SSC CHSL Previous Paper 18 (Held On: 9 July 2019 Shift 2) (Previous Year Paper)

SSC Combined Higher Secondary Level (CHSL) • 2019 • 100 questions • 60 minutes • Answer key and solutions

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ENGLISH LANGUAGE

Directions

DIRECTIONS: In the following passage, some words have been deleted. Fill in the blanks with the help of the alternatives given. Select the most appropriate option for each blank.

Long before the dawn of modern environmental awareness and the stress on recycling, our forefathers developed the practice of eating off banana leaves. It is a timeless practice (1)____ in every Vedic ritual. The Vedas refer to (2) __ sacred properties of the banana plant, (3) __ uniquely bears fruit without pollination, the fruits containing no (4) __. The plant thus (5) ____ fertility and plenty.

Q1. Select the most appropriate option to fill in blank No.1.

- **(a)** brought
- **(b)** found
- **(c)** read
- **(d)** said

Q2. Select the most appropriate option to fill in blank No.2.

- **(a)** a
- **(b)** the
- **(c)** one
- **(d)** an

Q3. Select the most appropriate option to fill in blank No.3.

- **(a)** where
- **(b)** which
- **(c)** whom
- **(d)** who

Q4. Select the most appropriate option to fill in blank No.4.

- **(a)** roots
- **(b)** branches
- **(c)** leaves
- **(d)** seeds

Q5. Select the most appropriate option to fill in blank No.5.

- **(a)** symbolises
- **(b)** refers
- **(c)** explains
- **(d)** means

Q6. Select the correctly spelt word

(a) ecseption
(b) exception
(c) execption
(d) ecxeption

Q7. Select the most appropriate synonym of the given word.

IDEOLOGY

(a) Mark
(b) Contract
(c) Belief
(d) Recognition

Q8. Select the most appropriate word for the given group of words

The art of cleaning and preserving animal skins

(a) dermatology
(b) taxidermy
(c) taxonomy
(d) etymology

Q9. Given below are four jumbled sentences. Out of the given options pick the one that gives their correct order.

A. His affectionate greeting was surprising.

B. Although we were from the same village our relationship was confined to a polite hello whenever our paths crossed.

C. As I stepped into the shack, Dorababu beckoned to me, making a little space for me on the bench on which he was sitting.

D. "Come here, brother," he greeted me.

(a) CABD
(b) CDAB
(c) BACD
(d) DBCA

Q10. Select the most appropriate word to fill in the blank.

Government personnel on official trips are _____ to claim reimbursement of their expenses.

(a) incited
(b) indicted
(c) invited
(d) entitled

Q11. Select the most appropriate word for the given group of words.

One who makes and sells sweets and pastries

(a) barber
(b) grocer
(c) confectioner
(d) cobbler

Q12. Identify the segment in the sentence which contains the grammatical error.

When we went to Ramgarh we see the snow-capped mountains in the distance.

(a) to Ramgarh we see
(b) the snow-capped mountains
(c) When we went
(d) in the distance

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Q13. Select the most appropriate option to substitute the underlined segment in the given sentence. If there is no need to substitute it, select No improvement.

What a relief to sit down after walking in the park from a hour!

(a) No improvement
(b) in a hour
(c) for an hour
(d) by a hour

Q14. Select the most appropriate antonym of the given word.

TACIT

(a) explicit
(b) mute
(c) silent
(d) inaudible

Q15. Select the most appropriate word to fill in the blank.

The critics were _____ about his remarks on the efficiency of the government and gave many examples to prove they didn't agree with him.

(a) morose
(b) optimistic
(c) rational
(d) cynical

Q16. Select the correct indirect form of the given sentence.

Uma asked me, "How's your brother?"

(a) Uma asked me how is my brother.
(b) Uma asked me how was my brother
(c) Uma asked me how my brother was.
(d) Uma asked me how your brother was.

Q17. Given below are four jumbled sentences. Out of the given options pick the one that gives their correct order.

A. The first person who thought of trading must have been a clever person.

B. He must have found them easy to carry and exchange for goods.

C. And gradually paying for things in gold and silver became a regular practice.

D. When gold and silver were first found people started using them for trade.

(a) BDCA
(b) CDAB
(c) DBCA
(d) DABC

Q18. Identify the segment in the sentence which contains the grammatical error.

The young girl was helping her father to look after his shop.

(a) her father
(b) was helping
(c) The young girl
(d) to look after his shop

Q19. Select the most appropriate synonym of the given word.

MEDDLE

(a) elaborate
(b) manage
(c) interfere
(d) repair

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Q20. Select the correct passive form of the given sentence.

They are going to open the shops at eleven o'clock.

(a) The shops were opened at eleven o'clock.
(b) The shops have been opened at eleven o'clock.
(c) The shops are going to be opened at eleven o'clock.
(d) The shops must be opened at eleven o'clock.

Q21. Select the most appropriate antonym of the given word.

PROCEED

(a) recede
(b) ahead
(c) continue
(d) forward

Q22. Select the most appropriate meaning of the given idiom

hand in glove

(a) doing work in the garden
(b) in partnership for something dishonest
(c) wearing gloves while working
(d) working together in the same office

Q23. Select the most appropriate meaning of the given idiom

dark horse

(a) someone who unexpectedly succeeds
(b) someone who has a wheatish complexion
(c) someone who is fond of horse racing
(d) someone who breeds race horses

Q24. Select the most appropriate option to substitute the underlined segment in the given sentence. If there is no need to substitute it, select No improvement.

Its always advisable put your car into neutral gear when you stop at a traffic signal.

(a) Its always advisable putting
(b) It's always advisable to put
(c) It is always advisable for putting
(d) No improvement

Q25. Select the wrongly spelt word

(a) preferential
(b) presidential
(c) proverbial
(d) profesional

GENERAL INTELLIGENCE

Q26. In a code language, GLUCOSE is written as DJTCPUH. How will SUCROSE be written as in that language?

(a) PSBRPVH
(b) PSBSPUH
(c) PSBTPUH
(d) PSBRPUH

Q27. Three of the following four words are alike in a certain way and one is different.

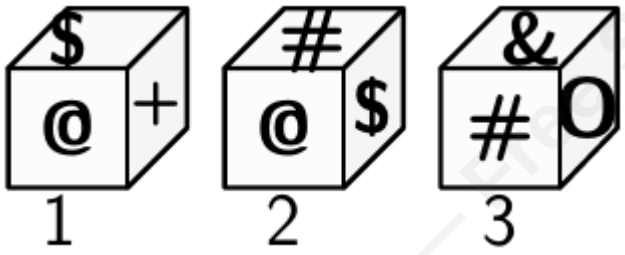
Pick the odd word out.

(a) Frog
(b) Bleat

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(c) Moo
(d) Bark

Q28. Three different positions of the same dice are shown Select the pattern that will be on the face opposite to the one having '+'.



(a) &
(b) $
(c) O
(d) #

Q29. Which two signs should be interchanged in the following equation to make it correct?

15 + 8 - 20 × 10 ÷ 5 = 13

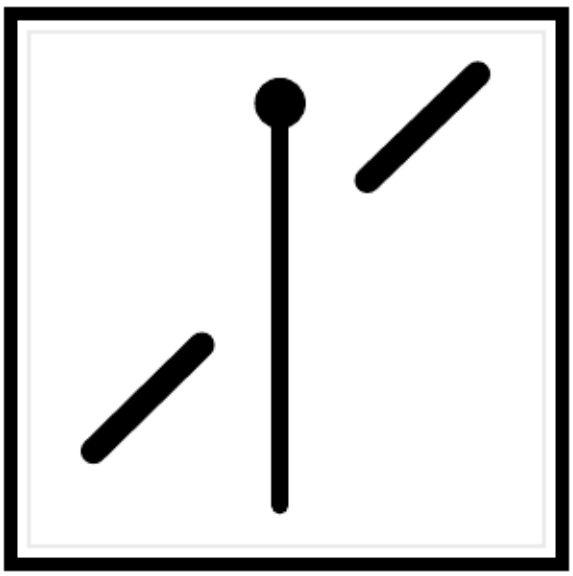
(a) • and ÷
(b) • and -
(c) × and -
(d) × and ÷

Q30. Select the set in which the numbers are related in the same way as are the numbers of the following set.

(5, 8, 89)

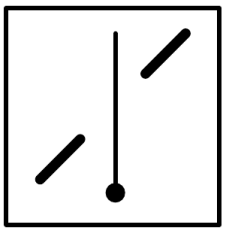
(a) (7, 10, 149)
(b) (2, 5, 19)
(c) (6, 9, 60)
(d) (3, 4, 7)

Q31. Select the correct mirror image of the given figure when the mirror is placed to the right of the figure.

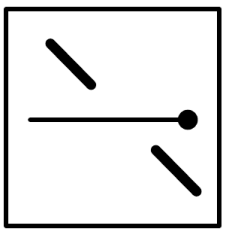


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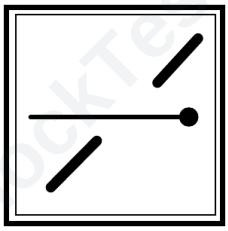
(a)



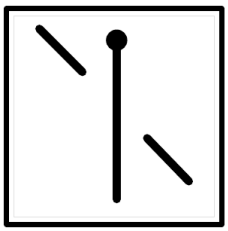
(b)



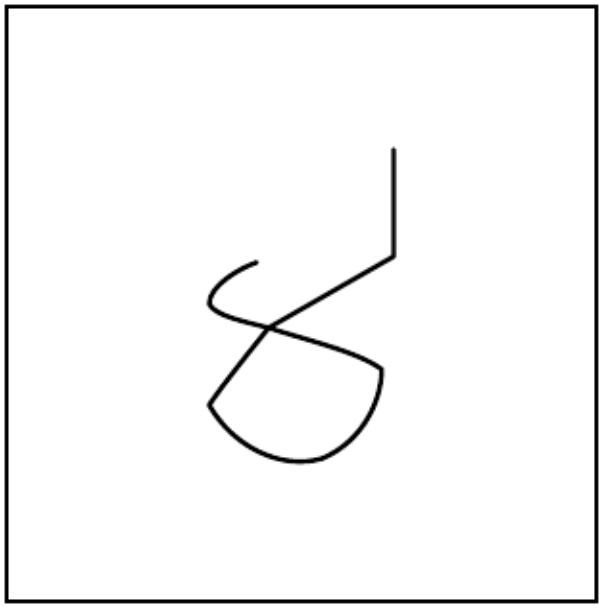
(c)



(d)

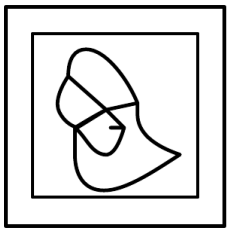


Q32. Select the option in which the given figure (X) is embedded.

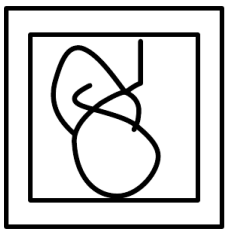


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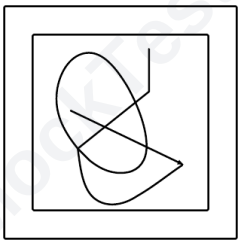
(a)



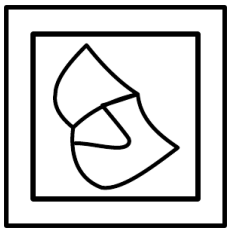
(b)



(c)



(d)



Q33. Two statements are given, followed by three conclusions numbered I, II and III. Assuming the statements to be true, even if they seem to be at variance with commonly known facts, decide which of the conclusions logically follow(s) from the statements.

Statements:

All cocks are bears.

All bears are horses.

Conclusions:

I. Some bears are cocks.

II. Some horses are cocks.

III. All cocks are horses.

(a) Only conclusions I follow.

(b) Only conclusions II and III follow.

(c) All the conclusions follow.

(d) Only conclusions I and II follow.

Q34. Select the number-pair in which the two numbers are related in the same way as are the two numbers of the following number-pair.

7 : 56

(a) 6 : 36

(b) 13 : 173

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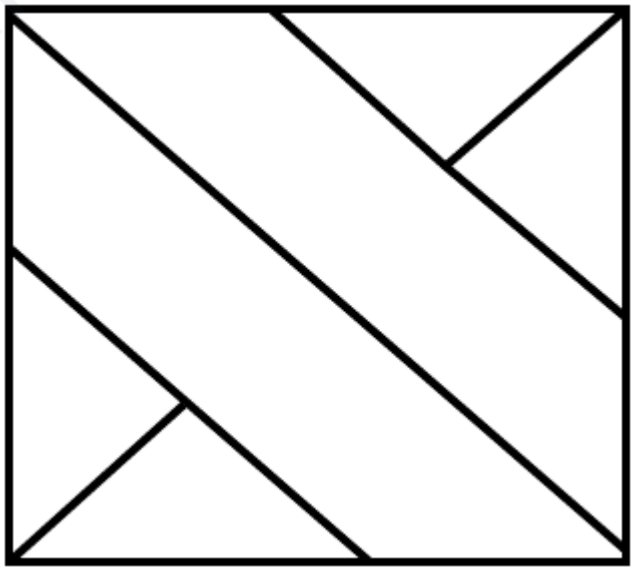
(c) 9 : 90
(d) 11 : 121

Q35. Select the set in which the numbers are related in the same way as are the numbers of the following set.
(16, 64, 8)
(a) (10, 80, 8)
(b) (15, 60, 8)
(c) (14, 62, 4)
(d) (18, 90, 6)

Q36. Three of the following four letter-clusters are alike in a certain way and one is different.
Pick the odd one out.
(a) LNOM
(b) CEXV
(c) STHI
(d) PRKI

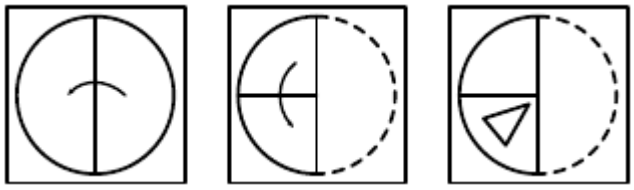
Q37. 'Sunflower' is related to 'Yellow' in the same way as 'Blood' is related to '_____'.
(a) Human
(b) Red
(c) Iron
(d) Animal

Q38. How many tringles are present in the following figure?



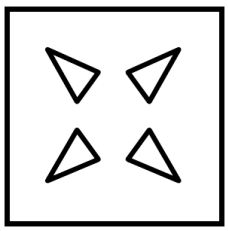
(a) 8
(b) 5
(c) 7
(d) 10

Q39. A paper is folded and cur as shown in the following figures (X, Y and Z). Select the option that depicts how this paper will appear when unfolded?

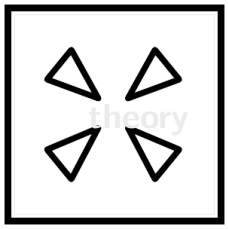


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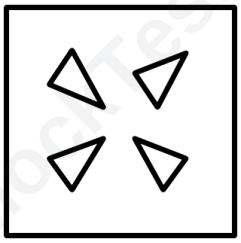
(a)



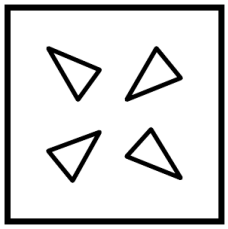
(b)



(c)



(d)



Q40. Dev is the brother of Sneha and Mayank is the father of Dev. Swati is the sister of Sneha. How is Mayank related to Swati?

(a) Father
(b) Brother
(c) Son
(d) Sister

Q41. Three of the following four numbers are alike in a certain way and one is different.

Pick the number that is different from the rest.

(a) 67
(b) 37
(c) 47
(d) 57

Q42. The age of a father is twice the age of his son. Five years ago, the father's age was thrice the age of the son then what is the age of the son now?

(a) 15 years
(b) 12 years
(c) 10 years
(d) 20 years

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Q43. Which number will replace the question mark (?) in the following series?

6, 7, 11, 20, ?

(a) 36
(b) 29
(c) 32
(d) 35

Q44. Select the option that is related to the third letter-cluster in the same way as the second letter-cluster is related to the first letter-cluster.

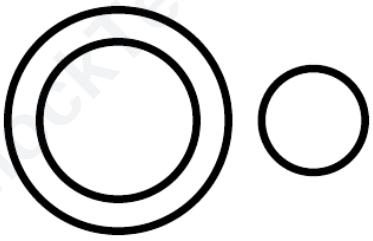
BEH : FJN : : ILO : ?

(a) MOV
(b) MQU
(c) MQV
(d) MOU

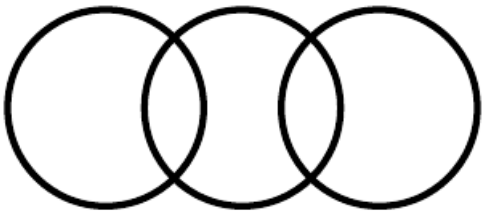
Q45. Select the Venn diagram that best illustrates the relationship between the following classes.

Heart, Body, House

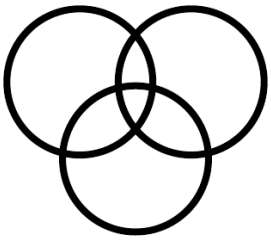
(a)



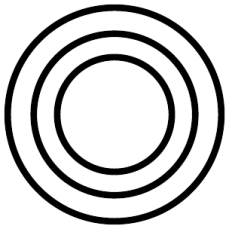
(b)



(c)



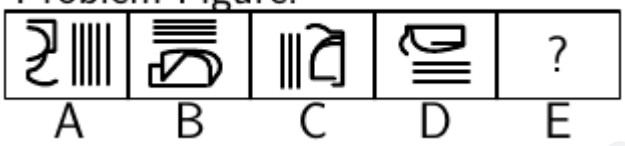
(d)



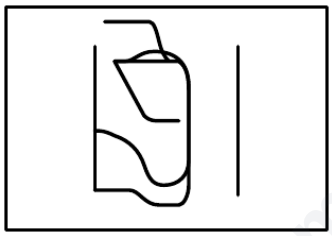
Q46. Select the Answer Fig. that will come next in the following Problem Fig. series.

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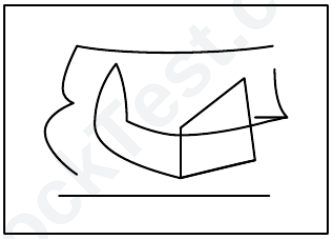
Problem Figure:



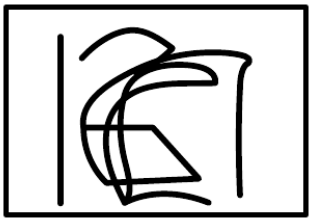
(a)



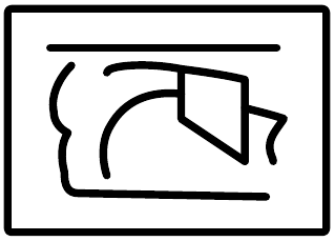
(b)



(c)



(d)



Q47. Arrange the following words in a logical and meaningful order.

1. Pupa
2. Death
3. Larva
4. Butterfly
5. Egg

(a) 3, 1, 2, 4, 5
(b) 3, 1, 4, 2, 5
(c) 5, 3, 1, 2, 4
(d) 5, 3, 1, 4, 2

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Q48. If BOOK is coded as 24411 and EQUATION is coded as 21751203414, then how will FOOTBALL be coded as?

(a) 64420221212
(b) 64420212212
(c) 61520211212
(d) 64420211212

Q49. Select the word-pair in which the two words are related in the same way as are the two words in the following word-pair.

Tortoise : Reptile

(a) Spider : Reptile
(b) Shark : Mammal
(c) Snail : Mollusk
(d) Snake : Amphibian

Q50. Which letter-pair will replace the question mark (?) in the following series?

BE, DG, FK, HQ, ?

(a) YJ
(b) JX
(c) JS
(d) JY

QUANTITATIVE APTITUDE

Q51. The ratio between the speeds of two trains is 2 : 5. If the first train runs 250 km in 5 h, then the sum of the speeds (in km/ h) of both the trains is:

(a) 150
(b) 165
(c) 175
(d) 180

Q52. If $x - 1/x = 7$, then $x^3 – 1/x^3$ is equal to:

(a) 480
(b) 500
(c) 364
(d) 376

Q53. If the seven-digit number 64x29y6 (x > y) is divisible by 72, what is the value of (2x – y)?

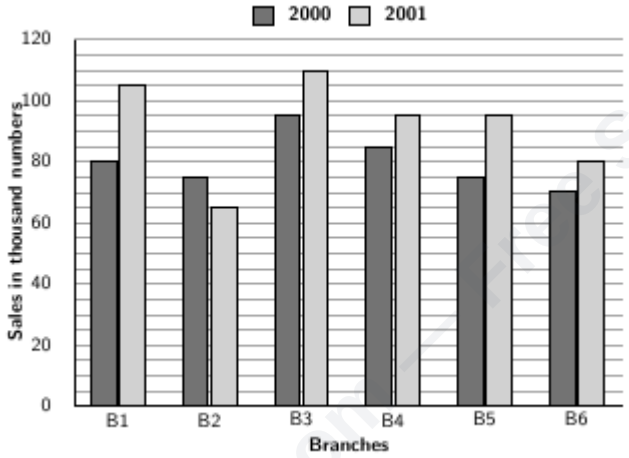
(a) 13
(b) 7
(c) 3
(d) 9

Q54. The average age of fifteen persons is 32 years. If two more persons are added, then the average is increased by 3 years. The new persons have an age difference of 11 years between them. The age (in years) of the younger among the new person is:

(a) 50
(b) 52
(c) 63
(d) 58

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Q55. The given Bar Graph presents the sales of the number of books (in thousands) by six branches of publishing company during two consecutive years 2000 and 2001.



The ratio of total sales by branches B1, B3 and B5 for both the years to total sales by branches B2, B4 B6 for the years is:

(a) 47 : 56
(b) 56 : 47
(c) 23 : 21
(d) 21 : 23

Q56. If $a^3 - b^3 = 899$ and $a - b = 29$, then $(a - b)^2 + 3ab$ is equal to:

(a) 29
(b) 35
(c) 16
(d) 31

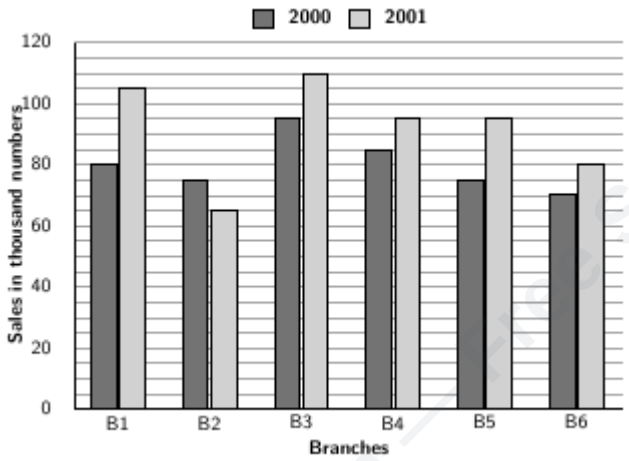
Q57. If the length of a rectangle is decreased by 11% and the breadth is increased by 11%, its area will undergo:

(a) 1.21% increase
(b) 13.13% decrease
(c) 13.13% increase
(d) 1.21% decrease

Q58. ABCD is a cyclic quadrilateral such that AB is a diameter of the circle circumscribing it and angle ADC = 146°. angle BAC is equal to:

(a) 18°
(b) 24°
(c) 72°
(d) 56°

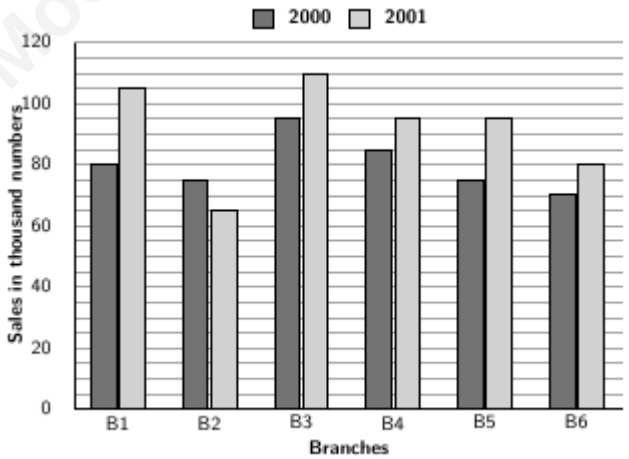
Q59. The given Bar Graph presents the sales of the number of books (in thousands) by six branches of publishing company during two consecutive years 2000 and 2001.



The average of total sales (in thousands and Correct to two decimal places) by all branches for both the years is:

(a) 171.37
(b) 171.67
(c) 171.57
(d) 171.27

Q60. The given Bar Graph presents the sales of the number of books (in thousands) by six branches of publishing company during two consecutive years 2000 and 2001.



The total sales (in thousands) by all branches for both the years is:

(a) 1030
(b) 560
(c) 470
(d) 1100

Q61. The simplified value of (46 + 3/4 of 32 - 6)/(11 + 3/4 of (34 - 6)) is:

(a) 2
(b) 14
(c) 1
(d) 12

Q62. If $\sec\theta = 8x$ and $\tan\theta = 8/x$ $(x \neq 0)$, then the value of $16\left(x^2 - \frac{1}{x^2}\right)$ is:

(a) 1/4
(b) 1/16
(c) 1/2
(d) 1/3

Q63. A earns Rs. 100 per hour and works for 8 hours per day. B earns Rs. 120 per hour and works for 6 hours per day. The ratio of per day wages of B to that of A is:

(a) 10 : 9
(b) 9 : 10
(c) 4 : 5
(d) 5 : 4

Q64. If $\cos x = -\sqrt{3}/2$ and $\pi < x < 3\pi/2$, then the value of $4\cot^2 x - 3\operatorname{cosec}^2 x$ is:

(a) 0
(b) 2
(c) 8
(d) 1

Q65. If $7(\operatorname{cosec}^2 57° - \tan^2 33°) + 2\sin 90° - 4\tan^2 52° \, y \tan^2 38° = y/2$, then the value of y is:

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

Q66. If x^4 + x^(-4)= 1154, (x > 0) then the value of $2(x - 3)^2$ is:

(a) 16
(b) 12
(c) 20
(d) 15

Q67. In ΔABC, angle A = 72°. Its sides AB and AC are produced to the points D and E respectively. If the bisectors of the angle CBD and angle BCE meet at point O, then angle BOC is equal to:

(a) 32°
(b) 16°
(c) 54°
(d) 106°

Q68. The compound interest on a certain sum of money at 21% for 2 years is Rs. 11,602.5. Its simple interest (in Rs.) at the same rate and for the same period is:

(a) 10,500
(b) 10,750
(c) 16,000
(d) 12,500

Q69. The distance between the centers of two circles of a radius of 6 cm each is 13 cm. The length (in cm) of a transverse common tangent is:

(a) 10
(b) 5
(c) 6
(d) 12

Q70. A dealer buys an article marked at Rs. 5000 with two successive discounts of 20% and 5%. He spends Rs. 200 on repairs and sells it for Rs. 5000, what is his profit/loss percent?

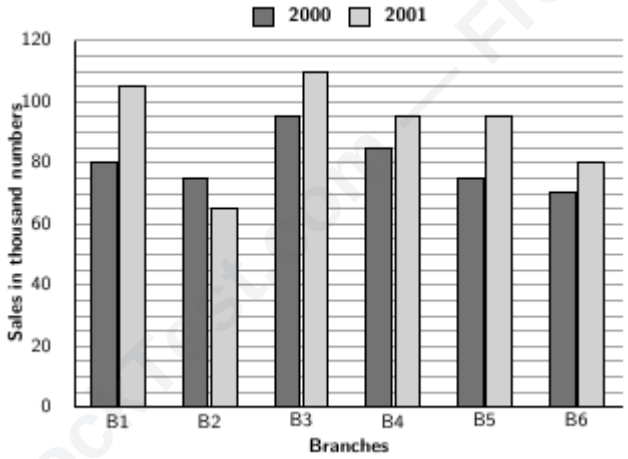
(a) 25% profit
(b) 20% loss
(c) 25% loss
(d) 20% profit

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Q71. The sum of the salaries of A and B is Rs. 42,000. A spends 75% of his salary and B spends 90% of his salary. Now their savings are the same. What is A's salary (in Rs.)?

(a) 12,000
(b) 30,000
(c) 18,000
(d) 15,000

Q72. The given Bar Graph presents the sales of the number of books (in thousands) by six branches of publishing company during two consecutive years 2000 and 2001.



The ratio of total sales by all branches for the year 2001 to total sales by all branches for the year 2000 is

(a) 55 : 48
(b) 48 : 55
(c) 25 : 23
(d) 23 : 25

Q73. A and B can complete a piece of work in 15 days and 20 days respectively. They got a contract to complete the work Rs. 77000. The share of A (in Rs) in the contracted money will be:

(a) 45,000
(b) 42,000
(c) 44,000
(d) 40,000

Q74. Let ΔABC ~ ΔQPR and ar(ΔABC)/ar(ΔPQR) = 4/25. If AB = 12 cm, BC = 8 cm and AC = 10 cm, then QP is equal to:

(a) 30
(b) 20
(c) 18
(d) 15

Q75. A man bought three articles for Rs. 6,000 each. He sold the article respectively at 15% profit, 12% profit and 15% loss. The total percentage profit/loss he earned is:

(a) 4% profit
(b) 4% loss
(c) 3% loss
(d) No profit no loss

GENERAL AWARENESS

Q76. Japan's second highest national award called 'The Order of the Rising Sun, Gold and Silver Star' was conferred on _____ in 2019.

(a) Kewal Singh
(b) Shyam Saran

(c) Rajeshwar Dayal
(d) JS Mehta

Q77. Jhijhia dance originated in the Indian state of _____.
(a) Rajasthan
(b) West Bengal
(c) Bihar
(d) Gujarat

Q78. In computing, _____ is a network security system that monitors and controls incoming and outgoing network traffic based on predetermined security rules.
(a) Spyware
(b) Cookie
(c) Spam
(d) Firewall

Q79. _____ created history and became the first Indian medalist at the 2003 World Athletics Championships in Paris when she won a bronze medal in women's the long jump (6.70 m).
(a) Dutee Chand
(b) KM Beenamol
(c) Anju Bobby George
(d) Jyotirmoyee Sikdar

Q80. Which of the following Indian rulers was defeated by Mahmud Ghazni in his first attack in the year 1001 AD?
(a) Chandrapal
(b) Anandpal
(c) Sukhpal
(d) Jaipal

Q81. As of June 2019, _____ in Madhya Pradesh recorded the highest temperature, at 46.6°C, in the world.
(a) Satna
(b) Rewa
(c) Khargone
(d) Burhanpur

Q82. In which year the administration of India was transferred into the hands of the British Monarch by the Proclamation of Queen Victoria?
(a) 1858
(b) 1887
(c) 1842
(d) 1864

Q83. The thin layer of living cells just inside the bark of a tree is called _____.
(a) Cambium
(b) Pith
(c) Crown
(d) Xylem

Q84. The book titled 'Social Harmony' is written by:
(a) Atal Bihari Vajpayee
(b) Shyama Prasad Mukherjee
(c) Narendra Modi
(d) Lal Krishna Advani

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Q85. Which city in Pakistan is called the ‘Gardens of the Mughals or City of Gardens’?

(a) Lahore
(b) Multan
(c) Karachi
(d) Peshawar

Q86. Aapka bhala, sabki bhalai is the tag line of _____ bank.

(a) Bandhan Bank
(b) HDFC Bank
(c) Canara Bank
(d) State Bank of India

Q87. Pandit Budhaditya Mukherjee is associated with which of the following musical instruments?

(a) Sitar
(b) Flute
(c) Tabla
(d) Veena

Q88. The _____ shows all the combinations of two commodities that a consumer can afford at given market prices and within the particular income level.

(a) Supply line
(b) Budget line
(c) Utility line
(d) Demand line

Q89. What is the solid crust or the hard top layer of the earth called?

(a) Mantle
(b) Hydrosphere
(c) Biosphere
(d) Lithosphere

Q90. Dogri language is mainly spoken in which of the following states/union territories?

(a) Dadra and Nagar Haveli
(b) Tripura
(c) Mizoram
(d) Jammu and Kashmir

Q91. The first defence minister of independent India was:

(a) Baldev Singh
(b) Shri Jagjivan Ram
(c) Sardar Vallabhbhai Patel
(d) C Rajagopalachari

Q92. Who was the first Indian to cross the English Channel?

(a) Mihir Sen
(b) Sachin Nag
(c) Virdhawal Khade
(d) Sufyun Shaikh

Q93. Who among the following invented the World Wide Web (www) in 1989?

(a) Charles Babbage
(b) Steve Wozniak
(c) Tim Berners-Lee
(d) Bill Gates

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Q94. Who among the following is the longest serving President of India?

(a) Rajendra Prasad
(b) Shankar Dayal Sharma
(c) R Venkatraman
(d) Neelam Sanjiva Reddy

Q95. The SI unit of radioactivity is _____.

(a) cobolt
(b) decibel
(c) ampere
(d) becquerel

Q96. In 2019, the Indian Space Research Organisation's (ISRO) new commercial arm called NewSpace India Limited (NSIL) was officially inaugurated in the city of _____.

(a) Mumbai
(b) Bengaluru
(c) Ranchi
(d) Chennai

Q97. Tears in the eyes are produced by which of the following glands?

(a) Thyroid gland
(b) Lacrimal gland
(c) Pituitary gland
(d) Hypothalamus gland

Q98. The term 'Jamming' is associated with which of the following sports?

(a) Lawn Tennis
(b) Cricket
(c) Swimming
(d) Boxing

Q99. The _____ is the longest river in Sri Lanka.

(a) Kelani
(b) Kalu
(c) Maha
(d) Mahaweli

Q100. As of April 2019, who is the Chairman of the joint working group of IRDA and NHA, formed to curb fraud in the Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB-PMJAY)?

(a) Subhash C. Khuntia
(b) Dinesh Arora
(c) Nilesh Sathe
(d) Indu Bhushan

ANSWER KEY

1	b	2	b	3	b	4	d	5	a	6	b	7	c	8	b	9	b	10	d
11	c	12	a	13	c	14	a	15	d	16	c	17	d	18	d	19	c	20	c
21	a	22	b	23	a	24	b	25	d	26	d	27	a	28	d	29	d	30	a
31	d	32	b	33	c	34	c	35	b	36	c	37	b	38	a	39	b	40	a
41	d	42	c	43	a	44	b	45	a	46	a	47	d	48	d	49	c	50	d
51	c	52	c	53	d	54	b	55	b	56	d	57	d	58	d	59	b	60	a
61	a	62	a	63	b	64	a	65	a	66	a	67	c	68	a	69	b	70	a

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71	a	72	a	73	c	74	a	75	a	76	b	77	c	78	d	79	c	80	d
81	c	82	a	83	a	84	c	85	a	86	a	87	a	88	b	89	d	90	d
91	a	92	a	93	c	94	a	95	d	96	b	97	b	98	a	99	d	100	b

SOLUTIONS

Q1. Answer: (b) found

• The correct answer is Option 2 'found'.

• The sentence is talking about a ritual that was started a long ago and is saying that this practice was seen in every Vedic ritual. So the suitable word to be used is 'found'.

• The other words do not fit in the meaning of the context because the word 'brought' mean 'to transport, supply or contribute'.

• 'Read' means 'to speak aloud words or other information that is written' which is not at all related to the passage.

• The word 'said' will not fit in the blank because the practice was not said in the Vedic ritual, it was being practiced or found.

Q2. Answer: (b) the

• The correct answer is Option 2 'the' because we use the definite article 'the' when talking about a specific reference. In the passage we are talking about particular 'sacred practices'.

• Option 1 is wrong because the article 'a' is used only before consonant sounding words.

• Option 3 is wrong because we don't use the numeral 'one' before a plural entity.

• Option 4 is wrong because we use the article 'an' only before vowel sounding words.

Q3. Answer: (b) which

• The correct answer is Option 2 'which'.

• In this sentence the word 'which' fits the blank correctly as it refers to 'the banana plant' because we use 'which' to refer to animals, plants and things.

• Option 1 is wrong because the conjunction 'where' is used to ask about a place.

• Option 3 is wrong because the pronoun 'whom' is used to ask 'what person or which person'.

• Option 4 is wrong because the pronoun 'who' is used to ask 'what person or which person or about a person who is under discussion.

Q4. Answer: (d) seeds

• The correct answer is Option 4 'seeds'.

• The word 'seeds' fits in the blank because there are certain fruits that contain seeds inside them and certain fruits do not contain any seeds.

• It is the seed that bears fruit without pollination. No fruits contain roots, branches or leaves.

• Therefore, the correct answer is 'seeds'.

Q5. Answer: (a) symbolises

• The correct answer is Option 1 'symbolises'. The sentence is talking about a quality of plant that it is fertile. The suitable word to be used is 'symbolises' which means 'to represent'.

• All other options do not give proper meaning in the given sentence.

• Therefore, the word 'symbolises' is the correct answer.

Q6. Answer: (b) exception

The correct answer is Option 2 'exception' which means 'An act of excepting or excluding'.

Q7. Answer: (c) Belief

The correct answer is Option 3

Explanation:

'belief' which means 'faith and trust in the reality of something'.

• Ideology: Body of beliefs or principles, body of ideas.

• Mark: indication for reference or measurement; blemish.

• Contract: An agreement between two or more parties.

• Recognition: An awareness that something observed has been observed before.

Therefore, out of given options, 'belief' is the most appropriate word to the given word.

Q8. Answer: (b) taxidermy

• The correct answer is Option 2 'taxidermy' which means 'the art of stuffing and mounting the skin of dead animals' which satisfies the meaning of the given context.

• The meaning of other words:

• Dermatology: The study of skin and its diseases.

• Taxonomy: The science or the technique used to make a classification.

• Etymology: The study of the historical development of languages.

Q9. Answer: (b) CDAB

• The correct answer is Option 2.

• The sentence begins from C because this sentence is introducing a subject 'Dorababu'.

• Option 3 & 4 get eliminated.

• Sentence D is followed by sentence A because sentence D is expressing the greetings and then sentence A says that his affectionate greeting was surprising.

• Therefore, this sequence is followed in option 2 i.e. CDAB.

Q10. Answer: (d) entitled

• The correct answer is Option 4.

• The sentence is talking about government officials that they are authorized to get reimbursement (the act of compensating). So the blank should contain a word that gives similar meaning of having some authority to claim.

• The meaning of the given words:

• Incited: To stir up or excite; to rouse.

• Indicted: To accuse of wrongdoing; charge.

• Invited: To ask for the presence or participation.

• Entitled: Having a right to something, authorized, empowered.

• Therefore, 'entitled' is a word that fits perfectly in the given blank.

Q11. Answer: (c) confectioner

The correct answer is option 3.

Explanation:

The meaning of the given words:

• Barber: A person whose profession is cutting customers hair and beards.

• Grocer: A person who retails household supplies.

• Confectioner: A person who makes and sells sweets.

• Cobbler: A person who makes and repairs shoes.

Therefore, out of given options the word 'confectioner' gives the same meaning as the given context.

Q12. Answer: (a) to Ramgarh we see

• The correct answer is Option 1.

• The given sentence is in past tense but the phrase 'we see' is in present tense. This should be changed to past tense.

• Therefore the correct sentence is 'When we went to Ramgarh we saw the snow-capped mountains in the distance.'

Q13. Answer: (c) for an hour

• The correct answer is Option 3.

• The word 'hour' when pronounced gives the vowel sound. Therefore, we use the indefinite article 'an' before vowel sounding words.

• Therefore, the correct option to substitute the underlined segment is 'for an hour'.

Q14. Answer: (a) explicit

The correct answer is 1 i.e. explicit.

Explanation:

TACIT- understood or implied without being stated.

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• explicit- stated clearly and in detail, leaving no room for confusion or doubt.
• mute- refraining from speech or temporarily speechless.
• silent- not making or accompanied by any sound.
• inaudible- unable to be heard.
The chosen option express the opposite meaning of the given word.

Q15. Answer: (d) cynical

The correct answer is option 4 i.e. cynical.
morose- sullen and ill-tempered.
optimistic- hopeful and confident about the future.
rational- based on or in accordance with reason or logic.
cynical- believing that people are motivated purely by self-interest; distrustful of human sincerity or integrity.
The chosen is negative in meaning and contextually related to the sentence so, this will be appropriate to choose this as the answer.

Q16. Answer: (c) Uma asked me how my brother was.

The correct answer is option 3.
Explanation
The sentence is given in direct speech to convert it into indirect speech following changes should be done:
• An interrogative statement is converted into an assertive statement, so the auxiliary verb will come after the subject.
• Present Indefinite tense changes to past indefinite tense in indirect speech.
• Pronoun 'your' is changed into 'my'
• All inverted commas or quotation marks are omitted and the sentence ends with a full stop.
Thus, the sentence becomes: Uma asked me how my brother was.

Q17. Answer: (d) DABC

The correct answer is option 4 i.e. DABC
The sentence can not start with C as it is starting with AND.
Part B starts with pronoun so this is also not possible to be the starter.
Now it is clear that sentence must start with A or D.
as BOTH A and D contains the word trade, both should come together.
As option 3 and 4 starts with D but only Option 4 has the DA together so, it should be the answer.

Q18. Answer: (d) to look after his shop

The correct answer is option 4.
Help is followed by bare infinitive(infinitive without to).
So, we need to remove TO used before LOOK AFTER for making the sentence correct.
The correct sentence will be-
The young girl was helping her father look after his shop.

Q19. Answer: (c) interfere

The correct answer is option 3 i.e. interfere.
Explanation:
Meddle- interfere in something that is not one's concern.
• elaborate- involving many carefully arranged parts or details; detailed and complicated in design and planning.
• manage- be in charge of (a business, organization, or undertaking); run.
• interfere- intervene in a situation without invitation or necessity.
• repair- restore (something damaged, faulty, or worn) to a good condition.
The chosen option expresses the meaning of the given word.

Q20. Answer: (c) The shops are going to be opened at eleven o'clock.

The correct answer is option 3)
• we need to follow these instructions while changing the voice of an assertive sentence-
• Find the subject and object of the sentence and exchange their places; make changes in their cases as well if subject and object

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are pronouns.

• Sometimes we don't write the agency involved, in passive form.

• Generally, "Sub + is/am/are/was/were/will be/shall be + verb-ing form + other words" syntax is used for continuous tenses, but "Sub + is/am/are/was/were + going + Infinitive (to + verb¹) + other words" syntax is used to refer a time in near future e.g. I am going to take my lunch. (I will take my lunch in some time)

• So we will follow the rule of infinitive verbs to change the given sentence into it's passive form.

• Change "To + verb¹" into "to + be + verb³" (to be opened).

• At last line up all the remaining parts.

Following these steps, we finally get - "The shops are going to be opened at eleven o'clock."

Q21. Answer: (a) recede

The correct answer is option 1 recede.

Explanation:

PROCEED- begin a course of action.

• recede- go or move back or further away from a previous position.

• ahead- further forward in space; in the line of one's forward motion.

• continue- further forward in space; in the line of one's forward motion.

• forward-in the direction that one is facing or travelling; towards the front.

The chosen option shows the opposite meaning of the given word.

Q22. Answer: (b) in partnership for something dishonest

The correct answer is option 2 i.e. in partnership for something dishonest.

The meaning of the given idiom is- in close collusion or association.

The chosen option is as same as the meaning of the given idiom.

Q23. Answer: (a) someone who unexpectedly succeeds

The correct answer is option 1 i.e. someone who unexpectedly succeeds.

The meaning of the given idiom is -a candidate or competitor about whom little is known but who unexpectedly wins or succeeds.

The meaning of the phrase is as same as the chosen option.

Q24. Answer: (b) It's always advisable to put

The correct answer is option 2 i.e. it's always advisable to put.

The word advisable is followed by TO and only option 2 has this construction so this will be the answer to the question.

Q25. Answer: (d) profesional

The correct answer is option 4.

preferential- of or involving preference or partiality; constituting a favour or privilege.

presidential- relating to a president or presidency.

proverbial- (of a word or phrase) referred to in a proverb or idiom.

The correct word will be-

Professional- relating to or belonging to a profession.

Q26. Answer: (d) PSBRPUH

The pattern followed here is,

Similarly,

Hence, the correct answer is PSBRPUH.

Q27. Answer: (a) Frog

Except Frog, all are animal sounds. whereas 'Frog' is an animal.

Hence, ‘Frog’ is an odd one out.

Q28. Answer: (d) #

$ is a common term in first two dices so, now if we rotate the dice from $ anticlockwise or clockwise directions.

From the above diagram, it is evident that “+ is opposite to #”.

Hence, the correct answer is '#'.

Q29. Answer: (d) × and ÷

Expression: 15 + 8 - 20 × 10 ÷ 5

After interchanging the signs:

1) + and ÷

15 ÷ 8 - 20 × 10 + 5

= 1.875 - 20 × 10 + 5

= 1.875 - 200 + 5

= 6.875 - 200

= -193.125 ≠ 13

2) + and -

15 - 8 + 20 × 10 ÷ 5

= 15 - 8 + 20 × 2

= 15 - 8 + 40

= 55 - 8

= 47 ≠ 13

3) × and -

15 + 8 × 20 - 10 ÷ 5

= 15 + 8 × 20 - 2

= 15 + 160 - 2

= 175 - 2

= 173 ≠ 314

4) × and ÷

15 + 8 - 20 ÷ 10 × 5

= 15 + 8 - 2 × 5

= 15 + 8 - 10

= 23 - 10

= 13 = 13

Hence, the correct answer is (× and ÷).

Q30. Answer: (a) (7, 10, 149)

The following logic is applied:

Given set (5, 8, 89)

(First term)² + (Second term)²= Third term

$(5)^2 + (8)^2$

= 25 + 64 = 89

In a similar way,

1) (7, 10, 149)

$(7)^2 + (10)^2$

= 49 + 100 = 149

2) (2, 5, 19)

$(2)^2 + (5)^2$

= 4 + 25 = 29 ≠ 19

3) (6, 9, 60)

$(6)^2 + (9)^2$

= 36 + 81 = 117 ≠ 60

4) (3, 4, 7)

$(3)^2 + (4)^2$

= 9 + 16 = 25 ≠ 7

Hence, the correct answer is (7, 10, 149).

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Q31. Answer: (d) [figure]

The mirror image will be:

Hence, the correct answer is figure 4.

Q32. Answer: (b) [figure]

The figure in which the given figure is embedded is,

Hence, the correct answer is figure 2.

Q33. Answer: (c) All the conclusions follow.

The least possible Venn diagram is given below:

Conclusions:

I. Some bears are cocks → True, as all cocks are bear, some bears will definitely be the cocks.

II. Some horses are cocks → True, as all cocks are bears and all bears are horses, some horses will definitely be the cocks.

III. All cocks are horses → True, as all cocks are bears and all bears are horses

Hence, all the conclusions will follow.

Q34. Answer: (c) 9 : 90

The pattern followed here is,

(First term)2 + First term = Second term

Given set: (7 : 56)

$= (7)^2 + 7 = 56$

In a similar way,

1) 6 : 36

$= (6)^2 + 6$

$= 36 + 6 = 42 \neq 36$

2) 13 : 173

$= (13)^2 + 13$

$= 169 + 13 = 182 \neq 173$

3) 9 : 90

$= (9)^2 + 9$

$= 81 + 9 = 90$

4) 11 : 121

$= (11)^2 + 11$

$= 121 + 11 = 132 \neq 121$

Hence, the correct answer is (9 : 90).

Q35. Answer: (b) (15, 60, 8)

The pattern followed here is,

Given set (16, 64, 8)

= (First term) × (Third term) ÷ 2 = Middle term

$= (16) \times (8) \div 2$

$= 128 \div 2$

$= 64$

In a similar way,

1) (10, 80, 8)

$= (10) \times (8) \div 2$

$= 80 \div 2$

$= 40 \neq 80$

2) (15, 60, 8)

$= (15) \times (8) \div 2$

$= 120 \div 2$

$= 60$

3) (14, 62, 4)

= (14) × (4) ÷ 2
= 56 ÷ 2
= 28 ≠ 62
4) (18, 90, 6)
= (18) × (6) ÷ 2
= 108 ÷ 2
= 54 ≠ 90
Hence, the correct answer is (15, 60, 8).

Q36. Answer: (c) STHI

The pattern followed here is,
Hence, STHI is the correct answer.

Q37. Answer: (b) Red

Sunflower is yellow in color. In similar way, Blood is red in color.
Hence, the correct answer is Red.

Q38. Answer: (a) 8

Triangles in the given figure are AEI, AIF, AEF, CGJ, CJH, CGH, CBD, ABD.
Hence, the correct answer is 8.

Q39. Answer: (b) [figure]

When the paper is unfolded it will appear like,
Hence, the correct answer is option 2.

Q40. Answer: (a) Father

From the given information:
The family tree is as follows:
Hence, the correct answer is ‘Father’.

Q41. Answer: (d) 57

Except 57 all are prime numbers.
Hence, 57 is the odd one out.

Q42. Answer: (c) 10 years

Let the age of a father = 2x
As per the given information,
The age of his son = x
Five years ago,
Age of father = 2x - 5
Age of his son = x - 5
The father's age was thrice the age of the son.
2x - 5 = 3(x - 5)
→ 2x - 5 = 3x - 15
→ x = 10
Hence, the age of his son is 10 years.

Q43. Answer: (a) 36

The pattern followed here is,
$6 + 1^2 = 7$; $7 + 2^2 = 11$;
$11 + 3^2 = 20$; $20 + 4^2 = 36$
Hence, the correct answer is 36.

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Q44. Answer: (b) MQU

The pattern followed here is,

For BEH : FJN

Similarly,

For ILO :

Hence, the correct answer is MQU.

Q45. Answer: (a) [figure]

Heart is a part of Body. There is no relation between House and Body.

Hence, the correct answer is option 1.

Q46. Answer: (a) [figure]

The image is rotating by 45 in the anticlockwise direction.

Also, the lines are decreasing one by one in each step.

Hence, the next term will be,

Hence, the correct answer is figure 1.

Q47. Answer: (d) 5, 3, 1, 4, 2

The logical order is as follows:

5) Egg

3) Larva

1) Pupa

4) Butterfly

2) Death

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

Q48. Answer: (d) 64420211212

Here the positional value of Consonants is considered and the vowels are coded as:

A – 1, E – 2, I – 3, O – 4, U – 5.

B	O	O	K
2	4	4	11

E	Q	U	A	T	I	O	N
2	17	5	1	20	3	4	14

Similarly,

F	O	O	T	B	A	L	L
6	4	4	20	2	1	12	12

Hence, the correct answer is 64420211212.

Q49. Answer: (c) Snail : Mollusk

As tortoise is a reptile,

Similarly,

Snail is a Mollusk.

Hence, the correct answer is Snail : Mollusk.

Q50. Answer: (d) JY

The pattern followed here is,

Hence, the correct answer is JY.

Q51. Answer: (c) 175

Given:

The ratio between the speeds of two trains is 2 : 5

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Calculation:

Let the speed of two trains be 2x and 5x

Speed of first train = 250/5 = 50 km/h

=> 2x = 50

=> x = 25 km/h

The sum of the speeds of both train = 2x + 5x = 7x = 7 × 25 = 175 km/h

Therefore The correct answer is 175 km/h.

Q52. Answer: (c) 364

Given:

x – 1/x = 7

Formula used:

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

Calculation:

x – 1/x = 7

Cubing both sides

$=> (x – 1/x)^3 = (7)^3$

$x^3 - 1/(x^3) - 3 (x - 1/x) = 343$

$x^3 - 1/(x^3) - 3 × 7 = 343$

$x^3 - 1/(x^3) = 343 + 21$

$x^3 - 1/(x^3) = 364$

Therefore The correct answer is 364.

Shortcut TrickConcept used:

If x – 1/x = P

$=> x^3 - 1/(x^3) = P^3 + 3P$

Calculation:

x – 1/x = 7

$x^3 - 1/(x^3) = (7)^3 + 3 × 7$

$x^3 - 1/(x^3) = 343 + 21 = 364$

Therefore The correct answer is 364.

Q53. Answer: (d) 9

Concept used:

If a number is divisible by 72 then the number must be divisible by 8 × 9

When a number is divisible by 8 then its last 3 digit must be divisible by 8

When a number is divisible by 9 then the sum of its digit is also divisible by 9

Calculation:

When a number is divisible by 8 then its last 3 digit must be divisible by 8

9y6 is divisible by 8 when y = 3

When a number is divisible by 9 then the sum of its digit is also divisible by 9

=> 6 + 4 + x + 2 + 9 + 3 + 6 = 30 + x

Value of x = 6, because 30 + 6 = 36 is divisible by 9

Therefore 2x – y = 2 × 6 – 3 = 12 – 3 = 9

Therefore The correct answer is 9.

Q54. Answer: (b) 52

Given:

The average age of fifteen persons is 32 years.

Calculation:

Total age of 15 persons = 32 × 15 = 480

After adding 2 new persons the new average = 32 + 3 = 35

Total age of 17 persons = 35 × 17 = 595

Total age of 2 new persons = 595 – 480 = 115

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The new persons have an difference of 11 years

Let the age of younger one is x and the age of older one is x + 11

Now,

=> x + x + 11 = 115

=> 2x = 115 – 11 = 104

=> x = 52

Therefore The age of younger person is 52 yrs.

Q55. Answer: (b) 56 : 47

Calculation:

Total sales by branches B1, B3 and B5 for both the years = 80 + 105 + 95 + 110 + 75 + 95 = 560

Total sales by branches B2, B4 and B6 for both the years = 75 + 65 + 85 + 95 + 70 + 80 = 470

Required ratio = 560 : 470 = 56 : 47

Therefore The correct answer is 56 : 47.

Q56. Answer: (d) 31

Shortcut Trick

The expression $(a - b)^2 + 3ab$ simplifies to $a^2 - 2ab + b^2 + 3ab = a^2 + ab + b^2$.

Using the algebraic identity: $a^3 - b^3 = (a - b)(a^2 + ab + b^2)$.

Substitute the given values: $899 = 29 \times (a^2 + ab + b^2)$.

Required value = $899 \div 29 = 31$.

Therefore The correct answer is 31.

Alternate Method

Given:

$a^3 - b^3 = 899$

$a - b = 29$

Formula Used:

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

Calculations:

=> First, expand the required expression: $(a - b)^2 + 3ab$

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

=> $a^2 + ab + b^2$

=> From the cubic identity, we know that $(a^2 + ab + b^2) = (a^3 - b^3) \div (a - b)$

=> Required Value = $899 \div 29$

=> Required Value = 31

Therefore The correct answer is 31.

Additional Information

Sum of Cubes Identity

The formula for the sum of two cubes is $a^3 + b^3 = (a + b)(a^2 - ab + b^2)$.

Related Expansion

$(a + b)^2 - 3ab$ also simplifies to $(a^2 - ab + b^2)$, which is the quotient of $(a^3 + b^3)$ and $(a + b)$.

Square of Binomials

$(a + b)^2 = a^2 + 2ab + b^2$ and $(a - b)^2 = a^2 - 2ab + b^2$ are fundamental for solving quadratic and cubic variations.

Q57. Answer: (d) 1.21% decrease

Concept used:

For successive increase or decrease = x + y + xy/100

Calculation:

Percentage change in area of rectangle = - 11 + 11 + (-11)(11)/100 = - 1.21%

Therefore The correct option is 4.

Q58. Answer: (d) 56°

Given:

ABCD is a cyclic quadrilateral.

AB is a diameter of the circle

Calculation:

angle ADC + angle ABC = 180° [cyclic quadrilateral the sum of opposite angle is 180°]

=> 146° + angle ABC = 180°

=> angle ABC = 180° − 146° = 34°

In ΔABC

Therefore angle ACB = 90° [angle made by diameter = 90°]

Therefore angle BAC = 180° − (90° + 34°)

=> 180° − 124° = 56°

Therefore The correct answer is 56°.

Q59. Answer: (b) 171.67

Calculation:

Total sales by all branches for both the years = 80 + 105 + 75 + 65 + 95 + 110 + 85 + 95 + 75 + 95 + 70 + 80 = 1030

The average of total sales = 1030/6 = 171.67

Therefore The correct answer is 171.67.

Q60. Answer: (a) 1030

Calculation:

Total sales by all branches for both the years:

=> 80 + 105 + 75 + 65 + 95 + 110 + 85 + 95 + 75 + 95 + 70 + 80 = 1030

Therefore The correct answer is 1030.

Q61. Answer: (a) 2

Follow BODMAS rule to solve this question, as per the order given below,

Step-1: Parts of an equation enclosed in 'Brackets' must be solved first, and in the bracket-

Step-2: Any mathematical 'Of' or 'Exponent' must be solved next

Step-3: Next, the parts of the equation that contain 'Division' and 'Multiplication' are calculated

Step-4: Last but not the least, the parts of the equation that contain 'Addition' and 'Subtraction' should be calculated.

(46 + 3/4 of 32 - 6)/(11 + 3/4 of (34 - 6)) = (46 + 3/4 × 32 - 6)/(11 + 3/4 of 28) = (46 + 24 - 6)/(11 + 3/4 × 28) = (70 - 6)/(11 + 21) = 64/32 = 2

Q62. Answer: (a) 1/4

Given:

sec θ = 8x; tan θ = 8/x

Formula used:

sec2θ - tan2 θ = 1

Calculation:

=> (8x)2 – (8/x)2 = sec2θ − tan2 θ

=> $64x^2 – 64/x^2 = sec2θ − tan2 θ$

=> $64 (x^2 – 1/x^2) = 1$

=> $64 (x^2 – 1/x^2) = 1$

Dividing both sides by 4

=> $16 (x^2 – 1/x^2) = 1/4$

Therefore The correct answer is 1/4.

Q63. Answer: (b) 9 : 10

Given:

A earns Rs. 100 per hour and works for 8 hours per day.

B earns Rs. 120 per hour and works for 6 hours per day.

Calculation:

B earns per day = 120 × 6

A earns per day = 100 × 8

Required ratio = 120 × 6 : 100 × 8 = 9 : 10

Therefore The correct answer is 9 : 10.

Q64. Answer: (a) 0

Given:

cos x = −√3/2

Calculation:

cos x = −√3/2

Therefore x = 210°

Now

4 $\cot^2 x$ – 3 $\operatorname{cosec}^2 x$

=> 4 $\cot^2 210°$ − 3 $\operatorname{cosec}^2 210°$

=> 4 × 3 – 3 × 4

=> 12 – 12 = 0

Therefore The correct answer is 0.

Q65. Answer: (a) 2

Given:

7(cosec255 - tan235)+ 2 × sin 90 - 4 × tan252 (y × tan238) = y/2

Calculation:

=> 7(cosec255 - tan235)+ 2 × sin 90 - 4 × tan252 (y × tan238) = y/2

=> 7(cosec255 - cot255)+ 2 × sin 90 - 4 × tan252 (y × tan238) = y/2

=> 7 × 1 + 2 × 1 - 4 tan2 52 × y/tan2 52 = y/2

=> 9 – 4y = y/2

=> 9 = (y/2) + 4y

=> 9 = 9y/2

=> y = 2

Therefore The correct answer is 6.

Q66. Answer: (a) 16

Given:

x4 + x-4 = 1154

Formula used:

(a + b)2 = a2 + b2 + 2ab

Calculation:

x4 + 1/x4 = 1154 ----(1)

=> (x2 + 1/x2)2 – 2 = 1154

=> (x2 + 1/x2)2 = 1154 + 2

=> x2 + 1/x2 = √1156

=> x2 + 1/x2 = 34 ----(2)

=> (x + 1/x)2 – 2 = 34

=> (x + 1/x)2 = 34 + 2

=> (x + 1/x) = √36

=> x + 1/x = 6

=> x2 + 1 = 6x

=> x2 – 6x = –1 ----(3)

We have to find the value of 2 × (x – 3)2

=> 2 × (x2 – 6x + 9)

=> 2 × (-1 + 9)

=> 2 × 8 = 16 from (3)

=> 16

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Therefore The correct answer is 16.

Shortcut Trick

Concept used:

=> x4 + 1/x4 = p

=> x2 + 1/x2 = √{p + 2}

Calculation:

According to the question:

=> x4 + x-4 = 1154

=> x2 + 1/x2 = √{1154 + 2}

=> x2 + 1/x2 = 34

Now,

=> x + 1/x = √{34 + 2}

=> x + 1/x = √36 = 6

=> x2 + 1 = 4x

=> x2 + 4x = - 1 ------(1)

So, 2 × (x – 3)2

=> 2 × (x2 – 6x + 9)

=> 2 × (-1 + 9)

=> 2 × 8 = 16 from (3)

=> 16

Therefore The correct answer is 16.

Q67. Answer: (c) 54°

Given:

angle BAC = 72°

Calculation:

=> angle BOC = 90° - angle A/2

=> angle BOC = 90° - (72°/2)

=> angle BOC = 90° - 36°

=> angle BOC = 54°

Therefore The correct answer is 54°.

Q68. Answer: (a) 10,500

Shortcut Trick

Effective rate of Compound Interest (CI) for 2 years at 21% = 21 + 21 + (21 × 21)/100 = 46.41%.

Effective rate of Simple Interest (SI) for 2 years at 21% = 21 × 2 = 42%.

Given 46.41% corresponds to Rs. 11,602.5.

=> 1% = 11602.5 ÷ 46.41 = 250.

=> SI (42%) = 250 × 42 = Rs. 10,500.

Therefore The correct answer is Rs. 10,500.

Alternate Method

Given: Compound Interest (CI) = Rs. 11,602.5, Rate (R) = 21%, Time (T) = 2 years.

Formula Used: CI = P[(1 + R/100)^T − 1] and SI = (P × R × T) / 100

=> 11602.5 = P[(1 + 21/100)² − 1]

=> 11602.5 = P[(1.21)² − 1]

=> 11602.5 = P[1.4641 − 1]

=> 11602.5 = P × 0.4641

=> P = 11602.5 ÷ 0.4641 = Rs. 25,000

=> Simple Interest (SI) = (25000 × 21 × 2) ÷ 100

=> SI = 250 × 42

=> SI = Rs. 10,500

Therefore The correct answer is Rs. 10,500.

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Additional Information

Difference between CI and SI

For 2 years, the difference is given by $D = P(R/100)^2$.

Effective Interest Rate

The effective annual rate for CI is calculated using the formula $(x + y + xy/100)\%$ for successive changes.

Compound Interest Formula

Total Amount $(A) = P(1 + r/100)^n$, where CI = A − P.

Q69. Answer: (b) 5

Given:

Distance between center(d) = 13 cm

r1 = 6 cm and r2 = 6 cm

Formula used:

Length of transverse common tangent = $\sqrt{\{d^2 - (r1 + r2)^2\}}$

Calculation:

Length of transverse common tangent = √{d2 - (r1 + r2)2}

Length of transverse tangent = √{(13)2 - (6 + 6)2}

=> √{169 - 144} = √25 = 5 cm

Therefore The correct answer is 5 cm.

Q70. Answer: (a) 25% profit

Calculation:

CP for dealer = 5000 × (80/100) × (95/100) = Rs. 3800

After spending Rs. 200 on repairs

Total CP for dealer = 3800 + 200 = Rs. 4000

SP of dealer = Rs. 5000

Profit = 5000 – 4000 = Rs. 1000

Profit percentage = (1000/4000) × 100 = 25%

Therefore The correct answer is 25%.

Q71. Answer: (a) 12,000

Given:

The sum of the salaries of A and B is Rs. 42,000.

A spends 75% of his salary and B spends 90% of his salary.

Their savings are the equal.

Calculation:

Since their savings are same

Therefore A × 25% = B × 10%

=> 5 A = 2 B

=> A/B = 2/5

Let the salaries of A and B be 2x and 5x respectively

Therefore 2x + 5x = 42,000

=> 7x = 42,000

=> x = 6,000

Salary of A = 2 × 6000 = Rs. 12000

Therefore The correct answer is Rs. 12000.

Q72. Answer: (a) 55 : 48

Calculation:

Total sales by all branches for the year 2001 = 105 + 110 + 95 + 65 + 95 + 80 = 550

Total sales by all branches for the year 2000 = 80 + 95 + 75 + 75 + 85 + 70 = 480

Required ratio = 550 : 480 = 55 : 48

Therefore The correct answer is 55 : 48.

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Q73. Answer: (c) 44,000

Given:

A can complete a piece of work = 15 days

B can complete a piece of work = 20 days

Total money = Rs. 77000

Concept used:

When the work is equal

Time prop. to 1/Efficiency

Calculation:

Ratio of number of days taken by A and B to complete the work

=> 15 : 20 = 3 : 4

Ration of efficiency of A and B = 4 : 3

Let share of A in money be 4x and B in money be 3x

=> 4x + 3x = 77000

=> 7x = 77000

=> x = Rs. 11000

A = 4x = 4 × 11000 = Rs. 44000

Therefore Share of A in money = Rs. 44000

Q74. Answer: (a) 30

Given:

ΔABC ~ ΔQPR

Ar (ΔABC)/Ar (ΔPQR) = 4/25

Calculation:

Because ΔABC ~ Δ QPR

=> $(AB/PQ)^2$ = Ar(ΔABC)/Ar(ΔPQR)

=> $(12/PQ)^2$ = 4/25

=> 12/PQ = 2/5

=> PQ = 30 cm

Therefore The correct answer is 30 cm.

Q75. Answer: (a) 4% profit

Given:

A man bought three articles for Rs. 6,000 each.

Calculation:

Let the CP of each article = 100.

Total CP of 3 articles = 300

SP of first article = 100 × 115/100 = 115

SP of second article = 100 × 112/100 = 112

SP of third article = 100 × 85/100 = 85

Total CP of 3 articles = 115 + 112 + 85 = Rs. 312

Profit = 312 – 300 = Rs. 12

Profit Percentage = (12/300) × 100 = 4%

Therefore The correct answer is 4%.

Q76. Answer: (b) Shyam Saran

The correct answer is option 2) i.e. Shyam Saran

• Former foreign secretary Shyam Saran was conferred with Japan's second-highest national award called ‘The Order of the Rising Sun, Gold and Silver Star’ for his contributions to strengthening the strategic ties and enhancing mutual understanding between India and Japan.

• During his tenure, the then Japanese Prime Minister Junichiro Koizumi visited India for the first time in 5 years.

• "India Festival" was held in Japan in 1988 when he was Deputy Chief of Mission of Embassy of India in Japan.

• 'The Order of the Rising Sun' is a Japanese government honor established in 1875 by Emperor Meiji.

Q77. Answer: (c) Bihar

The correct answer is option 3) i.e. Bihar.

• This folk dance is performed to please the god of rain, Indra.

• Young ladies and girls of the district perform this dance while offering prayers to the god for good rain and a good crop.

• Some of the other folk dances of Bihar are Jat-Jatin, Kajari, Sohar-Khilouna, Jhumeri, etc.

Q78. Answer: (d) Firewall

The correct answer is option 4) i.e. Firewall.

• A firewall is a type of computer-security system.

• A firewall controls the flow of data from one computer or network to another and they are mainly intended to protect an individual computer system or a network from being accessed by an intruder, especially via the Internet.

Note:

• Cookies are small files that are stored on a user's computer. They are designed to hold a modest amount of data specific to a particular client and website and can be accessed either by the web server or the client computer.

• Spam is an undesired or illegal email message.

• Spyware is unwanted software that infiltrates your computing device, stealing your internet usage data and sensitive information.

Q79. Answer: (c) Anju Bobby George

The correct answer is option 3) i.e Anju Bobby George.

• Anju Bobby George was India’s only medallist at the IAAF World Championships (Paris, 2003)

• She was a gold medallist in the IAAF World Athletics Finals (Monaco, 2005)

• She is among the country’s most inspirational track and field stars.

• Her contribution to the sport is invaluable and makes a natural for AFI Hall of Fame.

Q80. Answer: (d) Jaipal

The correct answer is option 4) i.e. Jaipal.

• Mahmud Ghazni's chief antagonist in northern India was Jaipal, the ruler of Punjab of the Hindushahi dynasty.

• When, in 1001 AD, Mahmūd marched on India at the head of 15,000 horse troops, Jaipal met him with 12,000 horse troops, 30,000-foot soldiers, and 300 elephants.

• In a battle near Peshawar (now in Pakistan) the Indians, though superior in numbers and equipment, fell back under the onslaught of the Muslim horsemen, leaving behind 15,000 dead.

• After falling into the hands of the victors the king Jaipal along with 15 of his relatives and officers, was finally released.

• He could not bear his defeat and mounted his own funeral pyre and perished in the flames.

Q81. Answer: (c) Khargone

The correct answer is option 3) i.e. Khargone.

• Khargone in Madhya Pradesh recorded the highest temperature, at 46.6°C, in the world.

• Khargone has consistently remained the hottest city of Madhya Pradhesh throughout the summer season of 2019.

• Six cities from the Vidharbha featured in the top 15 of the hottest in the world.

Q82. Answer: (a) 1858

The correct answer is option 1) i.e. 1858.

• On August 2, 1858, less than a month after Canning proclaimed the victory of British arms, Parliament passed the Government of India Act, transferring British power over India from the East India Company to the crown.

• The merchant company’s residual powers were vested in the secretary of state for India, a minister of Great Britain’s cabinet, who would preside over the India Office in London and be assisted and advised by a Council of India, which consisted initially of 15 Britons, 7 of whom were elected from among the old company’s court of directors and 8 of whom were appointed by the crown.

• The post of the viceroy of India was created. First such viceroy of India was Lord Canning.

• The first secretary of state for India was Lord Stanley.

Q83. Answer: (a) Cambium

The correct answer is option 1) i.e. Cambium.

Key Points

• A thin film or skin of cells just under the bark is called the cambium.

• Only 1 percent of a dormant mature tree is biologically living while the rest is composed of non-living, structural wood cells.

• Rather, the major living and growing portions of a tree are leaves, buds, roots, and the cambium.

Additional Information

• Xylem is a plant vascular tissue that conveys water and dissolved minerals from the roots to the rest of the plant and also provides physical support.

• Pith is the tissue that is located in a plant's stem and roots. It is soft and spongy. It functions by transporting nutrients throughout the plant and storing nutrients within its cells.

• The Crown is the top part of the tree from which branches grow above the stem.

Q84. Answer: (c) Narendra Modi

The correct answer is Narendra Modi.

• 'Social Harmony' written by Shri Narendra Modi is a collection of essays on Dalits, Tribals, Women & Family relations and elaborates on how Social Harmony can be achieved in our society.

• In Hindi, the title of the book is Samajik Samrasta.

• Narendra Modi has penned many books. Some of the popular books are Exam warriors, Jyotipunj, Convenient Action: Continuity for Change, etc.

Q85. Answer: (a) Lahore

The correct answer is option 1) i.e. Lahore.

• Lahore, the second largest city of Pakistan and the capital of Punjab province.

• It lies northeast of Karachi in the upper Indus plain on the Ravi River, a tributary of the Indus.

• The Mughals established a number of gardens in Lahore such as Shahdara gardens, Shalimar gardens, Jallo gardens, etc.

• The fort and the Shalimar Garden have collectively designated a UNESCO World Heritage site in 1981.

Q86. Answer: (a) Bandhan Bank

The correct answer is option 1) i.e. Bandhan Bank.

• Bandhan Bank Ltd. is an Indian banking and financial services company headquartered in Kolkata, West Bengal.

• Bandhan, which started as a micro-finance company in 2001, received a banking license by Reserve Bank of India in 2014.

Name of the bank	Tagline/Slogan	Headquarters	CEO / MD
Bandhan Bank	Aapka Bhala, Sabki Bhilai	Kolkata	CEO-Chandrasekar Ghosh
HDFC Bank	We understand your world indeed	Mumbai	CEO-Aditya Puri
Canara Bank	Together We can	Bengaluru	CEO - Lingam Venkat Prabhakar
State Bank of India	The Banker to Every Indian	Mumbai	Chairman- Rajnish Kumar

Q87. Answer: (a) Sitar

The correct answer is option 1) i.e. Sitar.

• Pandit Budhadityaji was born in 1955 in Durg, Chattisgarh.

• He is considered as the leading sitarist of his generation, Budhadityaji received his entire training in Sitar from his father, Pandit Bimalendu Mukherjee.

• He has, since 1979, performed in 26 countries including the UK., USA., Canada, Australia, New Zealand, the UAE, Armenia, and in almost all European countries.

• On June 30, 1990, Budhaditya Mukherjee created history by becoming the first-ever musician to perform at the House of Commons, London.

Q88. Answer: (b) Budget line

The correct answer is option 2) i.e. Budget Line

• The budget line shows all those combinations of two commodities that the consumer can buy spending his given money income on the two goods at their given prices.

• An example to understand this concept - Suppose our consumer has got an income of Rs. 100 to spend on goods A and B. Let the price of the good A in the market be Rs. 20 per unit and that of B be Rs. 10 per unit. If the consumer spends his whole income of Rs. 100 on good A, he would buy 5 units of A; if he spends his whole income of Rs. 100 on good B he would buy 10 units of B. If a straight line joining 5A and 10B is drawn, we will get what is called the price line or the budget line.

Note:

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• The utility is a term in economics that refers to the total satisfaction received from consuming a good or service.

• Supply curve in economics is a graphic representation of the relationship between product price and quantity of product that a seller is willing and able to supply.

• The demand curve in economics is a graphic representation of the relationship between product price and the quantity of the product demanded.

Q89. Answer: (d) Lithosphere

The correct answer is option 4) i.e. Lithosphere.

• The lithosphere is a rigid, rocky outer layer of the Earth, consisting of the crust and the solid outermost layer of the upper mantle.

• It extends to a depth of about 100 km.

• It comprises the rocks of the earth's crust and the thin layers of soil that contain nutrient elements that sustain organisms.

• There are two main divisions of the earth's surface.

• The large landmasses are known as the continents and the huge water bodies are called the ocean basins.

Q90. Answer: (d) Jammu and Kashmir

The correct answer is option 4) i.e. Jammu and Kashmir.

• Dogri language, member of the Indo-Aryan group within the Indo-European languages.

• Dogri is spoken by approximately 2.3 million people, most commonly in the Indian state of Jammu and Kashmir.

• It is an officially recognized language in India.

• The earliest written reference to Dogri is found in the Nuh sipihr ("The Nine Heavens"), written by the poet Amir Khusru in 1317 CE.

• Principal Languages of Jammu & Kashmir - Urdu, Dogri, Kashmiri, Pahari, Punjabi, Ladakhi, Balti, Gojri and Dadri

State	Principal language
Dadra and Nagar Haveli	Gujarati & Hindi
Tripura	Bengali, Kokborok
Mizoram	Mizo & English

Q91. Answer: (a) Baldev Singh

The correct answer is option 1) i.e. Baldev Singh.

• Baldev Singh (1902-1961) was the first Defence Minister of India at Independence.

• He was the defence minister of India from 15.08.1947 to 13.05.1952.

• He was born on 11 July 1902 in a Sikh family in the village of Dummna, in Ropar district of Punjab.

• He was also an Industrialist and Politician.

• He died in 1961.

Deputy Prime Minister - Sardar Vallabhbhai Patel

Minister of Labour - Jagjeevan Ram

Minister of Home Affairs and States - C Rajagopalachari

Q92. Answer: (a) Mihir Sen

The correct answer is option 1) i.e. Mihir Sen.

• Mihir Sen is the first Indian and also the first Asian to cross the English Channel.

• He achieved this feat on September 27 in the year 1958.

• The English Channel is a part of the Atlantic Ocean that divides the island of Great Britain from Northern France.

• The channel has a length of 563 km and a width of 240 km.

Q93. Answer: (c) Tim Berners-Lee

The correct answer is option 3) i.e. Tim Berners-Lee.

• Tim Berners-Lee, a British computer scientist, generally credited as the inventor of the World Wide Web.

• The development of the World Wide Web was begun in 1989 by Tim Berners-Lee and his colleagues at CERN, an international scientific organization based in Geneva, Switzerland.

• In 2004 he was awarded a knighthood by Queen Elizabeth II of the United Kingdom and the inaugural Millennium Technology Prize by the Finnish Technology Award Foundation.

Note:

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• Charles Babbage was an English mathematician and inventor who is credited with having conceived the first automatic digital computer.

• Steve Wozniak is an American computer scientist, inventor, and programmer. In partnership with his friend Steve Jobs, Wozniak invented the Apple I computer.

• Bill Gates American is a computer programmer and entrepreneur who cofounded Microsoft Corporation, the world's largest personal-computer software company.

Q94. Answer: (a) Rajendra Prasad

The correct answer is option 1) i.e. Rajendra Prasad.

• Dr. Rajendra Prasad was the first president of India.

• He is also the longest serving president of India from 1950-62.

• A lawyer by profession, Dr. Prasad was an influential leader during the Indian freedom struggle.

• He served as the president of the Constituent Assembly that drafted the first constitution of the Republic of India, which lasted from 1948 to 1950.

• He also became the first Minister of Food and Agriculture in 1946 in the interim national government.

Q95. Answer: (d) becquerel

CONCEPT:

• Radioactivity: Radioactive decay is the process by which an unstable atomic nucleus loses energy by radiation. A material containing unstable nuclei is considered radioactive.

• A radioactive nucleus consists of an unstable assembly of protons and neutrons which becomes more stable by emitting an alpha, a beta particle, or a gamma photon.

• Atoms are radioactive if their nuclei are unstable and spontaneously (and random) emit various particles α, β, and/or γ radiations.

• The original unit for measuring the amount of radioactivity is Curie (Ci) – first defined to correspond to one gram of radium-226.

• 1 curie = 3.7x10^(10)radioactive decays per second.

• In the International System of Units (SI) curie has been replaced by becquerel (Bq).

• 1 becquerel = 1 radioactive decay per second = 2.703x10-11 Ci.

EXPLANATION:

• From the above discussion, the SI unit of radioactivity is Becquerel (Bq).

• The correct answer is option 4.

Q96. Answer: (b) Bengaluru

The correct answer is option 2) i.e. Bengaluru.

• NewSpace India Limited (NSIL), the commercial arm of Indian Space Research Organisation (ISRO), was officially inaugurated in Bengaluru.

• Its main objective is to scale up industry participation in Indian space programs.

• It was inaugurated by ISRO's honorary adviser, Dr.K Kasturirangan in the presence of chairman Dr.K Sivan.

• It was incorporated on March 6, 2019, for commercially utilizing research and development activities carried out by ISRO in the area of space with an authorized share capital of Rs 100 crore and initially paid-up capital of Rs 10 crore.

Q97. Answer: (b) Lacrimal gland

The correct answer is option 2) i.e. Lacrimal gland.

• Tear duct and glands, also called lachrymal, or lacrimal, duct and glands, are structures that produce and distribute the watery component of the tear film.

• Tears consist of a complex and usually clear fluid that is diffused between the eye and the eyelid.

• The mucous layer helps the tear film adhere to the eye surface, while the lipid layer serves to reduce tear evaporation.

• Diseases that damage the lacrimal gland, and thus decrease tear secretion, can lead to chronic dry eye, which ultimately can threaten vision.

Q98. Answer: (a) Lawn Tennis

The correct answer is option 1) i.e. Lawn Tennis

• 'Jamming' refers to hitting the tennis ball straight to the opponent's body not allowing them to extend the racquet to hit the ball well.

• Some of the other popular terms associated with lawn tennis are Ace, Back-court, Deuce, Double Fault, etc.

Note:

Event	Men's Singles	Women's Singles
Wimbledon 2019	Novak Djokovic	Simona Halep
US Open 2019	Rafael Nadal	Bianca Andreescu
French Open 2019	Rafael Nadal	Ashleigh Barty
Australian Open 2019	Novak Djokovic	Naomi Osaka

Q99. Answer: (d) Mahaweli

The correct answer is option 4) i.e. Mahaweli.

• Mahaweli Ganga river, (Sinhalese: “Great Sandy River”)

• At 335 km in length, it is Sri Lanka’s longest river.

• It rises on the Hatton Plateau on the western side of the island’s hill country, flows north through a tea and rubber growing region, and turns east near Kandy.

• It then turns north across the lowlands, where it meets its principal tributary, the Amban Ganga.

Q100. Answer: (b) Dinesh Arora

The correct answer is option 2) i.e. Dinesh Arora.

• The Insurance Regulatory and Development Authority of India (IRDAI) and the National Health Authority (NHA) have formed a working group on the Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB-PMJAY).

• The joint working group, to be chaired by Dinesh Arora, Deputy CEO of NHA, will have 10 members from both the organizations.

• In six months, it will submit a report on how to detect and deter fraud through a common repository and capacity-building.

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