SSC CHSL 2019 Official Paper 10 (Held On: 12 Oct, 2020 Shift 1) (Previous Year Paper)

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

Take this paper as a timed mock test

Practise under exam conditions, then review your answers after you submit.

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ENGLISH LANGUAGE

Q1. Directions: Select the most appropriate synonym of the given word.

ASSERTION

(a) Discussion
(b) Rejection
(c) Declaration
(d) Continuation

Q2. Directions: Select the wrongly spelt word.

(a) Awfully
(b) Unduly
(c) Unruly
(d) Faithfuly

Q3. Directions: Select the correct passive form of the given sentence.

The police beat a number of protestors last night.

(a) A number of protestors had been beaten by the police last night.
(b) A number of protestors were being beaten by the police last night.
(c) A number of protestors has been beaten by the police the night before.
(d) A number of protestors were beaten by the police last night.

Q4. Select the option that means the same as the given idiom.

Up in arms

(a) Angry about something
(b) Give up fighting and surrender
(c) Divide into armed groups
(d) Throw up arms in joy

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.

Smartphones have become an essential part of our lives and their (1)____ usage is now impacting human behaviour. We need to (2)__ think about digital detox! Yes, the concept of disconnecting with (3)__ virtual world is not just a fad. It's the need of the hour today. The Global Brand Director of the smartphone Vivo in his speech nudged all smartphone users (4)__ a step backwards and think. He said, "Let's (5)____ our mobiles and pledge to be closer and nearer to our loved ones."

Q5. Select the most appropriate option for blank number 1.

(a) exceeding
(b) excessive
(c) exceed

(d) exceedingly

Q6. Select the most appropriate option for blank number 2.

(a) serious
(b) seriousness
(c) series
(d) seriously

Q7. Select the most appropriate option for blank number 3.

(a) many
(b) the
(c) any
(d) a

Q8. Select the most appropriate option for blank number 4.

(a) to taking
(b) takes
(c) to take
(d) taken

Q9. Select the most appropriate option for blank number 5.

(a) switch in
(b) switch over
(c) switch up
(d) switch off

Q10. Directions: Select the most appropriate synonym of the given word.

GUILE

(a) Intuition
(b) Surfeit
(c) Sincerity
(d) Deceit

Q11. Directions: 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'.

Lenovo has launched ThinkPad XI Fold, the world's first foldable laptop which is claimed to be so durable as its other devices.

(a) to be most durable as
(b) No improvement
(c) to be very durable as
(d) to be as durable as

Q12. Directions: Select the most appropriate word to fill in the blank in the given sentence.

If the video clip of the murder had not been shared on social media, the world would likely have remained _____ of the tragedy.

(a) recognised
(b) unconfirmed
(c) unaware
(d) renowned

Q13. Directions: Select the most appropriate ANTONYM of the given word.

DEMOLISH

(a) Cherish
(b) Abolish
(c) Construct

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(d) Obstruct

Q14. Directions: Select the wrongly spelt word.

(a) Popularly
(b) Beggarly
(c) Sincearly
(d) Jocularly

Q15. Directions: Select the most appropriate meaning of the given idiom.

Stir up a hornet's nest

(a) Provoke trouble
(b) Lead a revolt
(c) Call for dialogue
(d) Destroy a nest

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

"Do you attend the film festival at Goa every year?" he asked.

(a) He is asking me if I attended the film festival at Goa every year.
(b) He had asked me if I was attending the film festival at Goa every year.
(c) He asked me if I attend the film festival at Goa every year.
(d) He asks me if I attend the film festival at Goa every year.

Q17. Directions: Given below are four jumbled sentences. Select the option that gives their correct order.

A. This test is conducted on the fully automated Driving Test Track designed by Maruti Suzuki.

B. Each of these specific skills is to be tested and need to be completed successfully in under seven minutes by the candidate.

C. It is a fully-automated track having six segments to test specific driving skills.

D. The Regional Transport Offices of Delhi have recently introduced a new driving test.

(a) BADC
(b) ADBC
(c) DBAC
(d) DACB

Q18. Directions: Given below are four jumbled sentences. Select the option that gives their correct order.

A. The most well-known among them is the Purple Frog needing immediate protection.

B. The Secret Life of Frogs is the first-ever film on the Amphibians of India.

C. The film has been shot extensively in the Western Ghats.

D. It showcases unique species of frogs that are critically endangered.

(a) BCDA
(b) CBDA
(c) DCBA
(d) BCAD

Q19. Directions: In the given sentence identify the segment which contains the grammatical error.

When I met Akbar Padamsee, one of a pioneers of Indian art, he was 87 but still alert and active.

(a) he was 87
(b) When I met
(c) but still alert and active
(d) one of a pioneers of Indian art

Q20. Directions: Select the word which means the same as the group of words given.

That which is no longer useful

(a) Redundant
(b) Dominant

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(c) Abundant
(d) Reluctant

Q21. Directions: 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'.

It is reported that everyday India witnessing the death of over 2000 babies aged less than one year.

(a) India will be witness the death
(b) India witnesses the death
(c) No improvement
(d) India witness the death

Q22. Directions: In the given sentence identify the segment which contains the grammatical error.

Your skill lie in cheering up people who are stressed out, wounded up or generally just annoyed.

(a) Your skill lie
(b) who are stressed out, wounded up
(c) or generally just annoyed
(d) in cheering up people

Q23. Select the most appropriate ANTONYM of the given word.

SURVEILLANCE

(a) Attack
(b) Neglect
(c) Endurance
(d) Vigilance

Q24. Select the most appropriate word to fill in the blank in the given sentence.

Padamse worked like a mathematician and was a true _____ who experimented with numerous mediums.

(a) voluntary
(b) literary
(c) opponent
(d) visionary

Q25. Directions: Select the word which means the same as the group of words given.

Something that is genuine

(a) Unreal
(b) Academic
(c) Authentic
(d) Majestic

GENERAL INTELLIGENCE

Q26. Arrange the given words in a logical and meaningful sequence.

1. Flat
2. Street
3. Room
4. Apartment
5. Town

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

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Q27. Four letter-clusters have been given out of which three are alike in some manner, while one is different. Choose the odd one.

(a) LNP
(b) DFH
(c) TVW
(d) FHJ

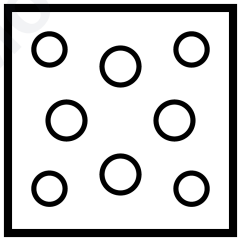
Q28. In a certain code language, N is coded as 30 and COT is coded as 78. How will PET be coded as in that language?

(a) 70
(b) 84
(c) 100
(d) 41

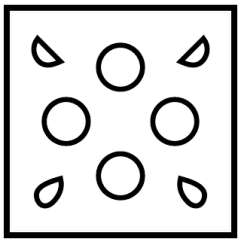
Q29. The sequence of folding a paper and the manner in which the folded paper has been cut is shown in the following figures. How would this paper look when unfolded?



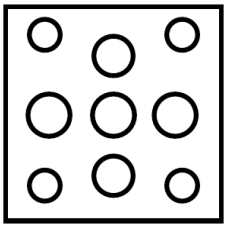
(a)



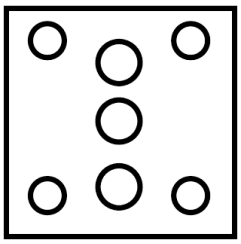
(b)



(c)



(d)



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Q30. Read the given statements and conclusions carefully. Assuming that the information given in the statements is true, even if it appears to be at variance with commonly known facts, decide which of the given conclusions logically follow(s) from the statements.

Statements:

All beans are meat

All breads are meat

Conclusions:

I. Some beans are breads.

II. Some breads are beans.

(a) Only conclusion I follows.
(b) Both conclusions I and II follow.
(c) Either conclusion I or II follows
(d) Neither conclusion I nor II follows

Q31. Select the option in which the numbers are related in the same way as are the numbers in the given set.

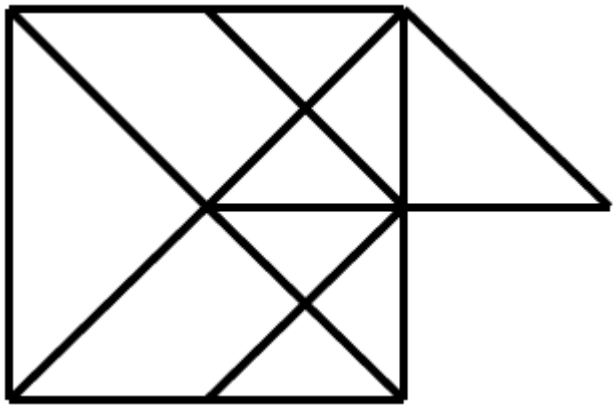
(3, 68, 5)

(a) (2, 10, 1)
(b) (2, 72, 10)
(c) (5, 72, 8)
(d) (4, 64, 5)

Q32. John used to buy petrol at the rate of Rs. 80 per litre till last month. Now he buy it at the rate of Rs. 85 per litre. By what percentage did the petrol price increase as compared to last month?

(a) 6.25%
(b) 5.5%
(c) 8.35%
(d) 10%

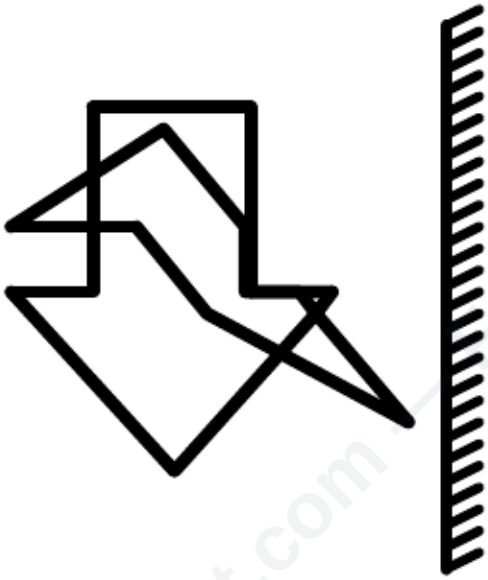
Q33. How many triangles are there in the following figure?



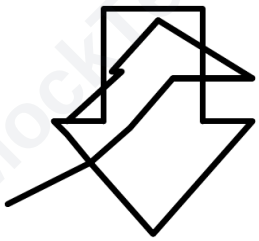
(a) 18
(b) 21
(c) 20
(d) 22

Q34. Select the correct mirror image of the given figure.

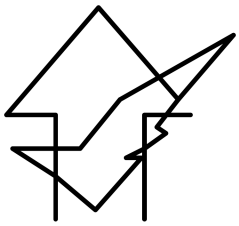
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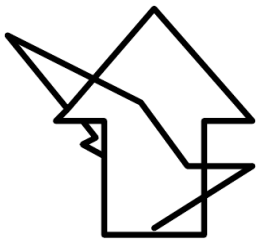
(a)



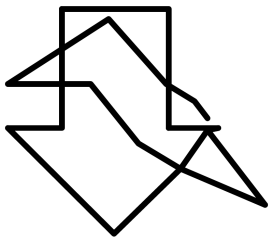
(b)



(c)



(d)



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Q35. 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.

GOAT : DQYW : : TRES:?

(a) QTCV
(b) HUMO
(c) PSBU
(d) RSDW

Q36. Select the combination of letters that when sequentially placed from left to right in the blanks of the given letter series will complete the series.

aba_ccdab_b_ _ dababc_ _

(a) cacccd
(b) bacccd
(c) abdccd
(d) bacacd

Q37. Select the option in which the words share relationship as that shared by the given pair of words.

Cow: Milk

(a) Bird : Fly
(b) Goat : Bleat
(c) Hen : Egg
(d) Eagle : Swoop

Q38. Four letter-clusters have been given, out of which three are alike in some manner and one is different. Select the odd letter-cluster.

(a) EGVT
(b) TUGD
(c) NOML
(d) ADZW

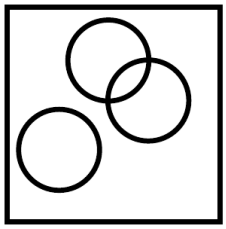
Q39. In a certain code language, 'BROWSE' is written as 'GUYQTD'. How will 'AMALGAM' be written as in that language?

(a) PMDGCPD
(b) CONCICO
(c) DPMDGCP
(d) OCINCOC

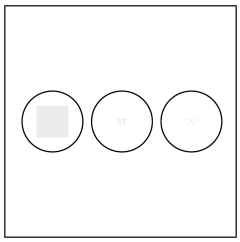
Q40. Select the Venn diagram that best represents the relationship between the following classes.

Reptile, Mammal, Lizard

(a)

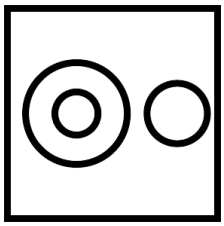


(b)

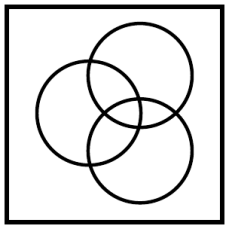


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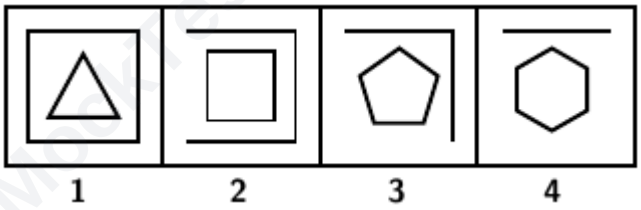
(c)



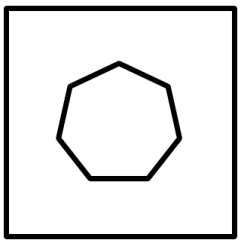
(d)



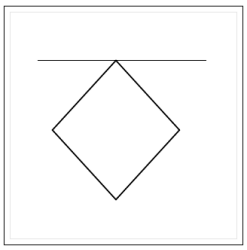
Q41. Select the option figure that will come next in the following series.



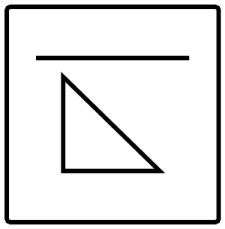
(a)



(b)

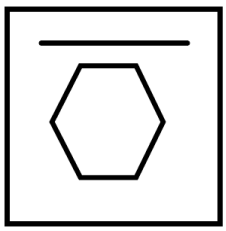


(c)



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(d)



Q42. Select the option in which the numbers share the same relationship as that shared by the given number-pair.

8 : 49

(a) 9 : 87
(b) 12 : 121
(c) 13 : 170
(d) 15 : 211

Q43. select the correct combination of mathematical signs to replace 'A' sequentially from left to right and balance the following equation.

26 A 2 A 3 A 3 A 13

(a) ×, =, -, ÷
(b) ÷, ×, =, -
(c) ×, ÷, +, =
(d) ÷, ×, =, ×

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

Work : Joule :: Area : ?

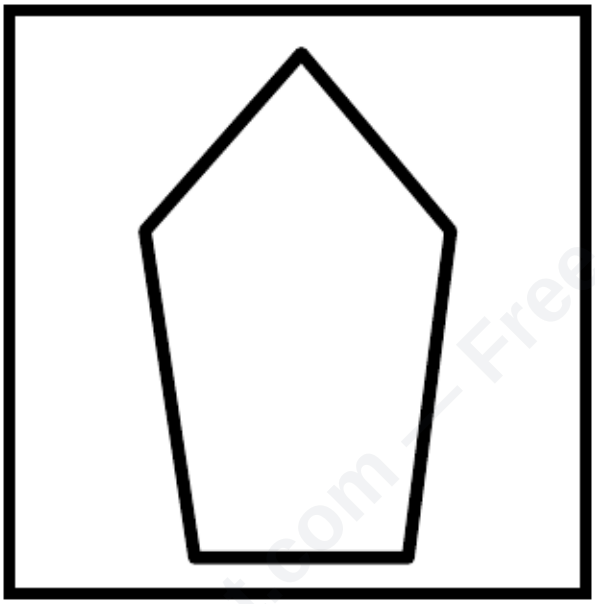
(a) Length
(b) Perimeter
(c) Radian
(d) Hectare

Q45. Four numbers have been given, out of which three are a like in some manner and one is different. Select the number that is different from the rest.

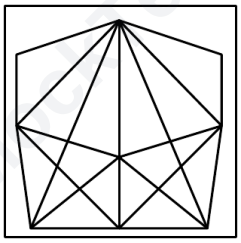
(a) 268
(b) 124
(c) 212
(d) 255

Q46. Select the option in which the given figure is embedded. (Rotation of the figure is not allowed)

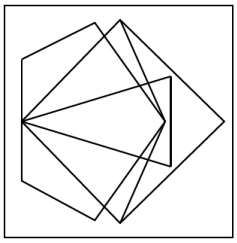
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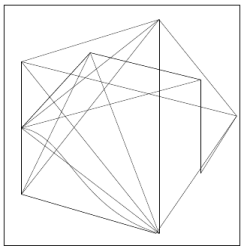
(a)



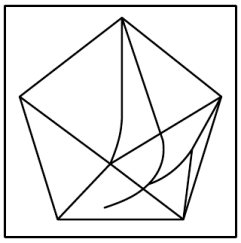
(b)



(c)



(d)



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Q47. Four words have been given, out of which three are alike in some manner and one is different. Select the odd one.

(a) Frisk
(b) Chirp
(c) Neigh
(d) Bleat

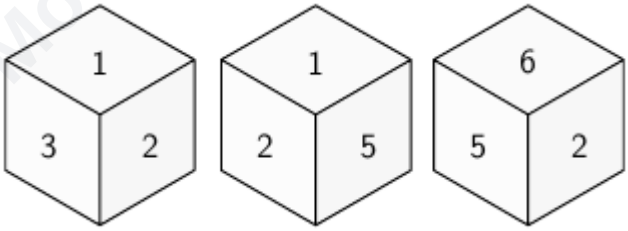
Q48. Select the option in which the numbers are related in the same way as are the numbers in the given set,
(7, 15, 31)

(a) (5, 625, 6)
(b) (2, 17, 14)
(c) (6, 13, 21)
(d) (3, 7, 15)

Q49. Disha's salary is Rs. 3,000 more than Pratima's salary. The ratio of Disha's to Pratima's salary is 17 : 15, respectively. What is the salary of Pratima?

(a) Rs. 27,250
(b) Rs. 22,500
(c) Rs. 26,750
(d) Rs. 25,500

Q50. The different of the same dice are shown. Select the number that will be on the face opposite to the face showing the number '1'



(a) 3
(b) 6
(c) 5
(d) 4

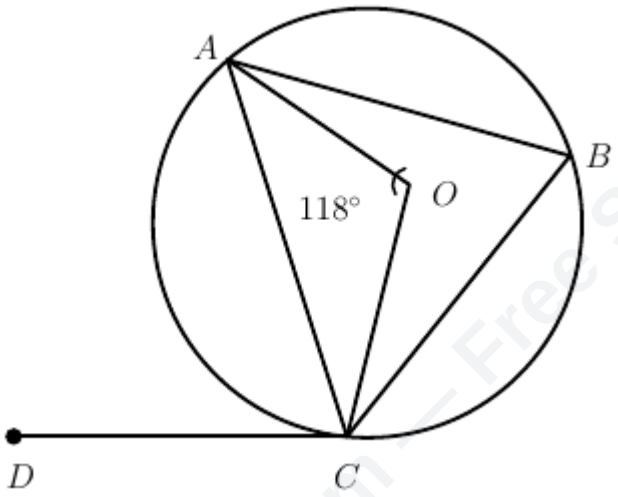
QUANTITATIVE APTITUDE

Q51. Ram sold a motorcycle for Rs. 70000 at 25% profit. For what price should he sell a motorcycle to gain 30% profit?

(a) Rs. 72,900
(b) Rs. 72,600
(c) Rs. 72,800
(d) Rs. 72,700

Q52. In the given figure, O is centre of the circle, BC is a chord and CD is a tangent through the point C. If angle AOC = 118°, then find the angle ACD

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(a) 63°
(b) 65°
(c) 59°
(d) 56°

Q53. The average age of 25 men is 28 years. 5 new men of an average age of 25 years joined them. Find the average age of all the men together.

(a) 26.5 years
(b) 28.5 years
(c) 29.5 years
(d) 27.5 years

Q54. The least value of $8\,\text{cosec}^2\theta + 25\sin^2\theta$ is:

(a) $10\sqrt{2}$
(b) $40\sqrt{2}$
(c) $20\sqrt{2}$
(d) $30\sqrt{2}$

Q55. Richa travels from A to B at the speed of 15 km/h, from B to C at 20 km/h, and from C to D at 30 km/h If AB = BC = CD, then find the Richa's average speed.

(a) 17 km/h
(b) 19 km/h
(c) 20 km/h
(d) 18 km/h

Q56. M is the circumcentre of ΔABC with circumradius 15 cm. Let BC = 24 cm and ML is perpendicular to BC. Then the length of ML is

(a) 9 cm
(b) 10 cm
(c) 12 cm
(d) 8 cm

Q57. In ΔXYZ, L and M are the middle points of the sides XY and XZ, respectively, R is a point on the segment LM, such that LR : RM = 1 : 2, If LR = 3 cm, then YZ is equal to:

(a) 19 cm
(b) 17 cm
(c) 18 cm
(d) 16 cm

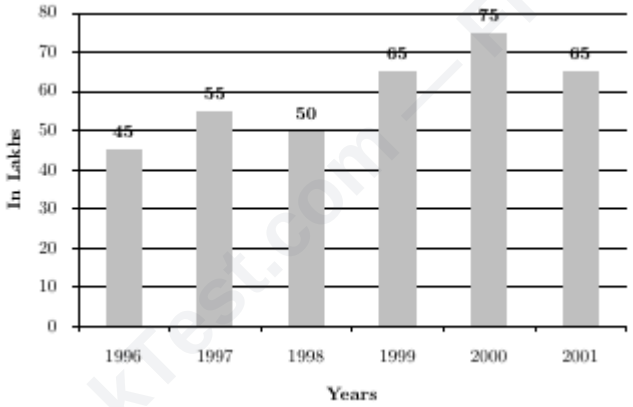
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Q58. The diagonal of rectangle is 15 cm and length is 12 cm. find the area of the rectangle.

(a) 114 cm^2
(b) 108 cm2
(c) 116 cm2
(d) 112 cm2

Q59. The following graph given the annual profit earned by a company during the period 1996-2001. Study the graph carefully and answer the questions that follow.

profit = Income - Expenditure



The expenditure of the company during the year 1996 was Rs. 30 lakhs. The income of the company in that year was

(a) 45
(b) 65
(c) 55
(d) 75

Q60. If a + b + c =2,1/a + 1/b+1/c=0, ac=4/b and $a^3 + b^3 + c^3 = 28$, find the value of $a^2 + b^2 + c^2$

(a) 8
(b) 6
(c) 10
(d) 12

Q61. Rs. 6,300 is divided between X, Y, Z, such that X : Y = 7 : 5 and Y : Z = 4 : 3. Find the share of Y.

(a) Rs. 2,000
(b) Rs. 1,800
(c) Rs. 2,400
(d) Rs. 2,200

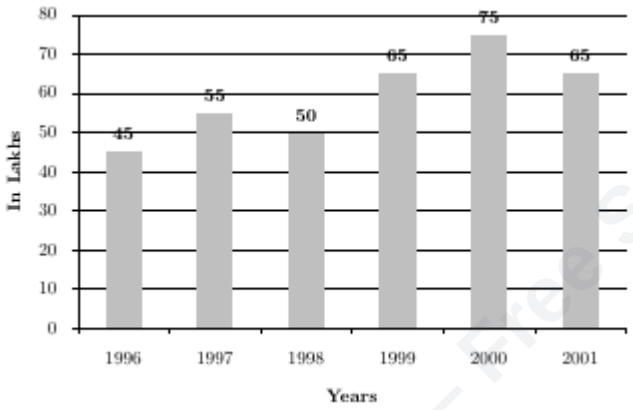
Q62. 15 men can complete a task in 10 days. In how many days can 20 men complete the same task?

(a) 5.5 days
(b) 7.5 days
(c) 6.5 days
(d) 8.5 days

Q63. The following graph given the annual profit earned by a company during the period 1996-2001 Study the graph carefully and answer the questions that follow.

% profit=(Income - Expenditure)/Expenditure× 100

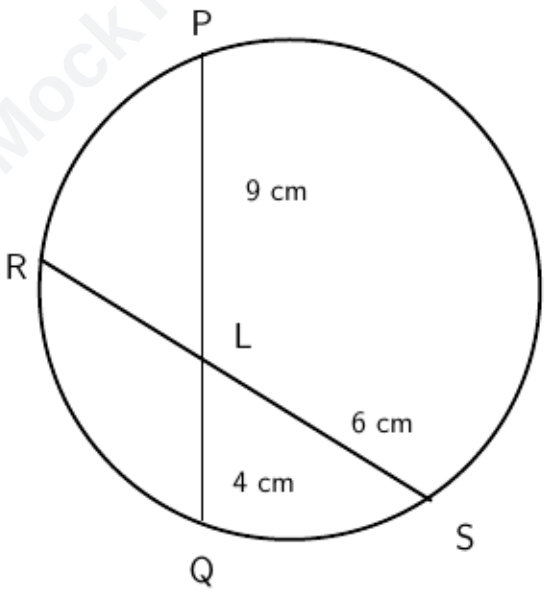
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The period in which the profit of the company has increased fasted is:

(a) 1998-1999
(b) 2000-2001
(c) 1996-1997
(d) 1997-1998

Q64. In the given figure, chords PQ and RS intersect each other at point L. Find the length of RL.



(a) 8 cm
(b) 2 cm
(c) 6 cm
(d) 3 cm

Q65. Kacita's attendance in her school for the academic session 2018-2019 was 216 days. On computing her attendance, it was observed that her attendance was 90%. The total working days of the school were:

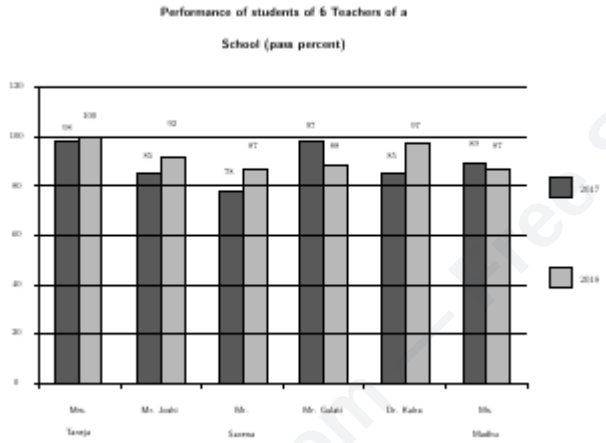
(a) 250
(b) 240
(c) 194
(d) 195

Q66. Which of the following options is completely divisible by 11?

(a) 809781
(b) 963391
(c) 107611
(d) 116571

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Q67. The given graph shows the passing percentage of students taught by six teachers of a school in the Senior Secondary Board exam.



Identify the teacher whose students have shown the maximum improvement.

(a) Mr. Joshi
(b) Dr. Kalra
(c) Mrs. Taneja
(d) Mr. Saxena

Q68. What is the value of the following?

-15 + 90 ÷ [89 - { 9 × 8 + (33 - 3 × 7)}]

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

Q69. If cos (x - y) =(√3)/2 and sin (x + y) =1/2, then the value of x (0 ≤ x ≤ 90) is:

(a) 45°
(b) 30°
(c) 15°
(d) 60°

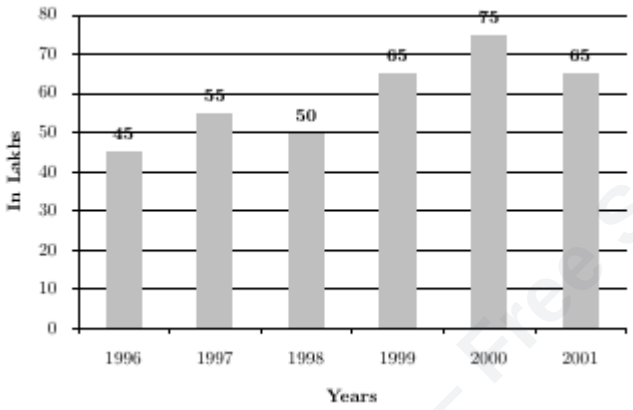
Q70. If cot A = k, then sin A is equal to:

(presume that A is an acute angle)

(a) $(k^2)/(\sqrt{(1+k^2)})$
(b) 1/k
(c) -1/k
(d) $1/(\sqrt{(1+k^2)})$

Q71. The following graph represents the annual profit earned by a company during the period 1996-2001. Study the graph carefully and answer the questions that follow.

% profit=(Income - Expenditure)/Expenditure×100



The profit earned by the company is maximum in the year:

(a) 1999
(b) 2001
(c) 1996
(d) 2000

Q72. If $(\cos\theta + \sin\theta)/(\cos\theta - \sin\theta) = 8$, then the value of $\cot\theta$ is equal to:

(a) 7/6
(b) 9/7
(c) 6/5
(d) 8/5

Q73. List the price of a bike is 15% more than it's cost price. It is sold at a discount of 20%. Find the dealer's loss or profit percetnage.

(a) Profit8%
(b) Profit 9%
(c) Loss 9%
(d) Loss 8%

Q74. If $x - 2y = 3$ and $xy = 5$, find the value of $x^2 - 4y^2$

(a) 21
(b) 20
(c) 23
(d) 22

Q75. In how many years shall Rs. 3,500 invested at the rate of 10% simple interest per annum, amount to Rs. 4,500?

(a) 24/7 years
(b) 23/7 years
(c) 26/7 years
(d) 25/7 years

GENERAL AWARENESS

Q76. How many times did Pankaj Advani win the 'IBSF World Billiards Championship'?

(a) 22
(b) 21
(c) 24
(d) 20

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Q77. In a computer, which unit is responsible for processing data and is also called the electronic brain of the computer?

(a) Hard Disk
(b) Central Processing Unit (CPU)
(c) RAM
(d) Keyboard

Q78. On which day is Constitution Day celebrated every year in India?

(a) 2 October
(b) 30 November
(c) 15 October
(d) 26 November

Q79. In which year were the ‘Kalbelia’ folk songs and dances of Rajasthan included in UNESCO’s representative list of Intangible Cultural Heritage?

(a) 2010
(b) 2017
(c) 2012
(d) 2015

Q80. Which article of the Constitution of India mentions that the Lok Sabha must have a Speaker and a Deputy Speaker?

(a) Article 93
(b) Article 85
(c) Article 97
(d) Article 100

Q81. ‘Saga Dawa’ is one of the biggest Buddhist festivals. In which one of the following states is it celebrated?

(a) Odisha
(b) Kerala
(c) Sikkim
(d) Jharkhand

Q82. Which of the following is INCORRECTLY paired?

(a) Demography – Population geography
(b) Anthropology – Cultural geography
(c) Hydrology – Oceanography
(d) Pedology – Phyto geography

Q83. Who introduced the 'Doctrine of Lapse'?

(a) Lord Lytton
(b) Lord Dalhousie
(c) Lord Wellesley
(d) Lord Canning

Q84. Who founded the Indian Statistical Institute (ISI) in Calcutta?

(a) JM Sengupta
(b) Subhendu Sekhar Bose
(c) RN Mookerjee
(d) Prasanta Chandra Mahalanobis

Q85. Which forests are also referred to as ‘Monsoon Forests’?

(a) Montane Forests
(b) Tropical Deciduous Forests
(c) Tropical Evergreen Forests
(d) Mangrove Forests

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Q86. The Atrial wall of the human heart secretes a very important peptide hormone. What is the name of that hormone?

(a) ANF
(b) GIP
(c) CCK
(d) ADH

Q87. In which process is a protective zinc coating applied on iron to prevent it from rusting?

(a) Galvanisation
(b) Annealing
(c) Smelting
(d) Welding

Q88. Who became the first player in history to win the ‘Sir Garfield Sobers Trophy’ for ‘Player of the Year’?

(a) Rahul Dravid
(b) Mahendra Singh Dhoni
(c) Virat Kohli
(d) Sachin Tendulkar

Q89. What disease is caused by insulin deficiency?

(a) Scleroderma
(b) Multiple Sclerosis
(c) Rheumatoid arthritis (RA)
(d) Diabetes mellitus

Q90. Which Indian actress was chosen for the ‘2020 Crystal Award’ given by the World Economic Forum for spreading awareness about mental health?

(a) Deepika Padukone
(b) Priyanka Chopra
(c) Vidya Balan
(d) Kangana Ranaut

Q91. With which of the following sports is Bhamidipati Sai Praneeth associated?

(a) Cricket
(b) Badminton
(c) Hockey
(d) Tennis

Q92. Which of the following Bollywood veterans was chosen for the 66th Dadasaheb Phalke Award for 2018?

(a) Ashutosh Rana
(b) Shatrughan Sinha
(c) Nana Patekar
(d) Amitabh Bachchan

Q93. In the context of the mesosphere, which of the following statements is NOT correct?

(a) It is directly above the stratosphere.
(b) It is the third layer of the atmosphere.
(c) Meteorites burn up in this layer on entering from the space.
(d) Within the mesosphere, temperature increases with increasing height.

Q94. Which of the following companies was chosen for the UN Global Climate Action Award in the ‘Carbon Neutral Now’ category in September 2019?

(a) Reliance Health
(b) Infosys
(c) Wipro
(d) Organic India

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Q95. Which is the second largest river basin in India that covers 10% of the country's area?

(a) Krishna
(b) Narmada
(c) Mahanadi
(d) Godavari

Q96. On 2 December 2019, who became the first female pilot of the Indian Navy?

(a) Bhawana Kanth
(b) Sarla Thakral
(c) Punita Arora
(d) Shivangi

Q97. What is the range of the intensity scale used in measuring earthquakes?

(a) 1 to 12
(b) 1 to 7
(c) 1 to 15
(d) 1 to 5

Q98. According to the Economist Intelligence Unit (EIU), what is India's rank in the 2019 worldwide Index of Cancer Preparedness (ICP)?

(a) 15
(b) 19
(c) 28
(d) 10

Q99. Who was best known for hoisting the Indian National Congress flag at the Gowalia Tank maidan in Bombay during the Quit India Movement?

(a) Aruna Asaf Ali
(b) Kanaklata Barua
(c) Bhikaiji Rustom Cama
(d) Lakshmi Sahgal

Q100. 'Aatish-i-Chinar' (Flames of Chinar) is the autobiography of which politician?

(a) Sheikh Muhammad Abdullah
(b) Benazir Bhutto
(c) M Hidyatullah
(d) APJ Abdul Kalam

ANSWER KEY

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

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SOLUTIONS

Q1. Answer: (c) Declaration

The correct answer is "Declaration".

Key Points

• The word 'Assertion' means a solemn and often public declaration of the truth or existence of something.

• The synonyms of the word 'Assertion' are "declaration, affirmation, claim".

• From the synonym of the given word, we can say that the word 'Declaration' is the same in meaning.

• The word 'Declaration' means a formal or explicit statement or announcement.

Hence, the correct answer is option 3.

Let's see the meaning of other given options-

WORDS	MEANING
Discussion	a conversation or debate about a specific topic
Rejection	the dismissing or refusing of a proposal, idea, etc
Continuation	the action of carrying something on overtime or the state of being carried on

Additional Information

• The antonyms of the word 'Assertion' are "disavowal, contradiction, denial, negation".

• Example of 'Assertion' in a sentence:

• At the moment, not even Williams can make that assertion.

Q2. Answer: (d) Faithfuly

The solution is in Hindi. Read it online.

Q3. Answer: (d) A number of protestors were beaten by the police last night.

The correct answer is "A number of protestors were beaten by the police last night".

Key Points

• In Active Voice, a sentence emphasizes the subject, performing an action.

• In Passive Voice, a sentence emphasizes the action or the object of the sentence.

• The given sentence is in the active voice and 'The police' is the subject and 'a number of protestors' is the object.

• When we convert this sentence into passive voice, the subject 'The police' of the active voice becomes the object, the object 'a number of protestors' becomes the subject.

• The passive format "were + V3" should be used.

• This is the active and passive voice rule for the past simple tense.

• Hence, the correct answer is option 4.

Additional Information

• Verbs of passive format have a different set of tenses (*V3 - Past participle or Third form of the Verb) as given below in the table:

TENSE	ACTIVE	PASSIVE	PASSIVE CONVERSION
Present Simple	He plays football	am/is/are + V3	Football is played by him
Present Continuous	He is playing football	am/is/are + being +V3	Football is being played by him
Present Perfect	He has played football	Has/have + been+ V3	Football has been played by him
Present Perfect Continuous	He has been playing football	Not used and unusual.	Not used and unusual
Past Simple	He played football	Was/were + V3	Football was played by him
Past Continuous	He was playing football	Was/were + being + V3	Football was being played by him
Past Perfect	He had played football	Had + been + V3	Football had been played by him

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Past Perfect Continuous	He had been playing football	Not used and unusual	Not used and unusual
Future Simple	He will play football	Will + be + V3	Football will be played by him
Future Continuous	He will be playing football	Not used and unusual	Not used and unusual
Future Perfect	He will have played football	Will have been + V3	Football will have been played by him
Future Perfect Continuous	He will have been playing football	Not used and unusual	Not used and unusual

Q4. Answer: (a) Angry about something

The correct answer is "Angry about something".

Key Points

• Given Idiom: Up in arms means angry and complaining about something.

• Example: The arts community will be up in arms with this line of questioning.

• From the given options, the first option is the most appropriate meaning of the given idiom.

• Hence, the correct answer is option 1.

Mistake Points

• We may think from the phrase "Up in arms" and the options that it is all about to give up fighting and surrender or throw up arms in joy, but the correct answer is option 1. So be careful while dealing with such questions.

Additional Information

• The idiom/phrase originates from: The literal meaning of the phrase dates back to the 1500s. It is related to the fact that weapons and armour are also called arms. One of the first examples of the phrase can be found in King Richard III, by William Shakespeare. The play was written in the late 1500s.

Q5. Answer: (b) excessive

The correct answer is "excessive".

Key Points

• In the given sentence, an adjective should be used to describe the noun 'usage'.

• Let us explore the given options:

• Exceeding will act as a gerund means be better than; surpass.

• Excessive will act as an adjective means more than is necessary, normal, or desirable; immoderate.

• Exceed will act as the base form of the verb means be better than; surpass.

• Exceedingly will act as an adverb means extremely.

• Hence, the correct answer is option 2.

Q6. Answer: (d) seriously

The correct answer is "seriously".

Key Points

• In the given sentence, an adverb should be used to modify the verb 'think'.

• Let us explore the given options:

• Serious will act as an adjective means solemn or thoughtful in character or manner.

• Seriousness will act as a noun means the quality or state of being serious.

• Series will act as a noun means a number of events, objects, or people of a similar or related kind coming one after another.

• Seriously will act as an adverb means to a degree that is significant or worrying.

• Hence, the correct answer is option 4.

Q7. Answer: (b) the

The correct answer is "the".

Key Points

• Let us explore the given options:

• The determiner 'many' means a large number of.

• The determiner 'the' is used for denoting one or more people or things already mentioned or assumed to be common knowledge.

• The determiner 'any' is used to refer to one or some of a thing or a number of things, no matter how much or how many.

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• The determiner 'a' is used when referring to someone or something for the first time in a text or conversation.
• Hence, the correct answer is option 2.

Q8. Answer: (c) to take

The correct answer is "to take".

Key Points

• Let us explore the given options:
• To taking is incorrect as infinitives are never conjugated with -ed or -ing at the end because they are not used as verbs in a sentence.
• Takes is incorrect as the verb 'takes' is a third-person singular present verb.
• To take is correct as the infinitive verb "to take" will act as an object of the sentence.
• Taken is incorrect as it is the past participle form of the verb and the given sentence is in the present tense.
• Hence, the correct answer is option 3.

Q9. Answer: (d) switch off

The correct answer is "switch off".

Key Points

• The noun 'switch' means a device for making and breaking the connection in an electric circuit.
• Let us explore the given options:
• The preposition 'in' is used for expressing inclusion or involvement.
• The preposition 'over' means above so as to cover or protect.
• The preposition 'up' means from a lower to a higher point of (something).
• The preposition 'off' is used when a machine or piece of electrical equipment that is off is not switched on or is not being used.
• Hence, the correct answer is option 4.

Q10. Answer: (d) Deceit

The correct answer is "Deceit".

Key Points

• The word 'Guile' means the inclination or practice of misleading others through lies or trickery.
• The synonyms of the word 'Guile' are "deceit, artifice, cheating".
• From the synonym of the given word, we can say that the word 'Deceit' is the same in meaning.
• The word 'Deceit' means the action or practice of deceiving someone by concealing or misrepresenting the truth.

Hence, the correct answer is option 4. Let's see the meaning of other given options-

WORDS	MEANING
Intuition	the ability to understand something instinctively, without the need for conscious reasoning
Surfeit	an excessive amount of something
Sincerity	the absence of pretence, deceit, or hypocrisy

Additional Information

• The antonyms of the word 'Guile' are "honesty, probity, sincerity".
• Example of 'Guile' in a sentence:
• Wann advised me to use whatever kind of guile I can come up with to make my son a Mets fan.

Q11. Answer: (d) to be as durable as

The correct answer is "to be as durable as".

Key Points

• In the given underlined segment, the use of "so durable as" is incorrect as "so...as" can only be used with negative like 'not'.
• We use not + so + adjective/adverb + as to make comparisons, meaning not to the same degree.
• In the first option, 'most' is used which is not a comparative adjective but a superlative adjective.
• In the third option, 'very' is not generally comparable. We can use 'very' before superlative adjectives that end in -est.
• But we use as + adjective/adverb + as to make comparisons when the things we are comparing are equal in some way.
• Hence, the correct answer is option 4.

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Correct Sentence: Lenovo has launched ThinkPad XI Fold, the world's first foldable laptop which is claimed to be as durable as its other devices.

Additional Information

• We can use "as...as" for both negative and positive, "so...as" can only be used with negative.

Q12. Answer: (c) unaware

The correct answer is "unaware".

Key Points

• Let us explore the given options:

• Recognised means acknowledged the existence, validity, or legality of someone or something.

• Unconfirmed means not confirmed as to truth or validity.

• Unaware means having no knowledge of a situation or fact.

• Renowned means a known or talked about by many people; famous.

• Hence, the correct answer is option 3.

Complete Sentence: If the video clip of the murder had not been shared on social media, the world would likely have remained unaware of the tragedy.

Q13. Answer: (c) Construct

The solution is in Hindi. Read it online.

Q14. Answer: (c) Sincearly

The solution is in Hindi. Read it online.

Q15. Answer: (a) Provoke trouble

The correct answer is "Provoke trouble".

Key Points

• Given Idiom: Stir up a hornet's nest means to create, provoke, or trigger a dangerous, troublesome, or complicated situation.

• Example: According to my brother Paul, this Lonnie Norton was asking a lot of questions and stirring up a hornet's nest around town.

• From the given options, the first option is the most appropriate meaning of the given idiom.

• Hence, the correct answer is option 1.

Additional Information

• The idiom/phrase originates from: The phrase dates back from the 1700s and relates to the anger that hornets show as a metaphor for causing a commotion.

Q16. Answer: (c) He asked me if I attend the film festival at Goa every year.

The correct answer is He asked me if I attend the film festival at Goa every year.

Key Points

• The given sentence is a direct speech.

• The basic rules for changing or converting direct speech into indirect speech:

• The question mark (?) is removed and a full stop (.) is used at the end of a sentence.

• The given example is an interrogative sentence starting with a helping verb, therefore, 'do' will be replaced with 'if/whether'.

• The second person 'you' will be changed into 'I'.

• The interrogative statement is changed into an assertive statement (helping verb will come after the subject).

• If reported speed in past/present routine action(here every year shows the routine action) then, there is no change in tense of reported speech.

• From the following rules, we get the correct sentence as- option 3*.*

Additional Information

• The following table will enable us to know how tense changes into Indirect speech:

Direct Speech	Indirect Speech
Present simple (Subject + V1st + Object)	Past simple (Subject + V2 + Object)
Present continuous (Subject + is/am/are + V1 + ing + Object)	Past Continuous (Subject + was/were+V1 + ing + Object)
Present perfect (Subject + has/have + V3 + Object)	Past perfect (Subject + had + V3 + Object)

Past simple (Subject + V2 + Object)	Past perfect (Subject + had + V3 + Object)
Past Continuous (Subject + was/were + V1 + ing + Object)	Past perfect continuous (Subject + had been + V1 + ing + Object)
Future simple (Subject+ will/shall + V1+ object)	Present Conditional (Subject + would + V1 + object)
Future Continuous (Subject + will/shall + be + V1 + ing + Object)	Conditional Continuous (Subject + would + be + V1 + ing + Object)

Q17. Answer: (d) DACB

The correct answer is "DACB".

Key Points

• The sentence 'D' is independent of any other sentences as it is giving general information about "The Regional Transport Offices of Delhi". Hence, 'D' is the first part.

• The phrase "This test" in the sentence 'A' refers back to the 'new driving test' mentioned in the sentence 'D'. Hence, 'A' follows 'D'.

• The pronoun 'It' in the sentence 'C' refers back to the 'Driving Test Track' mentioned in the sentence 'A'. Hence, 'C' follows 'A'.

• The phrase "these specific skills" in the sentence 'B' refers back to the 'specific driving skills' mentioned in the sentence 'C'. Hence, 'B' follows 'C'.

After rearranging the sentences: The Regional Transport Offices of Delhi have recently introduced a new driving test. This test is conducted on the fully automated Driving Test Track designed by Maruti Suzuki. It is a fully-automated track having six segments to test specific driving skills. Each of these specific skills is to be tested and need to be completed successfully in under seven minutes by the candidate.

Important Points

• Important Rules to Solve the Para Jumbles:

• Read the sentences attentively and try to comprehend the idea or theme of the sentence and eliminate the irrelevant options.

• Try to identify the opening (independent sentence) and closing sentences (concluding sentence).

• Try to identify the mandatory pairs. Two sentences can be connected through various connectors and other determinants.

Q18. Answer: (a) BCDA

The correct answer is "BCDA".

Key Points

• The sentence 'B' is independent of any other sentences as it is giving general information about the film "The Secret Life of Frogs". Hence, 'B' is the first part.

• The phrase "The film" in the sentence 'C' refers back to 'The Secret Life of Frogs' mentioned in the sentence 'B'. Hence, 'C' follows 'B'.

• The pronoun 'It' in the sentence 'D' refers back to 'The film' mentioned in the sentence 'C'. Hence, 'D' follows 'C'.

• The pronoun 'them' in the sentence 'A' refers back to 'unique species of frogs' mentioned in the sentence 'D'. Hence, 'A' follows 'D'.

After rearranging the sentences: The Secret Life of Frogs is the first-ever film on the Amphibians of India. The film has been shot extensively in the Western Ghats. It showcases unique species of frogs that are critically endangered. The most well-known among them is the Purple Frog needing immediate protection.

Important Points

• Important Rules to Solve the Para Jumbles:

• Read the sentences attentively and try to comprehend the idea or theme of the sentence and eliminate the irrelevant options.

• Try to identify the opening (independent sentence) and closing sentences (concluding sentence).

• Try to identify the mandatory pairs. Two sentences can be connected through various connectors and other determinants.

Q19. Answer: (d) one of a pioneers of Indian art

The correct answer is "one of a pioneers of Indian art".

Key Points

• In the given sentence, the use of the article 'a' before the specific noun 'pioneers' is incorrect.

• 'A' is an indefinite article, which means that it refers to, or introduce, an unspecified noun. In other words, we use an indefinite article in front of a noun when we're not referring to a particular person, place, thing or idea, but we want to convey that we're talking about any person, place, thing or idea.

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• We use 'a' before a consonant sound (here surprising).
• In the given sentence, the noun 'pioneers' is specific or particular.
• The definite article 'the' is used before singular and plural nouns when the noun is specific or particular.
• Hence, the correct answer is option 4.

Correct Sentence: When I met Akbar Padamsee, one of the pioneers of Indian art, he was 87 but still alert and active.

Additional Information

• There are three articles: a, an, and the. Articles are used before nouns or noun equivalents and are a type of adjective.

RULES	COUNT NOUNS	NON-COUNT NOUNS
Specific identity not known	a, an	(no article)
Specific identity is known	the	the
All things or things in general	(no article)	(no article)

Q20. Answer: (a) Redundant

The correct answer is "Redundant".

Key Points

• Let us explore the given options:
• Redundant means not or no longer needed or useful; superfluous.
• Dominant means having power and influence over others.
• Abundant means existing or available in large quantities; plentiful.
• Reluctant means unwilling and hesitant; disinclined.
• Hence, the correct answer is option 1.

Q21. Answer: (b) India witnesses the death

The correct answer is "India witnesses the death".

Key Points

• In the given sentence, the present participle form of the verb 'witnessing' used is incorrect.
• The verb third-person singular present should be used with the noun 'India'.
• Therefore, the third-person singular verb 'witnesses' should be used instead of the present participle form of the verb 'witnessing'.
• Hence, the correct answer is option 2.

Correct Sentence: It is reported that everyday India witnesses the death of over 2000 babies aged less than one year.

Q22. Answer: (a) Your skill lie

The correct answer is "Your skill lie".

Key Points

• In the given sentence, the base form of the verb 'lie' used is incorrect.
• The verb third-person singular present should be used in the simple present tense with the pronoun 'Your'.
• In the present tense, regular verbs are conjugated by adding an 's' in the third person singular.
• Therefore, the third-person singular verb 'lies' should be used instead of the base form of the verb 'lie'.
• Hence, the correct answer is option 1.

Correct Sentence: Your skill lies in cheering up people who are stressed out, wounded up or generally just annoyed.

Additional Information

Lay and lie are the two most difficult irregular verbs because when we speak, we frequently misuse them. As a result, our ears are used to hearing incorrect forms. When we encounter a wrong form while we are proofreading, it sounds right.

Definition of Lay

Lay means to put something (or someone) down. Because lay is a transitive verb, a direct object will follow. A direct object receives the action of the verb.

Read this example:

• Before returning to the Godzilla marathon on late night TV, Quentin laid his sleeping son Jeremy on the bed and covered him with a quilt.

Quentin laid whom on the bed? Jeremy.

Definition of Lie

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Lie, on the other hand, means to rest or recline. Lie is an intransitive verb, so no direct object will follow.

• The center of Diane's bed always smells like dog because Reliable, her beagle, lies there every chance he gets.

What is Reliable doing in the middle of the bed? Resting.

Q23. Answer: (b) Neglect

The correct answer is "Neglect".

Key Points

• The word 'Surveillance' means close observation, especially of a suspected spy or criminal.

• The antonyms of the word 'Surveillance' are "neglect, carelessness, ignorance".

• From the antonym of the given word, we can say that the word 'Neglect' is opposite in meaning.

• The word 'Neglect' means not to pay proper attention to; disregard.

Hence, the correct answer is option 2. Let's see the meaning of other given options-

WORDS	MEANING
Attack	act against (someone or something) aggressively in an attempt to injure or kill
Endurance	the capacity of something to last or to withstand wear and tear
Vigilance	the action or state of keeping careful watch for possible danger or difficulties

Additional Information

• The synonyms of the word 'Surveillance' are "care, guidance, supervision".

• Example of 'Surveillance' in a sentence:

• US Department of Justice reports have never identified a single terror attack prevented by mass surveillance.

Q24. Answer: (d) visionary

The solution is in Hindi. Read it online.

Q25. Answer: (c) Authentic

The correct answer is "Authentic".

Key Points

• Let us explore the given options:

• Unreal means imaginary or illusory.

• Academic means relating to education and scholarship.

• Authentic means of undisputed origin and not a copy; genuine.

• Majestic means having or showing impressive beauty or scale.

• Hence, the correct answer is option 3.

Q26. Answer: (d) 3, 1, 4, 2, 5

Room comes first in the order.

It is followed by Flat.

Flat is followed by Apartment.

Apartment is followed by Street.

Street is followed by Town.

The correct order is,

Room (3) → Flat (1) → Apartment (4) → Street (2) → Town (5)

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

Q27. Answer: (c) TVW

The pattern followed is,

All follow the same pattern, except ‘TVW’.

Hence, “TVW” is the odd one.

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Q28. Answer: (b) 84

Given,

N is coded as 30 and COT is coded as 78

The pattern followed is,

Letter	N
Place value	14
Code	14 × 2 + 2 = 30

For COT,

Letter	C	O	T
Place value	3	15	20
Code	(3 + 15 + 20) × 2 + 2 = 78		

Similarly,

For PET,

Letter	P	E	T
Place Value	16	5	20
Code	(16 + 5 + 20) × 2 + 2 = 84		

Hence, “84” is the correct answer.

Q29. Answer: (a) [figure]

The paper when unfolded will look like,

Hence, option 1 is the correct answer.

Q30. Answer: (d) Neither conclusion I nor II follows

Concept:

1) We have to check the conclusions are 100% match with the statement. If the conclusion is 100% match with the given statement then the conclusion is true. If there is a 1% chance of not following the statement then the conclusion is considered to be false.

2) The possibility case can be considered to be "false" in "definite case".

3) In Possibility case, either "can" or "possible" word must be present.

The least possible Venn diagram is,

Conclusion I: Some beans are breads → False (This is possible but not definite)

Conclusion II: Some breads are beans → False (This is possible but not definite)

Hence, neither conclusion I nor II follows

Note:

Conditions of Either-or case:

1. The elements should be the same in both the statements.

2. Individually both the conclusions should be false.

3. One conclusion should be positive and one conclusion should be negative (Complementary pair)

The two complementary pairs are:

1) All + Some not

2) No + Some

Additional Information

Q31. Answer: (a) (2, 10, 1)

(Square of first number + square of third number) × 2 = Middle Number

(3, 68, 5) → $(3^2 + 5^2) \times 2 = (9 + 25) \times 2 = 34 \times 2 = 68$

1) (2, 10, 1) → $(2^2 + 1^2) \times 2 = (4 + 1) \times 2 = 5 \times 2 = 1$

2) (2, 72, 10) → $(2^2 + 10^2) \times 2 = (4 + 100) \times 2 = 104 \times 2 = 208 \neq 72$

3) (5, 72, 8) → $(5^2 + 18^2) \times 2 = (64 + 25) \times 2 = 89 \times 2 = 178 \neq 72$

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4) (4, 64, 5) → $(4^2 + 5^2) \times 2 = (16 + 25) \times 2 = 41 \times 2 = 82 \neq 64$

Hence, “(2, 10, 1)” is the correct answer.

Q32. Answer: (a) 6.25%

Given,

John used to buy petrol at the rate of Rs. 80 per liter till last month.

Now he buys it at the rate of Rs. 85 per liter.

Increase in percentage = (85 – 80)/ 80 × 100

= 5/ 80 × 100

= 0. 0625 × 100 = 6.25

Hence, “6.25 %” is the correct answer.

Q33. Answer: (c) 20

The number of triangles in the given figure is,

Hence, “20” is the correct answer.

Alternate Method

Triangles:

BCF, CEF, EFG, CDE, GHE,

HEK, JHK, AIG, BCE, CGE,

CDG, CEF, EJK, CGK, GIK,

ACG, CIK, AIC, AIK, ACK

So, there are 20 triangles in the given figure.

Hence, the correct answer is "20".

Q34. Answer: (a) [figure]

The correct mirror image of the given figure is,

Hence, option 1 is the correct answer.

Q35. Answer: (a) QTCV

The pattern followed is,

Similarly,

Hence, “QTCV” is the correct answer

Q36. Answer: (b) bacccd

The pattern followed is,

The set of letters ‘ababccd’ are repeated.

solving the given alternatives.

1) abacccd/ ababccd/ababccd (Does not follow any pattern)

2) ababccd/ ababccd/ababccd (Follow the pattern)

3) abaaccd/ abbbdcd/ababccd (Does not follow any pattern)

4) ababccd/ ababcad/ababccd (Does not follow any pattern)

Hence, “bacccd” is the correct answer.

Q37. Answer: (c) Hen : Egg

Milk is obtained from a cow.

Similarly,

Eggs are obtained from hens.

Hence, “hen: egg” is the correct answer.

Q38. Answer: (b) TUGD

The pattern followed is,

All follow the same pattern, except ‘TUGD’.

Hence, “TUGD” is the odd letter cluster.

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Q39. Answer: (d) OCINCOC

T

he pattern followed is,

Similarly,

Hence, “OCINCOC” is the correct answer.

Q40. Answer: (c) [figure]

Lizard is a reptile, and,

Mammals are represented separately.

The correct Venn diagram is,

Hence, option 3 is the correct answer.

Q41. Answer: (a) [figure]

The pattern followed is,

The number of sides in the figures keeps on increasing. In the first figure there are three sides, in the second figure there are four sides, in the third there are five sides, in the fourth there are six sides and in the answer figure there must be seven sides.

And,

The number of lines surrounding the figure keeps on decreasing by one.

The figure which will come next in the series is,

Hence, option 1 is the correct answer

Q42. Answer: (b) 12 : 121

The pattern followed is,

8: 49 → 8 – 1 = 7, $7^2 = 49$

So,

8: 49

Similarly,

Option 1 → 9: 87 → 9 – 1 = 8, $8^2 = 64$, not 87

Option 2 → 12: 121 → 12 – 1 = 11, $11^2 = 121$

Option 3 → 13: 170 → 13 – 1 = 12, $12^2 = 144$, not 170

Option 4 → 15: 210 → 15 – 1 = 14, $14^2 = 196$, not 211

’12: 121’ share the same relationship as that shared by the given number-pair.

Hence, “12: 121” is the correct answer.

Q43. Answer: (d) ÷, ×, =, ×

Replacing the following signs and solving the equation,

Option 1 → ×, =, -, ÷

Replacing the signs

26 × 2 = 3 - 3 ÷ 13

Using BODMAS rule,

26 × 2 = 3 – 0.23

52 is not equal to 2.77

Option 2 → ÷, ×, =, -

Replacing the signs

26 ÷ 2 × 3 = 3 - 13

Using BODMAS rule,

13 × 3 = 3 – 13

39 is not equal to – 10

Option 3 → ×, ÷, +, =

Replacing the signs

26 × 2 ÷ 3 + 3 = 13

Using BODMAS rule,

26 × 0.66 + 3 = 13

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17. 16 + 3 = 13
20.16 is not equal to 13
Option 4 → ÷, ×, =, ×
Replacing the signs
26 ÷ 2 × 3 = 3 × 13
Using BODMAS rule,
13 × 3 = 3 × 13
39 = 39
Hence, option 4 is the correct answer.

Q44. Answer: (d) Hectare

Joule is the unit of work.
Similarly,
Hectare is the unit of area.
'Hectare' is related to the third word in the same way as the second word is related to the first word.
Hence, "hectare" is the correct answer

Q45. Answer: (d) 255

The pattern followed is,
All numbers are divisible by 4, except '255'
268 ÷ 4 = 67
124 ÷ 4 = 31
212 ÷ 4 = 53
255 ÷ 4 = not divisible.
Hence, "255" is different from the rest.

Q46. Answer: (d) [figure]

The given figure is embedded in,
Hence, option 4 is the correct answer.

Q47. Answer: (a) Frisk

Chirp, Neigh and Bleat are sounds made by different animals and birds.
Whereas,
Frisk refers to searching of hidden items.
Hence, "frisk" is the odd one.

Q48. Answer: (d) (3, 7, 15)

LOGIC:
First Number,
Second number = (First Number × 2) + 1,
Third Number = (Second Number × 2) + 1
The pattern followed here is:
(7, 15, 31) →
First Number = 7,
Second number = (7 × 2) + 1 = 15
Third Number = (15 × 2) + 1 = 31
Similarly when we go through option we find only one such combination.
(3, 7, 15) →
First Number = 3,
Second number = (3 × 2) + 1 = 7
Third Number = (7 × 2) + 1 = 15
Hence, the correct answer is (3, 7, 15).

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Q49. Answer: (b) Rs. 22,500

Given,

Disha's salary = 17x

Pratima's Salary = 15x

17x – 15x = 3000

2x = 3000

X = 1500

So pratima's salary = 15 × 1500 = 22500 Rs

Hence, "Rs. 22,500" is the correct answer.

Q50. Answer: (b) 6

By comparing fig. (1) and fig. (3)

'2' is opposite to '4'.

'3' is opposite to '5'.

And,

'1' is opposite to '6'.

Hence, "6" is the correct answer.

Q51. Answer: (c) Rs. 72,800

Given:

SP of the motorcycle = Rs. 70000

Profit % = 25%

Formula:

SP = CP × (100 + Profit%)/100

Calculation:

CP of the motorcycle = 70000 × (100/125)

New SP of the motor cycle to gain 30% = 70000 × (100/125) × (130/100)

= Rs. 72,800

Q52. Answer: (c) 59°

Given:

O is centre of the circle, BC is a chord and CD is a tangent through the point C.

angle AOC = 118°

Concept:

The angle subtended by an arc of a circle at its center is twice the angle it subtends on any point of the circle's circumference.

For any circle, the angle between a tangent and a chord through the point of contact of the tangent is equal to the alternate segment.

Calculation:

According to the formula

angle AOC = 2angle ABC

=> 118° = 2angle ABC

=> angle ABC = 118°/2

=> angle ABC = 59°

Also, angle ABC = angle ACD

=> angle ACD = 59°

Therefore angle ACD is 59°.

Q53. Answer: (d) 27.5 years

Given:

Average age of 25 men = 28 years

Formula Used:

Average = Sum of all observations/Total number of all observations

Calculation:

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Sum of age of 25 men = 28 × 25 = 700
If 5 men of average age of 25 years joined them,
Sum of age of 5 men = 25 × 5 = 125 years
Now,
Sum of age of 30 men = 700 + 125 = 825 years
=> Average age of 30 men = 825/30 = 27.5 years
Therefore The average age of all the men together is 27.5 years.

Q54. Answer: (c) 20√2

Given:
8 cosec2θ + 25 sin2 θ
Formula:
The minimum value of "a cosec2θ + b sin2 θ" is given by 2√ab
Calculation:
Minimum Value of 8 cosec2θ + 25 sin2 θ = 2√(8 × 25)
=> 2√200
=> 2√(100 × 2)
=> 2 × 10√2
=> 20√2

Q55. Answer: (c) 20 km/h

Given:
Richa travels from A to B at the speed = 15 km/hr
Richa travels from B to C at the speed = 20 km/hr
Richa travels from C to D at the speed = 30 km/hr
AB = BC = CD
Formula:
Average speed = Total distance/Total time
Calculation:
Let AB = BC = CD = 60 km (LCM of 15, 20 and 30)
Total distance = 3 × 60 = 180 km
Time taken by Richa to travels from A to B = 60/15 = 4 hrs.
Time taken by Richa to travels from B to C = 60/20 = 3 hrs.
Time taken by Richa to travels from C to D = 60/30 = 2 hrs.
Total time taken by Richa to travels from A to D = 4 + 3 + 2 = 9 hrs.
Therefore Average speed = 180/9 = 20 km/hr.

Q56. Answer: (a) 9 cm

In ΔABC
AM = BM = CM = 15 (circumradius)
ML is perpendicular to BC, then
ML will divide the BC in two equal parts so,
BL = LC = 24/2 = 12 cm
In right angled ΔMLC,
$(MC)^2 = (ML)^2 + (LC)^2$
=> $15^2 = ML^2 + 12^2$
=> $ML^2 = 225 - 144$
=> ML = √81
Therefore ML = 9 cm

Q57. Answer: (c) 18 cm

Given:
In ΔXYZ, L and M are the middle points of the sides XY and XZ, respectively.

LR : RM = 1 : 2 and
LR = 3 cm
Formula:
If ΔABC ~ ΔPQR, then
AB/PQ= BC/QR = AC/PR
Calculation:
LR : RM = x : 2x
LR = 3 cm, then
x = 3 cm
Hence, 2x = 3 × 2 = 6 cm
LM = LR + RM
=> LM = 3 + 6 = 9 cm
In ΔXYZ and in ΔXLM
angle X = angle X [common]
angle XYZ = angle XLM
angle XZY = angle XML
Therefore ΔXYZ ~ ΔXLM
Now,
LM/YZ = XL/XY
=> 9/YZ = XL/2XL [Because L is mid point of XY]
=> 9/YZ = 1/2
=> YZ = 9 × 2
Therefore YZ = 18 cm

Q58. Answer: (b) 108 cm2

Given:
Diagonal of rectangle = 15 cm
Length of the rectangle = 12 cm
Formula:
Diagonal² = Length² + Breadth²
Area of the rectangle = Length × Breadth
Calculation:
According to the formula
$15^2 = 12^2 + Breadth^2$
$=> Breadth^2 = 225 – 144$
=> Breadth = √81
=> Breadth = 9
Therefore Area of the rectangle = 9 × 12 = 108 cm²

Q59. Answer: (d) 75

Given:
Expenditure of the company during the year 1996 = Rs. 30 lakhs
Profit of the company during the year 1996 = 45 lakh
Formula:
profit = Income - Expenditure
Calculation:
According to the given formula
45 = Income - 30
=> Income = 45 + 30
Therefore Income = 75 lakhs.

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Q60. Answer: (a) 8

Shortcut Trick

From 1/a + 1/b + 1/c = 0, we get ab + bc + ca = 0.

From ac = 4/b, we get abc = 4.

Use formula: $a^3 + b^3 + c^3 - 3abc = (a + b + c)(a^2 + b^2 + c^2 - (ab + bc + ca))$.

$28 - 3(4) = 2 \times (a^2 + b^2 + c^2 - 0)$.

$16 = 2 \times (a^2 + b^2 + c^2) \Rightarrow a^2 + b^2 + c^2 = 8$.

Therefore The correct answer is 8.

Alternate Method

Given:

a + b + c = 2

1/a + 1/b + 1/c = 0

ac = 4/b => abc = 4

$a^3 + b^3 + c^3 = 28$

Formula Used:

$a^3 + b^3 + c^3 - 3abc = (a + b + c)(a^2 + b^2 + c^2 - ab - bc - ca)$

$a^3 + b^3 + c^3$

28

–

3abc

3 × 4 = 12

=

Difference

16

$16 = (a + b + c) \times (a^2 + b^2 + c^2 - 0)$

$16 = 2 \times (a^2 + b^2 + c^2)$

Calculations:

=> 1/a + 1/b + 1/c = 0

=> (bc + ac + ab) / abc = 0

=> ab + bc + ca = 0

=> From formula: $28 - 3(4) = (2)(a^2 + b^2 + c^2 - 0)$

=> $28 - 12 = 2(a^2 + b^2 + c^2)$

=> $16 = 2(a^2 + b^2 + c^2)$

=> $a^2 + b^2 + c^2 = 16 / 2$

=> $a^2 + b^2 + c^2 = 8$

Therefore The correct answer is 8.

Additional Information

Sum of Squares Identity

$(a + b + c)^2 = a^2 + b^2 + c^2 + 2(ab + bc + ca)$. This connects the sum, squares, and product pairs.

Cubic Identity Condition

If $a + b + c = 0$, then $a^3 + b^3 + c^3 = 3abc$. This is a very common shortcut in competitive exams.

Reciprocal Relation

Whenever 1/a + 1/b + 1/c = 0 is given, it directly implies that the sum of the products taken two at a time (ab + bc + ca) is zero.

Q61. Answer: (a) Rs. 2,000

Given:

Total amount which is divided among A, B and C = Rs. 6,300

X : Y = 7 : 5 and Y : Z = 4 : 3

Calculation:

X : Y = 7 : 5 ----(1)

Y : Z = 4 : 3 ----(2)

Multiply by 4 in equation (1) and multiply by 5 in equation (2)

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X : Y : Z = 28 : 20 : 15
Ratio of X : Y : Z = 28x : 20x : 15x
According to the question
28x + 20x + 15x = 6,300
=> 63x = 6,300
=> x = 6,300/63
=> x = 100
Therefore Share of Y = 20 × 100 = Rs. 2,000

Q62. Answer: (b) 7.5 days

Given:
15 men can complete a task in 10 days.
Formula:
M1 × D1 = M2 × D2
Calculation:
M1 = 15, D1 = 10 and M2 = 20
According to the formual
15 × 10 = 20 × D2
=> D2 = 150/20
=> D2 = 7.5 days
Therefore 20 men can complete the same task in 7.5 days.

Q63. Answer: (a) 1998-1999

Calculation:
Profit of company in 1996 = 45 lakh
Profit of company in 1997 = 55 lakh
Profit of company in 1998 = 50 lakh
Profit of company in 1999 = 65 lakh
Profit of company in 2000 = 75 lakh
Profit of company in 2001 = 65 lakh
Profit percentage of company in 1997 increased by = [(55 - 45)/45] × 100 = 22.23%
Profit percentage of company in 1998 decreased by = [(50 - 55)/55] × 100 = -9.09%
Profit percentage of company in 1999 increased by = [(65 - 50)/50] × 100 = 30%
Profit percentage of company in 2000 increased by = [(65 - 75)/65] × 100 = 15.39%
Profit percentage of company in 2001 decreased by = [(65 - 75)/75] × 100 = -13.34%
Therefore In 1998-1999 the company increased fastest.

Q64. Answer: (c) 6 cm

Given:
PL = 9 cm, LQ = 4 cm and LS = 6 cm
Formula:
If two chord PQ and RS intersect each other at L inside the circle, then
PL × LQ = RL × LS
Calculation:
According to the question
9 × 4 = RL × 6
=> RL = 36/6
Therefore RL = 6 cm

Q65. Answer: (b) 240

Given:
Kachita's attendance in her school for academic session 2018- 2019 was 216 days.
Kachita's attendance % = 90%

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Formula:

x as a percentage of y = (x/y) × 100

Calculation:

Let total working days of the school were x days, then

x × (90/100) = 216

=> x = 216 × (100/90)

=> x = 240 days.

Therefore Total working days of the school were 240 days.

Q66. Answer: (b) 963391

Shortcut Trick

Divisibility rule for 11: |(Sum of odd position digits) − (Sum of even position digits)| = 0 or 11, 22, ...

Testing Option B (963391):

Sum of digits at odd places (9, 3, 9) = 21.

Sum of digits at even places (6, 3, 1) = 10.

Difference = 21 − 10 = 11 (which is divisible by 11).

Therefore The correct answer is 963391.

Alternate Method

Given:

Options: A. 809781, B. 963391, C. 107611, D. 116571.

Formula Used:

A number is divisible by 11 if the difference between the sum of the digits at odd positions and the sum of the digits at even positions is 0 or a multiple of 11.

9

6

3

3

9

1

Odd Pos (Blue): 9+3+9 = 21

Even Pos (Orange): 6+3+1 = 10

Result: |21 − 10| = 11 (Divisible by 11)

Calculations:

=> Option A: 809781 → (8+9+8) − (0+7+1) = 25 − 8 = 17 (Not divisible by 11)

=> Option B: 963391 → (9+3+9) − (6+3+1) = 21 − 10 = 11 (Divisible by 11)

=> Option C: 107611 → (1+7+1) − (0+6+1) = 9 − 7 = 2 (Not divisible by 11)

=> Option D: 116571 → (1+6+7) − (1+5+1) = 14 − 7 = 7 (Not divisible by 11)

Therefore The correct answer is 963391.

Additional Information

Divisibility by 3 and 9

A number is divisible by 3 (or 9) if the sum of its digits is divisible by 3 (or 9).

Divisibility by 4 and 8

A number is divisible by 4 if its last two digits are divisible by 4, and by 8 if its last three digits are divisible by 8.

Combined Divisibility Rule for 7, 11, and 13

Subtract the sum of digits in blocks of three from right to left in alternating signs; the result must be divisible by 7, 11, or 13 respectively.

Q67. Answer: (b) Dr. Kalra

Mr. Joshi's students who have shown improvement = 92 - 85 = 7%

Dr. Kalra's students who have shown improvement = 97 - 85 = 12%

Mrs.Taneja's students who have shown improvement = 100 - 98 = 2%

Mr. Saxena's students who have shown improvement = 87 - 78 = 9%

Hence,

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Dr. Kalra's students have shown maximum improvement.

Q68. Answer: (a) 3

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

-15 + 90 ÷ [89 - { 9 × 8 + (33 - 3 × 7)}]

=> -15 + 90 ÷ [89 - {72 + (33 - 21)}]

=> -15 + 90 ÷ [89 - {72 + 12}]

=> -15 + 90 ÷ [89 - 84]

=> -15 + 90 ÷ 5

=> -15 + 18

=> 3

Q69. Answer: (b) 30°

Given:

cos (x - y) = √3/2

sin (x + y) = 1/2

Formula:

cos30° = √3/2

sin30° = 1/2

Calculation:

cos(x - y) = √3/2

=> cos(x - y) = cos30°

(x - y) = 30° ---- (1)

sin(x + y) = 1/2

=> sin(x + y) = sin30°

(x + y) = 30 ---- (2)

Add equation (1) and equation (2), we get

2x = 60°

Therefore x = 30°

Q70. Answer: (d) 1/(√(1+k²))

Given:

cot A = k

Formula:

cot A = Base/Perpendicular

sin A = Perpendicular/Hypotenuse

(Hypotenuse)² = (Base)² + (Perpendicular)²

Calculation:

cot A = k/1

=> Base/Perpendicular = k/1

=> Base = k and Perpendicular = 1

(Hypotenuse)2 = (Base)2 + (Perpendicular)2

=> (Hypotenuse)2 = k2 + 12

=> Hypotenuse = √(1 + K²)

Now, sin A = 1/√(1 + k²)

Q71. Answer: (d) 2000

Profit earned by the company in 1996 = 45 lakh

Profit earned by the company in 1997 = 55 lakh

Profit earned by the company in 1998 = 50 lakh

Profit earned by the company in 1999 = 65 lakh

Profit earned by the company in 2000 = 75 lakh

Profit earned by the company in 2001 = 65 lakh

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Therefore The profit earned by the company is maximum in the year 2000.

Q72. Answer: (b) 9/7

Given:

(cos θ + sin θ)/(cos θ - sin θ) = 8

Formula:

If x/y = a/b, then

Dividendo and Componendo rule

(x + y)/(x - y) = (a + b)/(a - b)

Calculation:

(cos θ + sin θ)/(cos θ - sin θ) = 8/1

Dividendo and Componendo rule

=> cos θ/sin θ = (8 + 1)/(8 - 1)

=> cot θ = 9/7

Q73. Answer: (d) Loss 8%

Given:

List price of the a bike is more than it's cost price = 15%

Discount % = 20%

Formula:

If a number is increase by x%, then

Increased number = Actual number × (100 + x)/100

SP = MP × (100 - Discount%)/100

Loss = CP – SP

Loss % = (Loss/CP) × 100

Calculation:

Let cost price of bike be Rs. 100, then

List price of the bike = 100 × (115/100) = Rs. 115

SP of the bike = 115 × (80/100) = Rs. 92

Loss = Rs. 100 - Rs. 92 = Rs. 8

Therefore Loss% = (8/100) × 100 = 8%

Q74. Answer: (a) 21

Given:

x - 2y = 3 and xy = 5

Formula:

$(x - y)^2 = x^2 + y^2 - 2xy$

Calculation:

$(x - 2y)^2 = x^2 + 4y^2 - 2 \times x \times 2y$

$=> 3^2 = x^2 + 4y^2 - 4 \times 5$

$=> x^2 + 4y^2 = 9 + 20$

$=> x^2 + 4y^2 = 29$ ...1)

$(x^2 + 4y^2)^2 = x^4 + 16y^4 + 2 \times x^2 \times 4y^2$

$=> 29^2 = x4 + 16y4 + 8 \times 25$

$=> x4 + 16y4 = 841 - 200$

$=> x4 + 16y4 = 641$ ...2)

$(x^2 - 4y^2)^2 = x4 + 16y4 - 2 \times x2 \times 4y2$

$=> (x2 - 4y2)2 = 641 - 8 \times 25$

$=> (x2 - 4y2)2 = 441$

$=> x2 - 4y2 = \sqrt{441}$

Therefore x2 - 4y2 = 21

By using substitution method

if xy = 5 then the possibilities

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(x,y) = (1,5) (5,1)
substitute the values x and y in the equation and check
x - 2y = 5 - 2(1) = 3
x = 5, y = 1 satisfies
substitute the values in this equaltion
x2 - 4y2 = 5^2 - 4$(1)^2$ = 21
Therefore x2 - 4y2 is 21

Q75. Answer: (c) 26/7 years

Given:
Principal = Rs. 3500
Amount = Rs. 4500
Rate of interest = 10% p.a
Formula:
SI = Prt/100
Calculation:
SI = Rs. 4500 - Rs. 3500
SI = Rs. 1000
According to the formula:
1000 = (3500 × 10 × t)/100
=> t = 1000/350
=> t = 26/7 years
Therefore In 26/7 years Rs. 3,500 invested at the rate of 10% simple interest per annum, shall amount to Rs. 4,500.

Q76. Answer: (a) 22

The correct answer is 22.
Key Points
Pankaj Advani -
• Pankaj Advani was born on 24th July 1985 in Pune.
• He has been awarded -
1. Arjuna award for billiards and snooker
2. Rajiv Gandhi Khel Ratna award
3. Padma Bhushan
4. Padma Shri
5. The hero India's sports award.
Additional Information
IBSF World Billiards Championship -
• This tournament was earlier known as the "World Amateur Billiards Championship".
• Billiard sports are also known as " Cue sports".
• The highest governing body of this sports is the "World confederation of Billiards sports".

Hint
Note: 23 times Pankaj Advani wins the ‘IBSF World Billiards Championship. (as of now April 2021)

Q77. Answer: (b) Central Processing Unit (CPU)

The correct answer is the Central Processing Unit (CPU).
Key Points
• CPU stands for the central processing unit.
• CPU is also known as the central processor or main processor.
• It performs arithmetic, logic, controlling, and Input / Output operations.
• CPU is a part of the hardware that is responsible to carry out functions of the computer program.
• The six main components of the CPU are -
1. Control unit

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2. Arithmetic Logic Unit
3. Register
4. Cache
5. Buses
6. Clock

Important Points

• Hard Disk is a data storage device that is used to store digital data.
• RAM stands for Random access memory that is used to store working data and machine code.
• The keyboard is a kind of typewriter consisting of buttons and keys.

Q78. Answer: (d) 26 November

The correct answer is 26 November.

Key Points

Constitution Day -

• Constitution day is also called " Samvidhan Diwas" or " National Law Day".
• The Government of India declared 26 November as Constitution Day on 19 November 2015 by a gazette notification.
• This day signifies the adoption of the Indian constitution in 1950.
• On this day constitution-related activities take place in schools, demand for equality, and the special parliamentary session takes place.
• The constitution was adopted on 26 November 1949 and it came into effect on 26 January 1950.

Important Points

• The day also marks the thoughts and ideas of Dr. B.R Ambedkar.
• He is also known as " Father of Indian Constitution".
• He was an economist, jurist, and social reformer and has a great contribution to Indian society.

Q79. Answer: (a) 2010

The correct answer is 2010.

Key Points

Kalibelia -

• The Kalbelia folk dance and song belong to the state of Rajasthan.
• The costume of the Kalbelia dance is Lehenga, Odhani, or Angarkha.
• This dance is performed by both Men and Women.
• The Kalbelia songs are taken from mythology.
• The Kalbelia folk songs and dances of Rajasthan in the Representative List of the Intangible Cultural Heritage of Humanity.
• Kalbelia folk songs and dances of Rajasthan" were recognized by UNESCO as an intangible cultural heritage.

Important Points

UNESCO -

• UNESCO stands for United Nations's Educational, Scientific, and Cultural Organizations.
• It was founded on 16th November 1945.
• Its headquarter is in Paris, France.
• Its parent organization is the "United Nations Economic Social Council".

Q80. Answer: (a) Article 93

The correct answer is 93.

Key Points

Lok Sabha -

• Lok Sabha is the lower house of India's bicameral parliament.
• Lok Sabha is a temporary house and can be dissolved earlier by the President on the advice of the Council of Ministers.
• The maximum strength of the House envisaged by the Constitution is 550, which is made up by the election of up to 530 members to represent the States, up to 20 members to represent the Union Territories.
• It is also known as the " House of people".
• Lok Sabha was founded on 17th April 1952.

• The term limit of this house is 5 years.

Important Points

Speaker and Deputy Speaker -

• He is the presiding officer of Lok Sabha.

• He is elected in the first meeting of Lok Sabha following the process of general elections.

• The current Lok Sabha speaker is Om Birla.

• The Deputy Speaker is the second highest authority in Lok Sabha.

• They act as presiding officers in the absence of a speaker.

Q81. Answer: (c) Sikkim

The correct answer is Sikkim.

Key Points

Sava Dawa -

• This festival is celebrated to mark the birth, enlightenment, and the attainment of Nirvana of Gautam Buddha.

• Gautam Buddha -

1. His full name is Gautama Buddha.
2. He was born in Lumbini, Nepal.
3. He is the founder of the " Buddhism religion".
4. He is also known as " Shakyamuni" or " Sage of the Skhaukya ".

Important Points

• The festival is celebrated on the full moon day of the fourth month of the Buddhist calendar.

• It is mostly celebrated across the street of Gangtok and commence their parade from Tsuk La Khang Monastery.

• The festival has been celebrated since 1950.

Q82. Answer: (d) Pedology – Phyto geography

The correct answer is Pedology - Phytogeography.

Important Points

• Both are related to studies of Population.

• Demography is the study of human populations – their size, composition, and distribution across space – and the process through which populations change.

• Population geography is a study that deals with the spatial variation and analysis of the demographic components of change: migration, fertility, and mortality.

• Both related to Water

• Hydrology is the science that deals with the study of water.

• Oceanology is the study of the ocean.

• Both deal with humans and their culture.

• Anthropology is “the science of humanity”.

• It is the studies of human beings in aspects ranging from the biology and evolutionary history of Homo sapiens to the features of society and culture that decisively distinguish humans from other animal species.

• Cultural geography deals with making sense of people and the places they occupy through analyses of cultural processes, cultural landscapes, and cultural identities.

Key Points

• Here one is related to soil and the other is related to plants.

• Phytogeography is the study of the distribution of plants or taxonomic groups of plants and its focus is to explain the ranges of plants in terms of their origin, dispersal, and evolution.

• Pedology researches the origins of soil as well as the morphology of soils and then classifies them.

• The term pedology is derived from "pedon" meaning "soil" and "logos" which means "study".

• Pedology is the study of soil formation, evolution, and the body of soil.

Additional Information

• Nowadays pedologist focuses on the pedogenesis process such as the evolution and functioning of the soil.

• "Vasily Vasil'evich Dukochaev" is considered as the father of the soil.

Q83. Answer: (b) Lord Dalhousie

The correct answer is " Lord Dalhousie".

Key Points

• Lord Dalhousie served as Governor-General of India from 1848 to 1856.

• He introduced the passenger trains in railways in 1853, the electric telegraph in 1852, and uniform postage in 1854.

• He described all three as " Three great engines of social improvement".

• He has started engineering college in Roorkee.

• He made his summer capital Shimla.

• He is the founder of the " Public Works Department" or " PWD" in India.

• He has also served as " Governor General of Canada" or " Commander- in - chief" in India.

Important Points

• Lord Wellesley introduced Subsidiary Alliance by virtue of which the Indian kingdoms lost their sovereignty to the English during 1798.

• Fourth Anglo Mysore was fought during the governor-generalship of Lord Wellesley.

• During this war, Tipu Sultan died in the battle of Seringapatam in 1799.

• Fort William College was started by Lord Wellesley in the year 1800.

• Lord Canning served as Governor-General of India from 1856 to 1862.

• He also served as the first Viceroy of India.

• The Mutiny of 1857, which he was able to suppress successfully,

• Passing of Indian Councils Act, 1861 which introduced a portfolio system in India.

• Withdrawal of the “Doctrine of Lapse” was one of the main reasons for the mutiny of 1858.

• Introduction of the Code of Criminal Procedure.

• The Vernacular Press Act was passed in 1878 by Viceroy Lord Lytton (1876-1880).

Additional Information

• The doctrine of lapse was an annexation policy.

• The policy was applied by the British East India Company until 1859.

• Under this Doctrine, when the ruler of a protected state died without a natural heir, his state was not to pass to an adopted heir as sanctioned by the age-old tradition of the country.

• It was to be annexed to the British dominions unless the adoption had been clearly approved earlier by the British authorities.

Q84. Answer: (d) Prasanta Chandra Mahalanobis

The correct answer is "Prasantha Chandra Mahalanobis".

Key Points

• Indian Statistical Institute is a public research university.

• The motto of this institute is " Unity in Diversity".

• The headquarter of this institute is Bonhoogly (Baranagar), Kolkata, West Bengal.

• It has four subsidiary centres in Delhi, Bengal, Chennai, and Giridih.

• The primary activities of ISI are research and training of Statistics, development of theoretical statistics, and its application.

• ISI comes under the Ministry of Statistics and Programme Implementation of the government of India.

• Founded by Professor P.C. Mahalanobis in Kolkata on 17th December 1931, the institute gained the status of an Institution of National Importance by an act of the Indian Parliament in 1959.

Important Points

• The key areas of expertise of ISI are -

1. Statistics
2. Computer science
3. Mathematics
4. Operation Research
5. Information science.

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Q85. Answer: (b) Tropical Deciduous Forests

The correct answer is Tropical Deciduous Forests".

Key Points

• Tropical Deciduous Forest is also referred to as a " Monsoon Forest".

• Tropical Deciduous forests are found in the belt along the equator between the tropics of Cancer and Capricorn as well as in the humid subtropics

• Tropical Deciduous Forests are home to trees with broad leaves which shed in one season of the year.

• The range of the rainfall in this forest is 70 - 200cms.

• There are two types of deciduous forest namely -

1. Moist Deciduous Forest

2. Dry Deciduous Forest.

Important Points

• Some of the major states in which these types of forests are found are -

1. Madhya Pradesh

2. Uttar Pradesh

3. Chattisgarh

4. Odisha

5. Some parts of Maharashtra

Q86. Answer: (a) ANF

The correct answer is ANF.

Key Points

• Atrial Natriuretic Peptide (ANP) is also known as Atrial Natriuretic Factor (ANF).

• It is a type of hormone that is secreted from the cardiac atria.

• The function of ANP includes causing a reduction in expanded extracellular fluid (ECF) volume by increasing renal sodium excretion.

• ANP is synthesized and secreted by cardiac muscle cells in the walls of atria in the heart.

• Volume receptors are present in these cells that respond to increased stretching of the arterial wall due to increased atrial blood volume.

• De Bold in 1981 discovered the natriuretic factor.

Important Points

• The gastric inhibitory polypeptide, a hormone secreted by cells of the intestinal mucosa that blocks the secretion of hydrochloric acid into the stomach.

• Cholecystokinin (CCK) is a neuropeptide and gut hormone that regulates pancreatic enzyme secretion and gastrointestinal motility and acts as a satiety signal.

• ADH is also called arginine vasopressin, a hormone made by the hypothalamus in the brain and stored in the posterior pituitary gland.

Additional Information

There are a total of three types of atrial natriuretic peptide receptors namely -

1. NPR1

2. NPR2

3. NPR3

Q87. Answer: (a) Galvanisation

The correct answer is " Galvanization ".

Key Points

• Galvanization is the process of applying a coating of zinc to steel or iron.

• This is done to protect steel and iron from the process of rusting.

• The most common method of galvanization is " hot-dip-galvanization".

• In this method, parts are submerged in a bath of molten hot zinc.

Important Points

• Annealing is a heat treatment process used mostly to increase the ductility and reduce the hardness of a material.

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• Smelting is a form of extractive metallurgy to produce a metal from its ore.

• Welding is a fabrication process whereby two or more parts are fused together by means of heat, pressure or both forming a join as the parts cool.

Additional Information

• When zinc is coated on iron or steel, it protects corrosive substances from reaching the underlying steel or iron.

• The electroplating such as chromate conversion coating is applied to provide further surface passivation to the substrate material.

• The hot-dipping method is not applicable to the materials that are constantly exposed to acid and acid rains.

• It is also not applicable to bolts and nuts.

Q88. Answer: (a) Rahul Dravid

The correct answer is Rahul Dravid.

Key Points

• The first winner of this trophy was Rahul Dravid in 2004. He was a former India Cricketer who played 164 tests, and 344 One-day international matches for India.

• Rahul Dravid was famous among his fans with his nickname Mr. Dependable, The wall, and Sankatmochan of India.

• Some of his important achievements include -

1. Arjuna award in 1998.

2. Padma Shri in 2004.

3. Padma Bhushan 2013.

Important Points

• The " Sir Garfield Sobers Trophy " award is presented by International Cricket Council.

• The trophy is named after the former West Indies Cricket Captain Sir Garfield Sobers.

• It is the most prestigious of the annual ICC awards.

Q89. Answer: (d) Diabetes mellitus

The correct answer is Diabetes Mellitus.

Important Points

• Insulin is a type of Peptide hormone.

• It is produced by the beta cells of the pancreatic islets.

• The hormone is recognized as the main anabolic hormone of the body.

• It is responsible to regulate the metabolism of carbohydrates, fats, and protein.

Key Points

• Diabetes mellitus is a metabolic disease that causes high blood sugar.

• The insulin moves sugar from the blood cells into the other cells and used it as a form of energy.

• Diabetic patient doesn't make enough insulin or can't effectively use the insulin it does make.

• Some of the important types of diabetes include -

1. Autoimmune diabetes

2. Prediabetes

3. Gestational diabetes

Additional Information

Diabetes insipidus (DI) and Diabetes mellitus (DM) are conditions characterized by abnormal regulation of fluids and sugars in the body, but they have different causes, symptoms, and treatments.

• Diabetes Insipidus (DI) is caused by deficiency of ADH (Antidiuretic Hormone).

• DI is primarily caused by a deficiency of antidiuretic hormone (ADH), also known as vasopressin. ADH is responsible for regulating the balance of water in the body.

Diabetes Mellitus (DM) is caused by Insufficient Insulin or Insulin Ineffectiveness: DM is characterized by insufficient insulin production (Type 1 DM) or ineffective use of insulin by the body's cells (Type 2 DM).

• Type 1 Diabetes: Results from the immune system destroying insulin-producing beta cells in the pancreas.

• Type 2 Diabetes: Develops when the body's cells become resistant to insulin or when the pancreas fails to produce enough insulin.

Key Differences:-

a)Hormonal Involvement:-

• DI: Involves a deficiency of ADH.

• DM: Involves insufficient insulin or insulin ineffectiveness.

b)Urine Characteristics:-

• DI: Results in dilute urine.

• DM: Causes the presence of glucose in the urine.

Q90. Answer: (a) Deepika Padukone

The correct answer is Deepika Padukone.

Key Points

• The opening session of the WEF Annual Meeting 2020 at Davos-Klosters, Switzerland, on January 20, 2020.

• The winners of the " Global Crystal Award " 2020 are -

1. Deepika Padukone
2. Theaster Gates
3. Jin Xing
4. Lynette Wallworth

Important Points

• The award is given to honor the enduring contributions to society by exceptional artists.

• Deepika Padukone is the founder of the " Live Love Laugh " foundation.

• The aim of the foundation is to reduce the stigma and spread awareness about mental health.

• Our mental health is equally as important as our physical health.

Q91. Answer: (b) Badminton

The correct answer is Badminton.

Key Points

• B. Sai Praneet was born on 10th August 1992 in Hyderabad.

• He is the first Indian male badminton player to win the Bronze medal in the BWF World Championship after Prakash Padukone.

• Sai Praneeth was honored with the Arjun Award in 2019.

• At present, he trains at the Gopichand Badminton Academy in Hyderabad.

Important Points

• Badminton is a game that is played across the net.

• The game is played with multiple members but the most commons are " Singles" and " Doubles".

• The game was first played in the 19th century.

• The highest governing body of this game is the " Badminton World Federation".

• The equipment required for this game is Shuttlecock and Racquet.

Q92. Answer: (d) Amitabh Bachchan

The correct answer is Amitabh Bachhan.

Important Points

Dada Saheb Phalke Award -

• The Dada Saheb Phalke Award is India's highest award in Cinema.

• The award is given for the outstanding contribution to the growth and development of Indian Cinema.

• The award was first given in 1969.

• The first winner of this award was Devika Rani.

• Dadasaheb Phalke International Film Festival Awards 2020 announced in Mumbai, Maharashtra

• Hrithik Roshan bagged the Best Actor award for the film “Super 30”.

Key Points

Amitabh Bachhan -

• Amitabh Bachhan is an Indian actor.

• Amitabh Bachchan is the brand ambassador of Cadburys, Dabur, Emami, Gujrat Tourism, ICICI, Nerolac, Pulse Polio Campaign, Zen mobile.

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• He has been awarded the following awards -

1. Padma Shri in 1984
2. Padma Bhushan in 2001
3. Padma Vibhushan in 2015

Q93. Answer: (d) Within the mesosphere, temperature increases with increasing height.

The correct answer is Within the mesosphere, temperature increases with increasing height.

Key Points

Mesosphere -

• It extends above the stratosphere up to a height of about 80 km.

• It is the coldest layer of the atmosphere.

• The mesosphere is directly above the stratosphere.

• The stratosphere and mesosphere are collectively termed as " Middle atmosphere

• Within the mesosphere, temperature decreases with increasing height, due to decreasing solar heating and increasing cooling by CO_2 radiative emission.

Additional Information

• There are a total of five atmospheric layers.

• These are -

1. Troposphere
2. Stratosphere
3. Mesosphere
4. Thermosphere

• Ionosphere: the lowest part of the Thermosphere contains the ionosphere

5. Exosphere

Q94. Answer: (b) Infosys

The correct answer is Infosys.

Key Points

• The company got this award for being the only Indian corporate to earn recognition for its effort to combat climate change.

• UN Climate Summit in New York was convened by UN Secretary-General Antonio Guterres.

• The award will be presented to Infosys at the UN Climate Change Conference (COP25) at Santiago in Chile.

Additional Information

• Infosys in a multinational corporation that provides -

1. Business consulting
2. Information technology
3. outsourcing services

• The company was founded on 7th July 1981 in Pune.

• The headquarter of the company is in Banglore.

• The current CEO of this company is Salil Parekh.

Important Points

• The UN Global Climate Action Awards are organized by the Momentum for Change initiative of the UN Climate Change Secretariat.

• The award-winning projects are recognized for their innovative solutions that address climate change, and help drive progress on many other sustainable development goals like poverty alleviation, gender equality and economic opportunity.

• The UN Global Climate Action Award of 2020 was recognized in three categories -

1. Climate Neutral Now
2. Women for results
3. Financing for climate-friendly Investment.

Q95. Answer: (d) Godavari

The correct answer is the Godavari.

Key Points

• The source of this river is Triambakeshwar, Maharashtra.

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• It flows through the state of Maharashtra, Telangana, Andhra Pradesh, Chattisgarh, and Odisha.
• The mouth of the river is the Bay of Bengal.
• The Godavari is India's second-longest river after the Ganga.
• The length of the river is 1,465 Km.

Additional Information
• Some of the important bridges constructed on this river are -
1. Raja Mahendra varam Godavari Arch Bridge
2. Havelock Bridge
3. Godavari Arch Bridge

Q96. Answer: (d) Shivangi

The correct answer is Shivangi.

Key Points
• Sub Lieutenant Shivangi was born on 15th March 1995 in Muzaffarpur, Bihar.
• She became the first Indian naval pilot on 2nd December 2019.
• Sub-Lieutenant Shivangi had completed operational training from Kochi.
• She was selected in the Indian navy under the Short Service Commission as part of the 27 NOC course in the Indian Naval Academy, Ezhimala.
• She undertook two successive six-month courses -
• First the naval orientation course at the Indian Naval Academy.
• Second at the Air Force Academy where she trained on the Pilates PC - 7 MK II Aircraft.
• She learned flying the Dornier aircraft at the Indian Naval Air Squadron 550.

Additional Information
• Lt General (Mrs) Punita Arora of the Army's Medical Corps was the first woman Lt General of the Indian Army.
• Sarla Thukral was the first Indian woman to fly an aircraft.
• Flight Lieutenant Bhawana Kanth has become the first woman pilot of the Indian Air Force to qualify to undertake combat missions on a fighter jet.

Q97. Answer: (a) 1 to 12

The correct answer is 1 to 12.

Key Points
• An Earthquake is also called a quake, tremor, or temblor.
• It is the phenomenon of shaking of the surface of the earth that also create seismic wave.
• Seismic waves are the waves that travel through the earth's layer.
• These waves are the result of earthquakes, volcanic eruptions, magma moment, landslides, and man-made explosion.
• The earthquake produce different types of seismic waves such as P wave, S wave, and Surface waves.
• Seismic activity also increases due to global warming.

Important Points
• The instruments used to measure the intensity of the earthquake are Seismograph, Ritcher scale, and Seismograph.

Ritcher Scale	**• The Ritcher scale is also called a magnitude scale - It was developed by Charles F. Ritcher**
Mercalli Scale	• The Mercalli scale was developed by Giusseppe Mercalli. - The scale ranges between 1 to 12.
Seismograph	• A Seismograph consists of a mass attached to a fixed base. - The mass moves during the earthquake.

Q98. Answer: (b) 19

The correct answer is 19.

Key Points

Index of cancer preparedness -

• This index is created by the " Economist Intelligence Unit ".
• The index is a collection of data relevant to cancer policy and control from 28 countries.
• The aim of the index is to allow benchmarking of national efforts and identify the best practice in addressing the cancer challenge.
• The index was topped by Australia followed by Netherland and Germany.

Important Points

• The ICP explore the issue of cancer preparedness through three broad domains -
1. Policy and planning
2. Care delivery
3. Health system and governance

Q99. Answer: (a) Aruna Asaf Ali

The correct answer is " Aruna Asaf Ali ".

Key Points

• Aruna Asaf Ali was a political activist and participated in the Indian Independence movement.
• She is known for hoisting the Indian flag at the Gowalia Tank Maidan in Mumbai during the Quit India Movement.
• In 1958, She also became " Delhi's first mayor ".
• Aruna Asaf Ali is popularly known as the 'Grand Old Lady' of the Independence Movement.
• Gowalia Tank Maidan is located in central Mumbai.
• Mahatma Gandhi issue the quit India speech in this garden.
• She was greatly influenced by Mahatma Gandhi's ideas and beliefs.
• In 1932, she had gone on a hunger strike in Tihar Jail against the mistreatment of the political prisoners

Important Points

• She got the following awards -
• International Lenin peace prize in 1964
• Jawaharlal Nehru Prize in 1991
• Padma Vibhushan in 1992
• Bharat Ratna in 1997.

Q100. Answer: (a) Sheikh Muhammad Abdullah

The correct answer is " Sheikh Muhammad Abdullah ".

Key Points

• Sheikh Muhammad Abdullah Known as 'Sher-e-Kashmir'.
• Sheikh Abdullah, who founded the National Conference, was appointed as the head of the government thrice in his lifetime.
• Abdullah was sent to three-year imprisonment for launching the Quit Kashmir movement against Maharaja Hari Singh.
• In 1953, Sheikh Abdullah was accused of conspiring against the state and was arrested in the 'Kashmir conspiracy case'.
• He was a Kashmiri Politician and was involved in the politics of Jammu and Kashmir.
• He has served as -
• CM of Jammu and Kashmir from 1977 to 1982
• CM of Jammu and Kashmir from 1975 to 1977
• He was also the first elected prime minister of the Princely State of Jammu and Kashmir
• He died on 8th September 1982 in Srinagar.

Important Points

• Flames of Chinar -
• Flames of Chinar is an autobiography of Sheikh Abdullah.
• The editor of the book is Khushwant Singh.

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