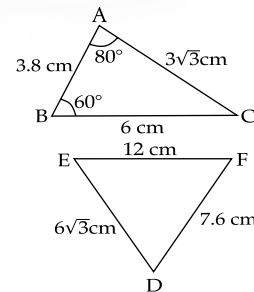
Matrix-I					
	0	1	2	3	4
0	C	J	H	G	A
1	G	I	H	D	C
2	F	C	H	E	D
3	M	B	A	L	E
4	E	D	K	B	G

Matrix-II					
	5	6	7	8	9
5	U	W	Y	X	W
6	Z	U	N	T	S
7	V	O	U	R	P
8	R	O	W	X	O
9	V	Q	S	Y	U

1. 34,68,44,95
2. 43,78,23,59
3. 30,66,42,96
4. 23,68,22,66

Quantitative Aptitude

51. Calculate the value of x if $\sqrt{\frac{1-x}{289}} = (15/17)$
1. 64
 2. 44
 3. 36
 4. 54
52. Find the unit place digit in the given expression : $(153)^{144} - (115)^{123} - (111)^{510} + (216)^{25}$
1. 1
 2. 5
 3. 6
 4. 3
53. Which of the following value of 'x' satisfies the equation $4^{x-1} \cdot 9^{2x-6} = 5184$?
1. 2
 2. 3
 3. 4
 4. 6
54. If $S + \frac{1}{S} = 4$, then find the value of $S^2 + \frac{1}{S^2}$
1. 14
 2. 16
 3. 20
 4. 24
55. The tangent at any point of the circle is _____ to the radius through the point of contact.
1. parallel
 2. intersecting
 3. perpendicular
 4. equal
56. Calculate the value of angle FED from the figure shown below.



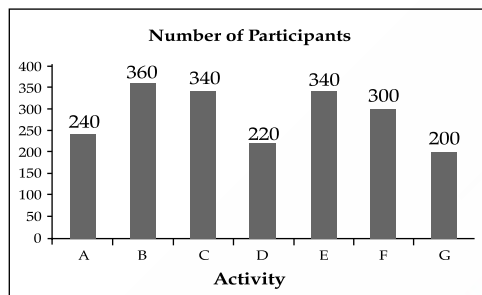
1. 30°
 2. 40°
 3. 60°
 4. 80°
57. The income of X is 60% more than Y's income and the income of Y is 40% more than Z's income. X's income is how much percentage more than Z's income?
1. 134
 2. 224
 3. 100
 4. 124
58. If $x : y = 1 : 3$, then what will be the ratio of $(3y^2 + 3x^2) : (2y^2 - 8x^2)$?
1. 4 : 1
 2. 2 : 1
 3. 3 : 1
 4. 5 : 1
59. 5 litres of honey contains 80% sugar. 3 litres of water is added to this honey. What is the percentage of sugar in the new mixture?
1. 40
 2. 50
 3. 60
 4. 75
60. Average of the marks of 132 students of a college is 40. If the average of the marks of the passed students is 42 and the average of the marks of the failed students is 20, then what will

be the respective ratio of the total marks of passed students and the total marks of failed students?

1. 21 : 1 2. 23 : 2 3. 19 : 11 4. 9 : 2

61. A sum of Rs 8000 becomes Rs 12500 in 2 years at a certain rate of compound interest. What will be the sum (in Rs) after 3 years?
1. 13175 2. 14225 3. 12575 4. 15625
62. If the selling price of an article is doubled, then its loss percentage gets converted into the equal profit percentage. What is the loss percentage?
1. 16.66 2. 50 3. 33.33 4. 37.5
63. The marked price of a pencil is 35% more than its cost price. What maximum discount percentage can be offered by the shopkeeper to sell his pencil at no profit or no loss?
1. 34.24 2. 44.44 3. 25.92 4. 18.18
64. What is the least number that should be added to the product $11 \times 12 \times 13 \times 14$ to make it a perfect square?
1. 1 2. 311 3. 5 4. 0
65. If 8 men can do a piece of work in 14 days, then in how much time (in days) will 7 men do the same piece of work?
1. 16 2. 15 3. 17 4. 18
66. Two buses are moving towards each other with speed of 20 km/hr and 34 km/hr respectively. What will be the distance (in metres) between the two buses one second before they collide?
1. 21 2. 18 3. 12 4. 15

Directions for Question 67 to 70: The bar graph shows how many visitors participated in which adventure activity during their stay in an adventure resort. Study the diagram and answer the following questions.



67. Which adventure activity had the second lowest number of participants?
1. F 2. A 3. D 4. G
68. What is the ratio of participants of activity G to participants of activity B?
1. 9 : 5 2. 12 : 7 3. 5 : 9 4. 7 : 12
69. Participants of activity A were lesser than that of F by _____%.
1. 25 2. 30 3. 20 4. 35
70. If 30% of participants of activity F had chosen to participate in activity G instead then the number of participants of G would have increased (in percent) by?
1. 90 2. 55 3. 45 4. 60
71. The perimeter and the breadth of a rectangle are 82 cm and 20 cm respectively. Calculate the length of its diagonal (in cm).
1. 58 2. 21 3. 42 4. 29
72. Find the circumference (in cm) of a circle of radius 7 cm.
1. 56 2. 44 3. 16 4. 32
73. The volume of a hemisphere is 89.83 cm^3 . Find its diameter (in cm).
1. 3.5 2. 7 3. 14 4. 10.5
74. ΔABC is right angled at B. If $m \angle C = 45^\circ$, then find the value of $(\operatorname{cosec} A - \sqrt{3})$.
1. $(4 - \sqrt{3})/2$ 2. $\sqrt{2} - \sqrt{3}$
3. $-\sqrt{3}/2$ 4. $(\sqrt{6} - 1)/\sqrt{3}$

75. In ΔPQR measure of angle Q is 90° . If $\sin P = 12/13$, and $PQ = 1 \text{ cm}$, then what is the length (in cm) of side QR?
1. 2.6 2. 3 3. 2.4 4. 4

General Awareness

76. Brent Index is associated with which of the followings?
1. crude oil prices 2. copper future prices
3. gold future prices 4. shipping rate index
77. Which of the following is NOT correctly matched?
1. First Five Year Plan : 1951-56
2. Second Five Year Plan : 1956-61
3. Third Five Year Plan : 1961-66
4. Fourth Five Year Plan : 1966-71
78. Where is the Southern Alps mountain range located?
1. Australia 2. New Zealand
3. South Africa 4. Indonesia
79. By what name is the combined water stream of Ganga and Brahmaputra known?
1. Padma 2. Jamuna 3. Meghna 4. Tsangpo
80. Who was the exponent of Yog Darshan?
1. Patanjali 2. Gautam
3. Jaimini 4. Shankaracharya
81. During the Maratha period, who was the officer responsible for the village administration?
1. Havaladar 2. Patil
3. Chaudhary 4. Sardeshmukh
82. Govind Swami Pillai is associated with which musical instrument?
1. Mridangam 2. Tabla 3. Veena 4. Violin
83. Which country's Parliament has passed a law that will limit the powers of its police?
1. Israel 2. France 3. Britain 4. China
84. Who among the following has been awarded the Blue Planet Prize-2017 in October 2017?
1. Hans Joachim Schellnhuber 2. J.K. Anderson
3. M. Suzanchuk 4. Garry Bentzone
85. When was the national emblem of Bangladesh adopted?
1. 1971 2. 1973 3. 1975 4. 1977
86. Mass number is always equal to _____.
I. number of protons
II. number of neutrons
III. sum of number of protons and number of electrons
IV. sum of number of protons and number of neutrons
87. Which of the following statements are CORRECT?
I. Ethanol is a good solvent for organic compounds.
II. Boiling and melting points of ethanol are low with respect to water.
III. Ethanol is used tincture iodine.
1. Only I and II 2. Only I and III
3. Only II and III 4. All I, II and III
88. Along with 'Right to Life' in Article 21 of Indian Constitution, it also includes _____.
1. Right to Health 2. Right to Food
3. Right to Water 4. All options are correct.
89. Which Constitutional Amendment Act gave constitutional recognition to municipalities?
1. 72nd Constitutional Amendment Act
2. 73rd Constitutional Amendment Act
3. 74th Constitutional Amendment Act
4. 75th Constitutional Amendment Act
90. Which of the following is NOT a waste material removed from blood in the kidney?
1. Ammonia 2. Carbon dioxide
3. Urea 4. Uric acid
91. The movement of water molecules through the plasma membrane is called _____.
1. Osmosis 2. Sedimentation
3. Precipitation 4. Transpiration

92. In November 2017, second phase of 'Bharat Net Project' was launched. How much is its approximate outlay?
 1. Rs 55,000 crore 2. Rs 10,000 crore
 3. Rs 20,000 crore 4. Rs 34,000 crore
93. NASA successfully tested supersonic landing parachute in November 2017 for its approximate _____ mission.
 1. Zuma 2020 2. GOLD
 3. ICON 4. Mars 2020
94. In October 2017, who launched India's 3rd biggest 'Initial Public Offering (IPO)' of Rs 11,370 crore?
 1. Reliance Industries Ltd 2. GIC Re
 3. Coal India Ltd 4. Infosys
95. On 5th January 2018, Lok Sabha passed High Court and Supreme Court Judges (Salaries and Conditions of Service) Amendment Bill, 2017. The Bill proposes to hike the salary of Chief Justice of India (CJI) to nearly _____.
 1. Rs 2.80 lakh per month 2. Rs 3.9 lakh per month
 3. Rs 2 lakh per month 4. Rs 5 lakh per month
96. What is the resistance (in Ω) of an electrical component if a current of 0.4 A passes through it on application of 12 V of potential difference across it?
 1. 4.8 2. 60 3. 9.6 4. 30
97. If the acceleration due to gravity on the surface of earth is g , then the acceleration due to gravity on the surface of a planet whose mass is half of that of earth and radius is same as that of earth is _____.
 1. $g/2$ 2. $4g$ 3. $2g$ 4. $g/4$
98. An earthquake of magnitude _____ on Richter scale has thousand times more destructive energy than an earthquake of magnitude 4.
 1. 5 2. 7 3. 6 4. 8
99. Which of the statements given below are correct?
 A. In 2017, Giannis Antetokounmpo played for the NBA team Houston Rockets.
 B. In 2018 IPL auctions, Kings XI Punjab retained Axar Patel.
 C. In 2017, David Warner captained the IPL team Royal Challengers Bangalore.
 1. Only B 2. A and B
 3. A, B and C 4. None of these
100. _____ provides network backbone and e-governance support to government bodies in India.
 1. NIC 2. NASSCOM
 3. Department of Information Technology
 4. State Bank of India

Answer Key

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

Answers with Explanations

1. Option (1) is correct.

The given sentence is in the present tense form. The verb in the sentence is 'happen'. The subject is 'college' which is third person singular. It must be 'happens' as the subject 'college' is third person singular and the tense is in the present form.

Example: My teacher teaches grammar on Mondays.

2. Option (1) is correct.

The first part of the exercise is wrong as the verb is given in the present continuous form. The later part of the sentence is in the past form and hence, the first part must be in the past form. It must be 'the girls took proper permission...' instead of 'the girls are taking prior permission...'.
 3. **Option (3) is correct.**

The preposition with is used as a function word to indicate someone in action. 'Meet with' is a phrasal verb. So meet must be accompanied by with.

4. Option (1) is correct.

Emphatically means assuredly, certainly, absolutely, etc. So, emphatically is the right option. The other three options are not the right answers. Sympathetically means compassionately or kindly. Automatically means mechanically. Accidentally means unintentionally.

5. Option (3) is correct.

The meaning of 'refined' is 'cultured' or 'civilized'. Polite is civilized or mannerly. Civilized is cultured and mannerly.

6. Option (3) is correct.

The meaning of "right" is correct or accurate. The meaning of "discussion" is 'conversation or talk'. The meaning of 'complimentary' is 'free or courtesy'.

7. Option (1) is correct.

The meaning of the word 'decimate' is 'destroy' or 'devastate'. So, 'preserve' is the opposite of 'decimate'. Execute is to implement and abate is to decrease or decline.

8. Option (4) is correct.

The meaning of the word adjure is 'to order' 'to beseech' etc. The meaning of 'require' is 'need' or 'necessitate'. The meaning of 'advise' is 'counsel' or 'direct'. The opposite of adjure is disclaim and the answer is "disclaim".

9. Option (3) is correct.

The given base is: Cities have.... Here the word 'cities' is the subject of the sentence which requires a verb. We find the verb in the part Q, 'have provided'. To get a completion, the sentence requires an object answering the question 'what?', which we find in P, 'intellectual stimulus'. We find the continuation in R.

10. Option (3) is correct.

The sentence given for conversion is: The watchman opened the gate. This sentence is in the past form. The subject is 'the watchman', the verb is 'opened' and the object is 'gate'. When we convert an active construction into passive, the object of the active will become 'subject' in the passive and based on the number of the object, we use the helping verb. Here 'the gate' is singular and so we use 'was'. The verb must be

converted into past participle form. To connect the object and the other parts, we use the connector 'by' and 'the watchman' becomes the object.

11. Option (4) is correct.

Before converting a sentence into reported speech, we need to look at the reporting verb. If the reporting verb is in the past form, the verb in the part to be converted into the past. The sentence given in the question is: He said, "I am hungry." Since the part to be reported is a statement, we use the connector that. He is the speaker and hence, I will be written as 'he'. The verb to be reported is 'am' which will be converted as 'was'.

12. Option (2) is correct.

Appearance means the way someone or something looks. The other options given are wrongly spelled and hence they are wrong and meaningless. The right answer is 'appearance'.

13. Option (2) is correct.

'Or' is a word that is used to list down choices or possibilities. The given exercise is: road less travelled _____ some off-the-track trek.... Here the author is talking about various possibilities. The other options do not support the sentence in the context and hence 'or' is the right answer.

14. Option (1) is correct.

In the given sentence, we know that the author is talking about internet connectivity that will enable the traveller to contact the outside world. The other options do not serve in this context and so the answer is 'connectivity'.

15. Option (4) is correct.

The exercise given is: How leaving your watch and phone _____ and going into the world.

Leaving behind something is a phrasal verb. The writer here focuses that if someone does not take a watch or phone when they go for an adventurous travel. The other options are meaningless here in this context.

16. Option (4) is correct.

The meaning of the word 'minute' is 'miniature', 'minor' 'every small', or 'tiny'. The other options are about time reference. Hence, the right answer is 'minute'. The given exercise is: and filled with _____ details of the author's.... Here the context is about each and every miniature detail of the author.

17. Option (1) is correct.

The given exercise is: and tell no one. I beg to _____.

The word 'to' is an infinitive, which always takes the first form of the verb. "Differ" is the first form of the verb and the other options are not verbs.

18. Option (3) is correct.

If you have or go through a bad patch or a rough patch, you have a lot of problems for a time. The other options do not convey the meaning.

19. Option (4) is correct.

A dime a dozen means existing in large numbers and therefore not especially valuable or interesting. So the answer 'very common and of no particular value' is the right option. The other options are meaningless in this context.

20. Option (2) is correct.

'Encourage' means inspiring or heartening someone. Divulge means revealing or telling something. Expose means depicting or representing something. Muffle means to wrap up in a shawl, blanket, cloak, etc. so as to hide, keep warm, or protect.

21. Option (3) is correct.

Lassitude means being weary, and lethargic. Lethargy means being weary and tired. Avidity means the quality of being extremely eager or interested. Soporific means sleep-inducing and tranquilizing.

22. Option (1) is correct.

When we talk of two past actions, the action that occurred first is indicated by the usage of past perfect. We will not use the -ing form in the past perfect form, as the past perfect form of the verb is framed using had+ Past participle form of the verb.

23. Option (3) is correct.

The verb is supposed to be framed using the present perfect form 'has always intrigued' where we need to use has/have + past participle form of the verb. Instead of using the past perfect form of the verb, here, the present form of the verb is used.

24. Option (2) is correct.

The given base of the complete sentence is: It is ethics and... The subject here seems to be a compound subject as we come across the conjunction 'and' in the base part and a verb is required to make a sentence meaningful. We find the continuation of the compound sentence and the verb in part A. Part C gives still more perfection to the sentence.

25. Option (2) is correct.

The meaning of the word annotate is to interpret or to explain. All the other option are spelled wrongly.

26. Option (4) is correct.

As we know that asphalt is the major component in building of roads. Similarly, metal is a major component in an ore.

27. Option (4) is correct.

Given that: 697 : 976

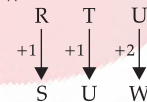


Similarly, 532 : ?

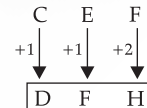


28. Option (4) is correct.

Given that: RTU : SUW



Similarly, CEF : ?



29. Option (1) is correct.

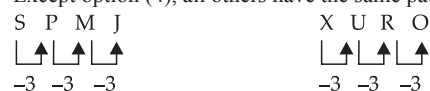
As we know, platinum is a metal, water is a liquid, and iron is solid. Similarly, oxygen is a gas while gas is not oxygen. Hence, it must be Gas - Oxygen.

30. Option (4) is correct.

From option (1): 27 - 32
32 - 27 = 5
From option (2): 31 - 36
36 - 31 = 5
From option (3): 33 - 38
38 - 33 = 5
And from option (4): 23 - 27
27 - 23 = 4 which is not equal to 5

31. Option (4) is correct.

Except option (4), all others have the same pattern.





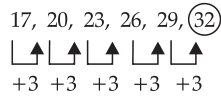
32. Option (3) is correct.

The given words in the sequence in which they occur in the dictionary is as follows:

4	5	2	3	1
Thunderstorm	Thursday	Timber	Tinkle	Tinned

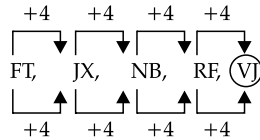
33. Option (4) is correct.

The pattern of the given series is as follows:



34. Option (3) is correct.

The pattern of the series is as follows:



35. Option (3) is correct.

According to the given question, Chetan celebrated his 6th birthday 7 years ago. So, Chetan present age will be = 6 + 7 = 13 years.

Baman's age will be 4 times of the Chetan's present age after 5 years. Baman present age + 5 = 4 (Chetan present age)

Baman present age = 4 × 13 - 5 = 52 - 5 = 47 years

Now, Amit age = 2 (Baman present age)

Amit age = 2 × 47 = 94 years.

Therefore, Amit's present age is 94 years.

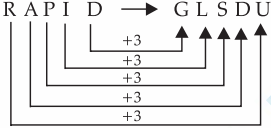
36. Option (4) is correct.

Except word Comply, all other words can be formed.

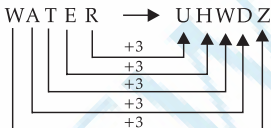
Compassionate does not contain letter L and Y.

37. Option (2) is correct.

Given that RAPID is written as GLSDU, the pattern is as follows:



Similarly, WATER is written in the way:



38. Option (4) is correct.

The given expression is $18 \div 12 - 5 + 30 \times 6 = ?$

After putting signs, the expression is

$$18 + 12 \times 5 \div 30 - 6 = ?$$

$$18 + 2 - 6 = ?$$

$$20 - 6 = ?$$

$$14 = ?$$

39. Option (1) is correct.

The given expression is

$$20 + 14 \div 35 - 10 \times 12 = 10$$

Upon checking option 1 and After interchanging signs, the expression is

$$20 \times 14 \div 35 - 10 + 12 = 10$$

$$4 \times 2 - 10 + 12 = 10$$

$$8 - 10 + 12 = 10$$

$$20 - 10 = 20$$

$$10 = 10$$

40. Option (4) is correct.

Given that: $16 \# 2 = 16$

$$(16 \times 2) \div 2 = 16$$

$$12 \# 6 = 12$$

$$(12 \times 6) \div 2 = 36$$

And, $6 \# 1 = 3$

$$(6 \times 1) \div 2 = 3$$

Similarly, for $4 \# 4$

$$(4 \times 4) \div 2 = 8$$

41. Option (3) is correct.

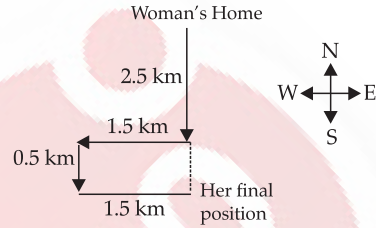
The pattern of the given series is that every next term, the position of C is shifted by 2 places in the right direction.

ABCABABAB, ABABCABAB, ABABABCAB, ABABABABC,

ACBABABAB, ABACBABAB.

42. Option (3) is correct.

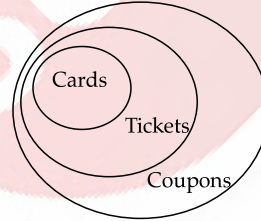
The direction diagram of a woman is as follows:



According to the diagram above, she is now 3.0 kilometres (2.5 kilometres + 0.5 kilometres) south of her home.

43. Option (3) is correct.

The venn diagram of the given condition is as follows:



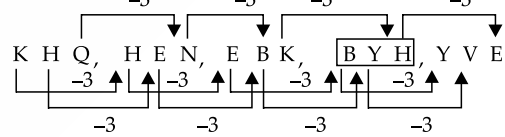
From the venn diagram above, both conclusions I and II follow.

44. Option (1) is correct.

From the given diagram, D represents football players who are both photographers as well as opticians.

45. Option (4) is correct.

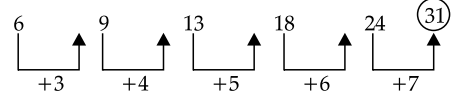
The pattern of the series is as follows:



So, the next term will be BYH.

46. Option (1) is correct.

The pattern of the series is as follows:



So, the next term will be 31.

47. Option (1) is correct.

From option (1): (5, 16, 22)

$22 - 5 = 17$ which is not equal to 16 (middle term)

From option (2): (6, 19, 25)

$$25 - 6 = 19$$

From option (3): (4, 13, 17)

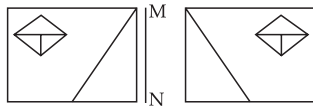
$$17 - 4 = 13$$

And from option (4): $(9, 28, 37)$
 $37 - 9 = 28$

As a result, sets (5, 16, 22) differ from the others.

48. Option (2) is correct.

The mirror image of the given figure is as follows:



49. Option (1) is correct.

In open dice alternate pairs are opposite to each other.

50. Option (2) is correct.

From option (1): 34, 68, 44, 95 = ETGV

From option (2): 43, 78, 23, 59 = BREW

From option (3): 30, 66, 42, 96 = MUKQ

From option (4): 23, 68, 22, 66 = ETHU

51. Option (1) is correct.

$$\sqrt{\frac{1-x}{289}} = \frac{15}{17}$$

Squaring both sides,

$$\Rightarrow 1 - \frac{x}{289} = \frac{225}{289}$$

$$\Rightarrow 1 - \frac{225}{289} = \frac{x}{289} \Rightarrow \frac{64}{289} = \frac{x}{289} \Rightarrow x = 64$$

52. Option (1) is correct.

We know that unit place of $3^1 = 3$, $3^2 = 9$, $3^3 = 7$ and $3^4 = 1$.

\therefore Unit place of $(153)^{144} = [(153)^4]^{36} = 1$

Unit place 5^n is 5

Unit place of $(115)^{123} = 5$

Unit place of $1^n = 1$

\therefore Unit place of $(111)^{510} = 1$

Unit place of $6^n = 6$

\therefore Unit place of $(216)^{25} = 6$

So, unit place

$$(153)^{144} - (115)^{123} - (111)^{510} + (216)^{25}$$

$$\Rightarrow 1 - 5 - 1 + 6 = 1$$

53. Option (3) is correct.

$$4^{x-1} \cdot 9^{2x-6} = 5184$$

$$\Rightarrow 2^{2x-2} \cdot 3^{4x-12} = 2^6 \times 3^4$$

$$\therefore 2x - 2 = 6 \Rightarrow x = 4$$

$$\text{and } 4x - 12 = 4 \Rightarrow x = 4$$

54. Option (1) is correct.

Given that $S + \frac{1}{S} = 4$

$$S^2 + \frac{1}{S^2} + 2.S.\frac{1}{S} = 16$$

$$\Rightarrow S^2 + \frac{1}{S^2} = 16 - 2 = 14$$

55. Option (3) is correct.

We know that the tangent at any point of the circle is perpendicular to the radius through that contact point.

56. Option (2) is correct.

$$\therefore \frac{BC}{EF} = \frac{6}{12} = \frac{1}{2}$$

$$\frac{AB}{DF} = \frac{3.8}{7.6} = \frac{1}{2}$$

$$\frac{AC}{ED} = \frac{3\sqrt{3}}{6\sqrt{3}} = \frac{1}{2}$$

$$\therefore \frac{BC}{EC} = \frac{AB}{DF} = \frac{AC}{ED}$$

$$\therefore \Delta ABC \sim \Delta DFE$$

$$\therefore \angle FED = \angle ACB \dots (i)$$

In ΔABC

$$80^\circ + 60^\circ + \angle ACB = 180^\circ$$

$$\angle ACB = 180^\circ - 140^\circ = 40^\circ$$

Hence, $\angle FED = 40^\circ$

57. Option (4) is correct.

Let income of Z is 100.

$$\therefore Y\text{'s income} = 100 \left(1 + \frac{40}{100} \right) = 140$$

$$X\text{'s income} = 140 \left(1 + \frac{60}{100} \right) = 224$$

More income of X than Z = $224 - 100 = 124$

Required percentage = 124%

58. Option (3) is correct.

Give that $\frac{x}{y} = \frac{1}{3}$

$$\text{Now, } \frac{3y^2 + 3x^2}{2y^2 - 8x^2} = \frac{y^2 \left[3 + 3 \left(\frac{x}{y} \right)^2 \right]}{y^2 \left[2 - 8 \left(\frac{x}{y} \right)^2 \right]}$$

$$= \frac{3 + 3 \left(\frac{1}{3} \right)^2}{2 - 8 \left(\frac{1}{3} \right)^2} = \frac{27 + 3}{18 - 8} = \frac{30}{9} = \frac{10}{3}$$

$$= \frac{3}{1} = 3 : 1$$

59. Option (2) is correct.

Quantity of sugar = $5 \times \frac{80}{100} = 4$

New total quantity = $5 + 3 = 8$ L

Percentage of sugar in new mixture

$$= \frac{4}{8} \times 100 = 50\%$$

60. Option (1) is correct.

Total marks = $132 \times 40 = 5280$

Let number of students passed be x and number of students failed be y .

$$\therefore x + y = 132 \dots (i)$$

$$42x + 20y = 5280$$

$$\Rightarrow 21x + 10y = 2640 \dots (ii)$$

$$10x + 10y = 1320$$

$$\hline 11x = 1320$$

$$\Rightarrow x = 120$$

$$\Rightarrow y = 132 - 120 = 12$$

$$\text{Ratio} = \frac{42x}{20y} = \frac{42 \times 120}{20 \times 12} = \frac{21}{1} = 21 : 1$$

61. Option (4) is correct.

Given that, $P = 8000$, $A = 12500$, $T = 2$ years

$$A = P \left(1 + \frac{r}{100} \right)^n \Rightarrow 12500 = 8000 \left(1 + \frac{r}{100} \right)^2$$

$$\frac{12500}{8000} = \left(1 + \frac{r}{100} \right)^2$$

$$\Rightarrow \frac{25}{16} = \left(1 + \frac{r}{100} \right)^2$$

$$\Rightarrow 1 + \frac{r}{100} = \sqrt{\frac{25}{16}} = \frac{5}{4}$$

$$\Rightarrow \frac{r}{100} = \frac{5}{4} - 1 = \frac{1}{4} \Rightarrow r = \frac{1}{4} \times 100 = 25\%$$

$$A = 8000 \left(1 + \frac{25}{100} \right)^3 = 8000 \times \frac{125}{64} = 15625$$

62. Option (3) is correct.

Let selling price and loss percentage be x and y respectively.

$$\therefore \text{C.P.} = \frac{\text{S.P.} \times 100}{100 - \text{Loss}\%} = \frac{x \times 100}{100 - y}$$

New S.P. = $2x$ and profit% = Loss% = $y\%$

$$\therefore \text{C.P.} = \frac{\text{S.P.} \times 100}{100 + \text{Profit}\%} = \frac{2x \times 100}{100 + y}$$

$$\therefore \frac{x \times 100}{100 - y} = \frac{2x \times 100}{100 + y}$$

$$100 + y = 200 - 2y$$

$$\Rightarrow 3y = 100 \Rightarrow y = \frac{100}{3} = 33.33\%$$

So, loss percentage = 33.33%

63. Option (3) is correct.

Let cost price of pencil be ₹100

$$\therefore \text{Marked price} = 100 \left(1 + \frac{35}{100} \right) = 135$$

When shopkeeper sell pencil at no profit or no loss then he sell it ₹ 100.

$$\therefore \text{Discount} = 135 - 100 = 35$$

$$\text{Discount \%} = \frac{35 \times 100}{135} = 25.92$$

64. Option (1) is correct.

$$11 \times 12 \times 13 \times 14 = 24024$$

1	24024	155
1	1	
25	140	
5	125	
305	1524	
5	1525	
310	-1	

\therefore 1 should be added to make it a perfect square.

65. Option (1) is correct.

\therefore 8 men can do a piece of work in 14 days

\therefore 1 men can do a piece of work in 14×8 days

\therefore 7 men can do a piece of work in $\frac{14 \times 8}{7}$ days = 16 days

66. Option (4) is correct.

$$\text{Relative speed} = 20 + 34 = 54 \text{ km/h}$$

$$= \frac{54 \times 1000}{60 \times 60} = 15 \text{ m/s}$$

$$\text{Time} = 1 \text{ sec}$$

$$\therefore \text{Distance} = \text{speed} \times \text{Time} = 15 \times 1 = 15 \text{ m}$$

67. Option (3) is correct.

Adventure activity D had the second lowest number of participants 220.

68. Option (3) is correct.

Number of participants of activity G = 200

Number of participants of activity B = 360

$$\text{Ratio} = \frac{200}{360} = \frac{5}{9} = 5 : 9$$

69. Option (3) is the correct answer

Number of participants of activity A = 240

Number of participants of activity F = 300

Less number = 300 - 240 = 60

$$\text{Less\%} = \frac{60 \times 100}{300} = 20\%$$

70. Option (3) is correct.

$$\text{Increased in activity G} = \frac{30}{100} \times 300 = 90$$

$$\text{Increased percentage} = \frac{90 \times 100}{200} = 45\%$$

71. Option (4) is correct.

$$\text{Perimeter} = 2(l + b)$$

$$82 = 2(l + 20)$$

$$\Rightarrow 41 = l + 20 \Rightarrow l = 41 - 20 = 21$$

$$\text{Diagonal} = \sqrt{l^2 + b^2} = \sqrt{(21)^2 + (20)^2}$$

$$= \sqrt{441 + 400} = \sqrt{841} = 29 \text{ cm}$$

72. Option (2) is correct.

$$\text{Circumference of circle} = 2\pi r = 2 \times \frac{22}{7} \times 7 = 44 \text{ cm}$$

73. Option (2) is correct.

$$\text{Volume of hemisphere} = \frac{2}{3} \pi r^3$$

$$89.83 = \frac{2}{3} \times \frac{22}{7} \times r^3$$

$$\Rightarrow r^3 = \frac{89.83 \times 3 \times 7}{2 \times 22} = 42.87$$

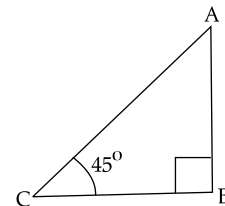
$$\Rightarrow r = (42.87)^{1/3} = 3.5$$

$$\text{Diameter} = 3.5 \times 2 = 7 \text{ cm}$$

74. Option (2) is correct.

$$\angle A = 180^\circ - (90^\circ + 45^\circ) = 45^\circ$$

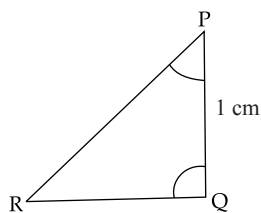
$$\therefore \text{cosec } A - 3 = \text{cosec } 45^\circ - \sqrt{3} = \sqrt{2} - \sqrt{3}$$

**75. Option (3) is correct.**

$$\sin P = \frac{12}{13} = \frac{RQ}{PR}$$

$$\therefore RQ = 12x \text{ and } PR = 13x$$

$$PR^2 = PQ^2 + RQ^2$$



$$\Rightarrow (13x)^2 = (1)^2 + (12x)^2$$

$$\Rightarrow 169x^2 = 1 + 144x^2$$

$$\Rightarrow 25x^2 = 1 \Rightarrow x^2 = \frac{1}{25}$$

$$\Rightarrow x = \frac{1}{5}$$

$$\therefore QR = 12x = 12 \times \frac{1}{5} = 2.4 \text{ cm}$$

76. Option (1) is correct.

The Brent Index is linked to crude oil prices. Brent Crude is a trading classification of sweet light crude oil that serves as a major benchmark price for purchasing oil globally. It comes from the North Sea and is made up of Brent Blend, Ekofisk Crude, Forties Blend, and Oseberg. The Brent index is the average price of trading in the 25-day Brent Blend, Oseberg, the Forties, Ekofisk (BFOE) market in the relevant delivery month, as reported and confirmed by industry media.

77. Option (4) is correct.

Fourth Five-Year Plan (1969-74): It was introduced during Indira Gandhi's Prime Ministership and attempted to correct previous failures. The Gadgil Formula placed a strong emphasis on growth with stability and progress toward self-sufficiency. The government nationalised 14 major Indian banks, and the Green Revolution boosted agriculture. The Drought Prone Area Programme was also launched. The target growth rate was 5.6%, but the actual growth rate was 3.3%.

78. Option (2) is correct.

The Southern Alps are a mountain range in New Zealand. It is located on New Zealand's South Island. It is approximately 500 kilometres long. The tallest peak in New Zealand is Aoraki (also known as Mount Cook), which stands at 3,724 metres. The Southern Alps are a mountain range that runs the length of New Zealand's South Island. The range includes the South Island's Main Divide, which divides the water catchments on the island's more densely populated eastern side from those on the west coast.

79. Option (3) is correct.

The Meghna is the name given to the confluence of the Ganga and the Brahmaputra Rivers. The Meghna is a significant River in Bangladesh. The Meghna River's tributaries originate in the mountains of eastern India and flow southwest to join. The Meghna's headstream, the Barak, rises in the hills of Manipur. The Ganges, Brahmaputra (also known as Jamuna), and Meghna rivers merge near Bhairab Bazar, Bangladesh, and flow into the Bay of Bengal as the Meghna River.

80. Option (1) is correct.

Yoga-darsana, codified in Patanjali's work, is based on the exposition of an age-old meditative tradition's epistemological, metaphysical, and methodological ideas, and is widely known as the Yoga Sutras. The Shad-Darsanas (the six schools of philosophy) or the Shat-Sastras are: the NYAYA, founded by Gautama Rishi, the VAISESHIKA by Kanada Rishi, the SANKHYA by Kapila Muni, the YOGA by Patanjali Maharshi, the PURVA MIMAMSA by Jaimini, and the UTTARA MIMAMSA or VEDANTA by Badarayana or Vyasa.

81. Option (2) is correct.

Patil was the officer in charge of village administration during the Maratha period. Shivaji's kingdom was divided into four provinces. Each province was given its own Mamlatdar or Viceroy. Each province was further subdivided into districts and villages. Deshpande or Patel was the village chief's name. He was in charge of running the village's affairs with the help of the Village Panchayat.

82. Option (4) is correct.

Govind Swami Pillai is associated with the violin. He and Kamal Krishna Aiyar pioneered new experiments and cemented the violin's place in Carnatic music. Among all the South Indian musical instruments, the violin is the most prominent. He made novel experiments and firmly established the violin in Karnatic music in the last quarter of the nineteenth century.

83. Option (1) is correct.

The Israeli Parliament has passed legislation that will limit the powers of the country's police. This contentious law was enacted on December 28, 2017. This law prohibits police from recommending to the attorney general whether or not to charge suspects at the conclusion of an investigation.

84. Option (1) is correct.

Prof Hans Joachim Schellnhuber of Germany was awarded the 2017 Blue Planet Prize, the world's most prestigious award for environmental science pioneers, in October 2017. In Tokyo, he was honoured for establishing a new field of science called "Earth System Analysis" and introducing the most influential concepts, such as the concept of tipping elements in the climate system.

85. Option (1) is correct.

Bangladesh's national emblem was adopted in 1971. Bangladesh's national flower is the water Lily, which is resting on water, has rice sheaves on each side, and is surmounted by three connected jute leaves with two stars on each side of the leaves. Bangladesh's national flower is the Shapla (Nymphaea nouchali). Under the name Ambal, Nymphaea nouchali is considered a medicinal plant in Indian Ayurvedic medicine.

86. Option (4) is correct.

The sum of the number of protons and neutrons is always equal to the mass number. The Atomic mass of an atom is determined by its mass number. The atomic number of an element is the number of protons in its nucleus. A represents the mass number, while Z represents an atomic number. Number of Protons + Number of Neutrons = Mass Number
Neutron number = Mass Number - Atomic Number = A - Z

87. Option (4) is correct.

All I, II, and III are the correct answers. Ethanol is also referred to as Ethyl Alcohol. It has the chemical formula C₂H₅OH. Ethanol is an excellent solvent. Many compounds that are insoluble in water become soluble in ethanol. It is found in a variety of medications, including tincture iodine and cough syrups. Ethanol has a melting point of -114° C and a boiling point of 78.37° C, both of which are very low in comparison to water.

88. Option (4) is correct.

All of the options are correct. Article 21 deals with Protection of Life and Personal Liberty: It states that no one shall be deprived of his life or personal liberty except in accordance with the legal procedure. The Apex Court provided a list of some of the Article 21 rights through various judgments. They are as follows: the right to travel abroad, the right to be free of solitary confinement, the right to be free of handcuffs, and the right to a delayed execution. The right to adequate shelter, The right to life in prison, The right to be free from public execution, Doctors' assistance, the right to clean water and air, the protection of the accused, the right of every child to full development, the preservation of cultural heritage, the

right to live with dignity, and so on. The Supreme Court has defined the 'right to life' as follows: "The right to life would encompass the right to food, the right to clothing, the right to a decent environment, and the right to a reasonable place to live." In August 2017, the Supreme Court ruled that the right to privacy is inextricably linked to the right to life and personal liberty under Article 21 and Part III of the Constitution.

89. Option (3) is correct.

The Municipalities or Urban Local Governments system was established as a constitutional entity by the 74th Constitutional Amendment Act of 1992. In India, the term "Urban Local Government" refers to the process by which an urban region is governed by the electorate. An urban local government can only regulate activities within a given urban region designated by the state government. Because of the Act, municipalities are now governed by the Constitution's justiciable provisions.

90. Option (2) is correct.

CO₂ is NOT a waste material removed from the blood by the kidney. Blood-carrying CO₂ enters the heart via the Vena Cava and travels to the lungs via the pulmonary arteries, where it is expelled from the body. When we breathe out, we expel carbon dioxide from our lungs. Carbon dioxide-containing blood flows from veins throughout the body to the heart, which then pumps it to the lungs. The lungs small air sacs (alveoli) remove carbon dioxide from the blood and release it into the lungs, where it is exhaled.

91. Option (1) is correct.

Osmosis is the movement of water molecules across the plasma membrane. Osmosis is the passage of water from a higher-concentration region to a lower-concentration region via a semi-permeable membrane. A plasma membrane, also known as a cell membrane, is a semipermeable or selectively permeable membrane that allows certain molecules to pass through while keeping others out.

92. Option (4) is correct.

The second phase of the 'Bharat Net Project' was launched in November 2017. Its estimated cost is ₹ 34,000 crore. BharatNet is a national-level project that aims to build a highly scalable network capable of providing on-demand, affordable broadband connectivity ranging from 2 Mbps to 20 Mbps to all rural households and institutions by 2017. BSNL, RailTel, and Power Grid are carrying out the project. It is supported by the Universal Service Obligation Fund (USOF).

93. Option (4) is correct.

In November 2017, NASA successfully tested a supersonic landing parachute for its Mars 2020 mission. The parachute-testing series for the Advanced Supersonic Parachute Inflation Research Experiment (ASPIRE) mission was launched on a 58-foot-tall Black Brant IX sounding rocket to evaluate ASPIRE payload performance. The special parachute will aid in slowing the spacecraft as it enters the Martian atmosphere at a speed of more than 5.4 kilometers per second. The payload is a bullet-nosed, cylindrical structure that houses a supersonic parachute, its deployment mechanism, and high-definition instrumentation, including cameras for data collection. The Mars 2020 rover mission will attempt to determine the potential habitability of the Martian environment and look for evidence of ancient Martian life.

94. Option (2) is correct.

GIC Re launched India's third largest 'Initial Public Offering (IPO)' in October 2017, raising ₹ 11,370 crores. The General Insurance Corporation of India (GIC Re) is the largest reinsurance company in India. Reinsurance is insurance

that an insurance company purchases from other insurance companies in order to manage its risk. GIC Re has launched an IPO worth ₹ 11,370 crores, the third largest after Coal India and Reliance Power. An IPO is a flotation in which an issuer or company offers ordinary stock or shares to the public. It is a company's first public offering of stock.

95. Option (1) is correct.

The High Court and Supreme Court Judges (Salaries and Conditions of Service) Amendment Bill, 2017, was passed by the Lok Sabha on January 5, 2018. The bill proposes raising the Chief Justice of India's (CJI) monthly salary to nearly ₹ 2.80 lakhs. Mr Ravi Shankar Prasad, Minister for Law and Justice, introduced it in Lok Sabha on December 21, 2017. It proposes raising the monthly salary of the Chief Justice of India (CJI) to nearly ₹ 2.80 lakhs, that of Supreme Court judges and Chief Justices of High Courts to ₹ 2.5 lakh, and that of Judges of High Courts to ₹ 2.25 lakh.

96. Option (4) is correct.

The resistance of an electrical component if a current of 0.4 A passes through it on the application of 12 V of a potential difference across it is 30Ω. Formula: Potential Difference V = Current I × Resistance R Therefore, R = V ÷ I So, = 12 ÷ 0.4 = 30 Ω. Resistance is the hindrance offered to the current in its passage through the conductor.

97. Option (1) is correct.

If the acceleration due to gravity on the surface of the earth is g , then the acceleration due to gravity on the surface of a planet whose mass is half of that of the earth and whose radius is the same as that of the earth is $\frac{g}{2}$. The formula for the

$$\text{acceleration due to gravity} = \frac{Gm}{r^2}$$

Where, G = Newton's gravitational constant = $6.67 \times 10^{-11} \text{ N m}^2/\text{kg}^2$.

m = mass of the Earth and r = radius of the Earth.

Let us take m_1 as the mass of the planet which is half of that of the Earth and g_1 is its acceleration due to gravity.

$$\text{Now } g_1 = \frac{Gm_1}{r^2}$$

$$\text{Putting } m_1 \text{ as } m/2, \text{ we get, } g_1 = \frac{Gm}{2r^2}$$

98. Option (3) is correct.

A Richter scale is a tool for determining the magnitude of an earthquake. It is not a linear scale. The Richter scale is a logarithmic scale with a base of ten that is used to determine the magnitude of an earthquake. This means that a magnitude 6 earthquake would be 10 times stronger than a magnitude 5 earthquake and 100 times stronger than a magnitude 4 earthquake.

99. Option (1) is correct.

Kings XI Punjab retained Axar Patel in the 2018 IPL auctions. Axar Patel (born January 1994) is a cricketer from India. He is a slow left-arm orthodox bowler and bats left-handed. He was the only cricketer retained by Kings XI Punjab for the 2018 IPL.

100. Option (1) is correct.

NIC provides network backbone and e-governance support to Indian government agencies. The acronym NIC stands for National Informatics Centre (Rashtriya Suchna Vigyan Kendra) It was established in 1976. Its headquarters are in New Delhi. It is the government's premier science and technology organisation for informatics services and information and communication technology (ICT) applications. NIC creates and manages nearly all Indian government websites.

