SSC CHSL 2020 Official Paper 30 (Held on: 10 Aug 2021 Shift 3) (Previous Year Paper)

SSC Combined Higher Secondary Level (CHSL) • 2020 • 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. Select the INCORRECTLY spelt word.

(a) Preshious
(b) Presentable
(c) Plenary
(d) Peaceful

Q2. Select the most appropriate synonym of the given word.

Vacillate

(a) Fortify
(b) Strengthen
(c) Augment
(d) Waver

Q3. Select the option that can be used as a one-word substitute for the given group of words.

A place of ideal perfection especially in laws, government, and social conditions

(a) Utopia
(b) Heaven
(c) Paradise
(d) Aden

Q4. The following sentence has been divided into parts. One of them may contain an error. Select the part that contains the error from the given options. If you don't find any error, mark 'No error' as your answer.

Vidya put on her mask, / sanitize her hands / and walked into the shop.

(a) Vidya put on her mask
(b) sanitize her hands
(c) No error
(d) and walked into the shop

Q5. Select the most appropriate word to fill in the blank.

As the Principal was busy, she _____ a senior teacher to attend the conference on her behalf.

(a) committed
(b) declared
(c) deputed
(d) reserved

Q6. Select the most appropriate synonym of the given word.

Silt

(a) Residue
(b) Cut

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(c) Incision
(d) Opening

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

Rigid

(a) Flexible
(b) Adamant
(c) Definite
(d) Firm

Q8. Select the most appropriate meaning of the given idiom.

Break the ice

(a) Cool the room for everyone
(b) Make a beginning or start something
(c) Make things available for a party
(d) Arrange for a skating show

Q9. Select the most appropriate option to substitute the underlined segment in the given sentence. If there is no need to substitute it, select 'No substitution required'.

Regard of whether the students were ready or not the teacher announced the dates of the test.

(a) No substitution required
(b) Regarding whether
(c) Regardless of whatsoever
(d) Regardless of whether

Q10. Select the most appropriate ANTONYM of the given word.

Inept

(a) Competent
(b) Lacking
(c) Useless
(d) Partial

Q11. Select the most appropriate word to fill in the blank.

Carbohydrates are so called because they _____ carbon, oxygen, and hydrogen.

(a) consist
(b) codify
(c) contain
(d) cover

Q12. Select the INCORRECTLY spelt word.

(a) Inherit
(b) Suceed
(c) Accede
(d) Implant

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

If a person tests positive for Covid-19, he have to isolate himself immediately so that he does not infect others.

(a) he has to isolate himself
(b) he isolated himself
(c) he must have to isolate
(d) No substitution required

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Q14. Sentences of a paragraph are given below in jumbled order. Arrange the sentences in the right order to form a meaningful and coherent paragraph.

A. The country gained admission to the United Nations in 1955.

B. In 2008, however, after a decade-long period of violence and turbulent negotiation with a strong Maoist insurgency, the monarchy was dissolved, and Nepal was declared a democratic republic.

C. In 1991 the kingdom established a multiparty parliamentary system.

D. Nepal, long under the rule of hereditary prime ministers favoring a policy of isolation, remained closed to the outside world until a palace revolt in 1950 restored the crown's authority in 1951.

(a) DACB
(b) DBAC
(c) BCDA
(d) CABD

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

A lean patch

(a) period of poor performance
(b) Friendship that has ended
(c) A part of hair that is thin
(d) Cloth that is beginning to tear

Q16. The following sentence has been divided into parts. One of them may contain an error. Select the part that contains the error from the given options. If you don't find any error, mark 'No error' as your answer.

Your advices were timely / and guided me / to take the right decisions.

(a) and guided me
(b) to take the right decisions
(c) Your advices were timely
(d) No error

Q17. Select the option that expresses the given sentence in passive voice.

Ravi drove the car towards the highway for a trial run.

(a) The car had been driven for a trial run by Ravi towards the highway.
(b) The car had driven towards the highway for a trial run by Ravi.
(c) The car was driving towards the highway for a trial run by Ravi.
(d) The car was driven towards the highway for a trial run by Ravi.

Q18. Sentences of a paragraph are given below in jumbled order. Arrange the sentences in the right order to form a meaningful and coherent paragraph.

A. First, a new article comes into our offices.

B. Every article in the Encyclopedia goes through a rigorous editorial process to make sure it's clear, accurate, objective, and fair.

C. The article is first reviewed by a fact-checker, who uses a variety of sources to make sure the article is accurate and the facts are correct.

D. The author may be an editor at the Encyclopedia who knows that subject or a prominent scholar with specialized expertise in that field.

(a) CDAB
(b) BCAD
(c) BADC
(d) CADB

Q19. Select the option that can be used as a one-word substitute for the given group of words.

The arrangement of events or dates in the order of their occurrence.

(a) Chronology
(b) Chronic
(c) Calendar

(d) Routine

Q20. Select the option that expresses the given sentence indirect speech.

The customer asked the bank manager if they were working on the following Saturday

(a) The customer asked the bank manager, “Are they working on the previous Saturday?”
(b) The customer asks the bank manager, “If you were working on the following Saturday?”
(c) The customer said to the bank manager, “Are you working next Saturday?”
(d) The customer said to the bank manager, “Were they working on the previous Saturday?”

Directions

Direction: In the following passage, some words have been deleted. Select the most appropriate option to fill in each blank.

Seychelles, one of the world’s smallest countries, is (1) ____ of two main island groups: the Mahé group of (2) __ than 40 central, mountainous granitic islands and the (3) __ group of more than 70 outer, flat, coralline islands. The islands of the Mahé group are rocky and (4) __ have a narrow coastal strip and a central range of hills. The (5) ____ feature of those islands, with their lush tropical vegetation, is that of high-hanging gardens overlooking silver-white beaches and clear lagoons.

Q21. Select the most appropriate option to fill in blank no. 1.

(a) Composed
(b) Contained
(c) Covered
(d) Combined

Q22. Select the most appropriate option to fill in blank no. 2.

(a) Further
(b) More
(c) Extra
(d) Beyond

Q23. Select the most appropriate option to fill in blank no. 3.

(a) Subsequent
(b) Succeeding
(c) Next
(d) Second

Q24. Select the most appropriate option to fill in blank no. 4.

(a) Regularly
(b) Typically
(c) Routinely
(d) Habitually

Q25. Select the most appropriate option to fill in blank no. 5.

(a) Collective
(b) Predominant
(c) Global
(d) Wide

GENERAL INTELLIGENCE

Q26. Select the option that is related to the third word in the same way as the second word is related to the first word.

Sacred : Profane :: Barren : ?

(a) Fertile
(b) Sterile
(c) Empty
(d) Desert

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Q27. Select the option that is related to the third term in the same way as the second term is related to the first term.

COMPETE : OCETPME :: EXTREME : ?

(a) XEEMRTE
(b) RTXEEME
(c) EMXEERT
(d) XERTMEE

Q28. 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 bats are sticks.

All sticks are woods.

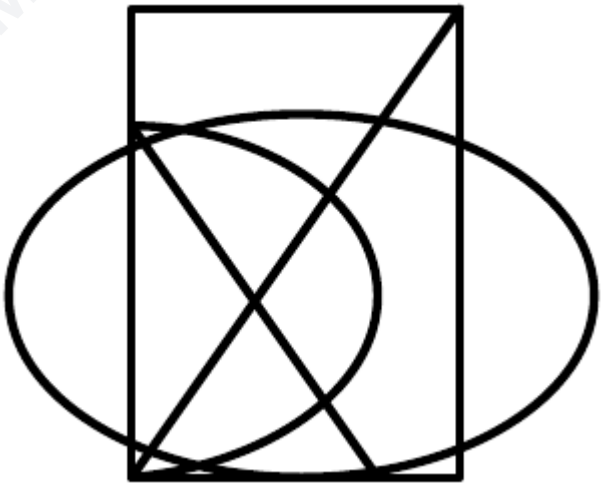
Conclusions:

I. Some woods are not bats.

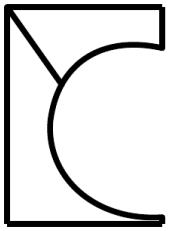
II. All bats are woods.

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

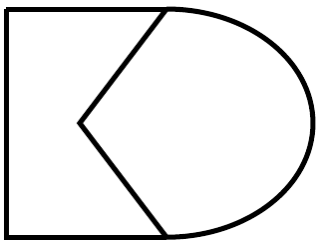
Q29. Select the option that is embedded in the given figure (rotation is NOT allowed).



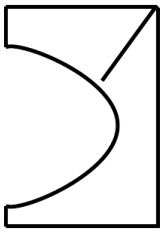
(a)



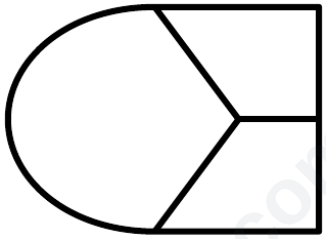
(b)



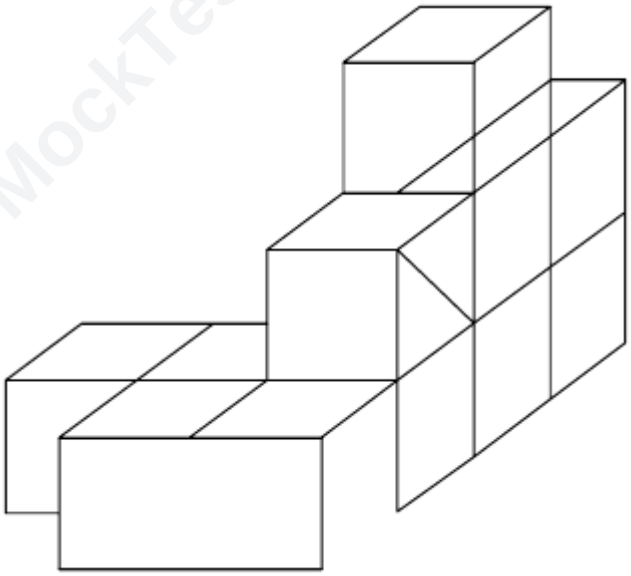
(c)



(d)



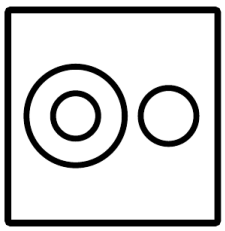
Q30. How many cubes are there in the given figure?



(a) 14
(b) 12
(c) 13
(d) 11

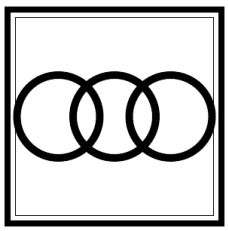
Q31. Select the Venn diagram that best represents the relationship between the following classes.
Carnivorous, Frog, Amphibian

(a)

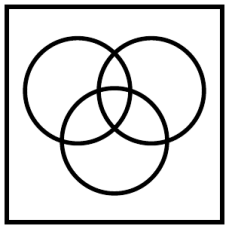


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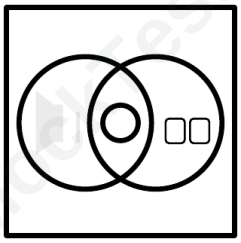
(b)



(c)



(d)



Q32. Select the combination of letters that when sequentially placed in the blanks of the given series will complete the series.

t _ f e t c _ _ _ c f e

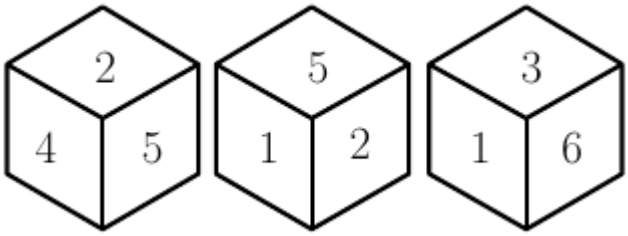
(a) e c f t
(b) t c f e
(c) f e t c
(d) c f e t

Q33. Select the option that is related to the third word in the same way as the second word is related to the first word.

Hollow : Worthless :: Solid : ?

(a) Sound
(b) Sincere
(c) Acceptance
(d) Clear

Q34. Three different positions of the same dice are shown. Select the number that will be on the face opposite to the face having the number 4.

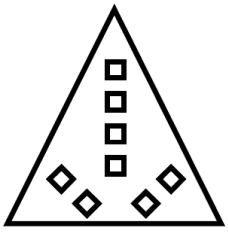


(a) 6
(b) 2
(c) 1
(d) 3

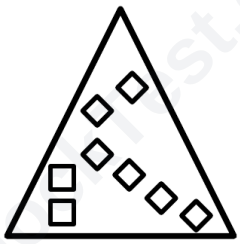
Q35. The sequence of folding a piece of paper and the manner in which the folder paper has been cut is shown in the following figures. How would this paper look when unfolded?



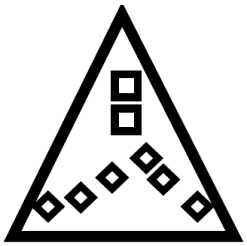
(a)



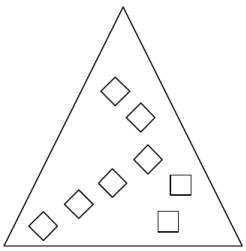
(b)



(c)



(d)



Q36. Select the correct option that indicates the arrangement of the given words in a logical and meaningful order.

1. Beam
2. Canopy
3. Foundation
4. Roof
5. Column

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

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Q37. Which two digits and two signs need to be interchanged so as to balance the given equation?

98 ÷ 4 - 126 + 96 × 5 = 266

(a) 8 and 2; - and +
(b) 6 and 4; × and ÷
(c) 5 and 8; × and ÷
(d) 5 and 9; + and ÷

Q38. Select the number from among the given options that can replace the question mark (?) in the following series.

8, 11, 17, 26, 38, ?

(a) 53
(b) 56
(c) 58
(d) 50

Q39. In a certain code language, TOGETHER is coded as 119 and MASTER is coded as 87. How will REVERSE be coded in that language?

(a) 92
(b) 96
(c) 98
(d) 94

Q40. Train A, which runs at a speed of 90 km/h, starts from Station Y at 8 a.m. Train B, which runs at a speed of 120 km/h, starts from Station Y on the same route at 8.10 a.m.. If Train B catches up with Train A at 8.40 a.m. at Station Z, then what is the distance between Stations Y and Z?

(a) 54 km
(b) 62 km
(c) 50 km
(d) 60 km

Q41. Four numbers have been given, out of which three are alike in some manner and one is different. Select the number that is different.

(a) 183
(b) 199
(c) 163
(d) 139

Q42. In a certain code language, TRAILER is written as QPXGICO. How will ALMIRAH be written in that language?

(a) XJJGOYE
(b) XIJFOXE
(c) YJKGPYF
(d) YIKFPXF

Q43. Four words have been given, out of which three are alike in some manner and one is different. Select the word that is different.

(a) Confident
(b) Honest
(c) Intelligent
(d) Coward

Q44. Select the option in which the numbers are related in the same way as are the numbers of the following set.

32 : 63 : 123

(a) 33 : 66 : 130
(b) 35 : 72 : 149
(c) 26 : 48 : 92
(d) 26 : 51 : 100

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Q45. Select the option in which the numbers share the same relationship as that shared by the given pair of numbers.

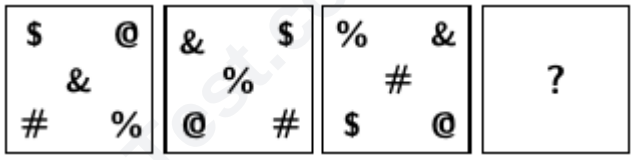
56 : 67

(a) 49 : 58
(b) 85 : 98
(c) 63 : 75
(d) 76 : 88

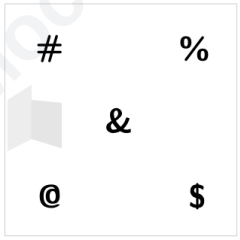
Q46. Four letter-clusters have been given in the options, out of which three letter-clusters are alike in some manner and one is different. Select the letter-cluster that is different.

(a) JGDA
(b) GDBY
(c) UROL
(d) QNKH

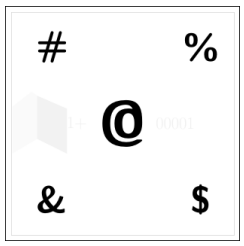
Q47. Select the figure from among the given options that can replace the question mark (?) in the following series.



(a)



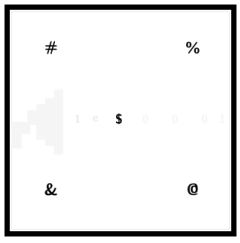
(b)



(c)



(d)



Q48. Select the option in which the numbers are related in the same way as are the numbers of the following set.

(92, 85, 82)

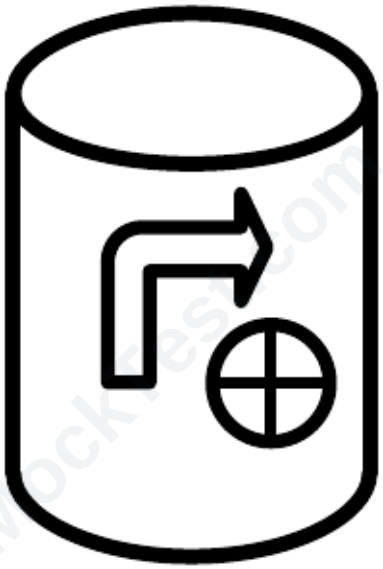
(a) (69, 66, 62)

(b) (83, 78, 77)

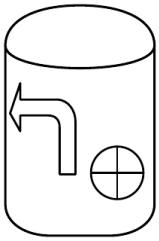
(c) (28, 23, 21)

(d) (71, 65, 62)

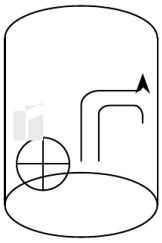
Q49. Select the correct mirror image of the given figure when the mirror is placed at the right side.



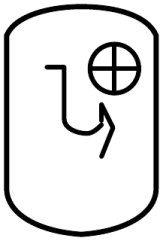
(a)



(b)

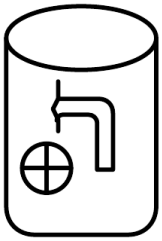


(c)



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(d)



Q50. Sunaina introduced Ritik as the son of the brother of her mother. How is Ritik related to Sunaina?

(a) Son
(b) Uncle
(c) Cousin
(d) Nephew

QUANTITATIVE APTITUDE

Q51. If a + b + c = 11 and ab + bc + ca = 15, then what is the value of $a^3 + b^3 + c^3 - 3abc$?

(a) 836
(b) 386
(c) 638
(d) 368

Q52. Working together A, B and C can complete a piece of work in 3 days. A completes the same work in 24 days and B completes it in 6 days. How many days will C alone take to complete the same work?

(a) 18
(b) 12
(c) 6
(d) 8

Q53. The volume of a right circular cone is 462 cm^3. If its height is 12 cm, then the area of its base (in cm^2) is:

(a) 115.5
(b) 124.5
(c) 103.5
(d) 98.5

Q54. In ΔPQR, QT ⊥ PR and S is a point on QR such that angle PSQ = p°. If angle TQR = 44° and angle SPR = 32°, then the value of p is:

(a) 76°
(b) 82°
(c) 78°
(d) 72°

Q55. If a + b + c = 5, $a^2 + b^2 + c^2 = 27$, $a^3 + b^3 + c^3 = 125$, then the value of abc/5 is:

(a) 5
(b) -5
(c) 1
(d) -1

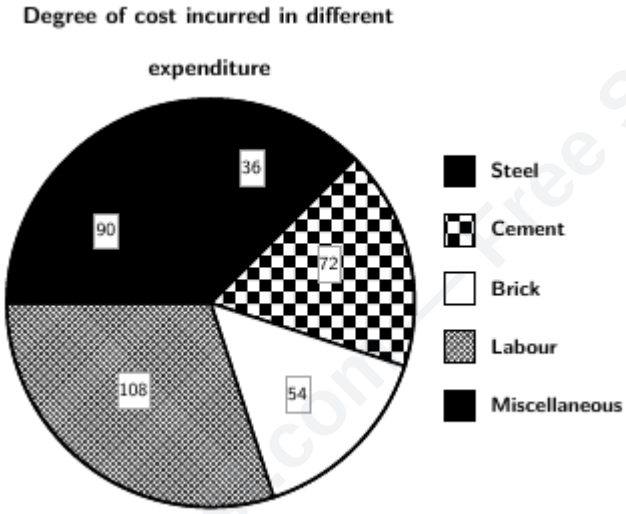
Q56. If the 11-digit number 4y6884805x6 is divisible by 72, and x ≠ y, then the value of √xy is:

(a) √8
(b) √6
(c) √12
(d) √5

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Q57. Study the pie chart and answer the question that follows.

The given pie chart shows the degree of the cost incurred in different expenditures on the construction of a house. The total expenditure is Rs.31,50,000.



What is the percentage of expenditure on cement?

(a) 20%
(b) 15%
(c) 25%
(d) 30%

Q58. If $(1 + \cot^2\theta) + (1 + (\cot 2\theta)^{(-1)})$ is equal to k, then $\sqrt{k}$ = ?

(a) $\sin\theta \sec\theta$
(b) $\sin\theta \cos\theta$
(c) $\text{cosec}\,\theta \sec\theta$
(d) $\text{cosec}\,\theta \cos\theta$

Q59. If $(x - 1.5)^3 + (x - 4)3 + (x - 3.5)3 = 3(x - 1.5)(x - 4)(x - 3.5)$, then what is the value of x?

(a) 1
(b) 6
(c) 3
(d) 9

Q60. In a class of 80 students (boys and girls) there are 60% girls. The average weight of the boys is 58 kg and that of the girls is 52 kg. What is the average weight (in kg) of the whole class?

(a) 55
(b) 53.6
(c) 54.4
(d) 56.2

Q61. If $3\cos\theta = 2\sin^2\theta$, $0° < \theta < 90°$, then what is the value of $(\tan^2\theta + \sec 2\theta - \text{cosec}\,2\theta)$?

(a) 17/3
(b) -7/3
(c) -17/3
(d) 7/3

Q62. The value of $\cot^2 46° - \sec 244° + (\sin 21° + \sin 23° + \sin 25° + ... + \sin 289°)$ is:

(a) 22.5
(b) 21.5
(c) 23.5
(d) 20.5

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Q63. By selling a car for Rs.6,32,500, a showroom owner makes a profit of 15%. If he sold the car at Rs. 8,10,000, then what would be the profit percentage (correct to one decimal place)?

(a) 47.3%
(b) 44.8%
(c) 51.4%
(d) 41.5%

Q64. What is the ratio of the mean proportional between 1.2 and 10.8 to the third proportional to 0.2 and 1.2?

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

Q65. In a trapezium ABCD, DC || AB, AB = 16 cm and DC = 11.2 cm. What is the length (in cm) of the line segment joining the mid points of its diagonals?

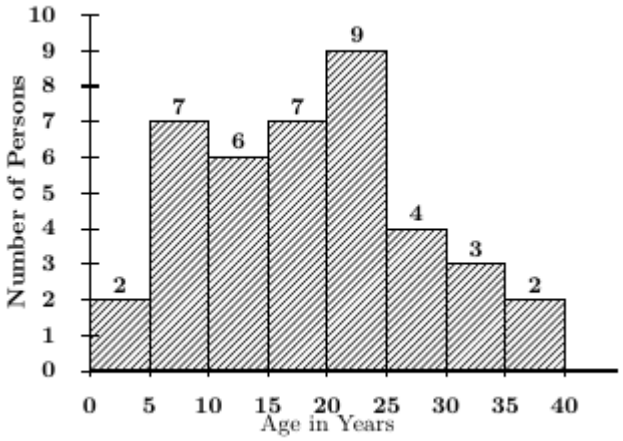
(a) 1.8
(b) 1.2
(c) 2.4
(d) 2.8

Q66. A man covers 5/12 of a total journey by train, 7/18 of the journey by bus and the remaining 7 km on foot. His total journey (in km) is:

(a) 40 km
(b) 32 km
(c) 35 km
(d) 36 km

Q67. Some families went on an outstation tour. The given histogram shows their ages.

What is the ratio of the number of persons of age less than 15 years to that of persons of age less than 30 years?



(a) 15 : 38
(b) 3 : 7
(c) 15 : 31
(d) 11 : 19

Q68. The sides AB, BC and AC of ΔABC are 12 cm, 8 cm and 10 cm, respectively. A circle is inscribed in the triangle touching AB, BC and AC at D, E and F, respectively. The ratio of the lengths of AD to CE is:

(a) 10 : 7
(b) 5 : 7
(c) 7 : 3
(d) 3 : 5

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Q69. A marks her goods 25% above the cost price. She sells 25% of the goods at the marked price, 60% at 25% discount and the remaining at 10% discount. What is her overall gain or loss percent?

(a) Loss 18.175%
(b) Gain 4.375%
(c) Loss 3.125%
(d) Gain 15.124%

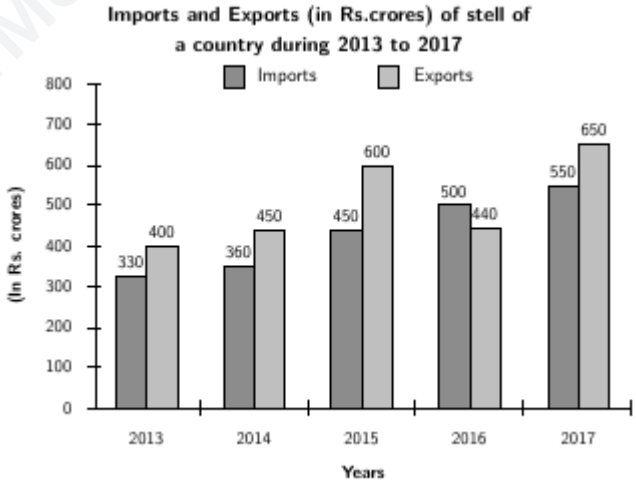
Q70. When the price of an item was reduced by 20%, its sales increased by x%. If there is an increase of 25% in the receipt of the revenue, then the value of x is:

(a) 55.75%
(b) 56.25%
(c) 53.84%
(d) 61.5%

Q71. A sum lent at simple interest amounts to Rs.6,240.80 in one year and to Rs.7,563.20 in 4 years. The sum (in Rs.) and the rate of interest per annum, respectively, are:

(a) 5,800, 7.6%
(b) 6,200, 7.6%
(c) 5,800, 8.5%
(d) 6,200, 8.5%

Q72. Study the bar graph which show the imports and exports (in Rs.) of steel of a country during 2013 to 2017 and answer the question that follows.



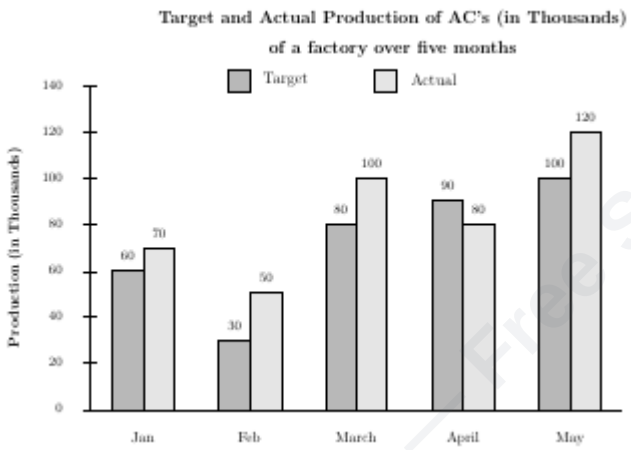
For how many year(s) were the imports less than 80% of the average exports (per year) of the country during the five years?

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

Q73. Two circles of radii 18 cm and 12 cm intersect each other and the length of their common chord is 16 cm. Then what is the distance (in cm) between their centres?

(a) $2\sqrt{5}\ (4 + \sqrt{13})$
(b) $2\sqrt{5}\ (2 + \sqrt{13})$
(c) $2\sqrt{5}\ (-2 + \sqrt{13})$
(d) $2\sqrt{5}\ (4 - \sqrt{13})$

Q74. Study the graph which shows the target and actual production of ACs, (in thousands) of a factory over five months and answer the question that follows.



The total target production of ACs in February, March, April, and May is what percent less than the total actual production of ACs over five months? (correct to one decimal place)

(a) 28.6%
(b) 26.8%
(c) 29.7%
(d) 27.9%

Q75. (775 × 775 × 775 + 225 × 225 × 225)/(77.5 × 77.5 + 22.5 × 22.5 - 77.5 × 22.5) equal to:is

(a) 100000
(b) 10000
(c) 0.1
(d) 100

GENERAL AWARENESS

Q76. In December 2020, the Chief Minister of _____ announced that India's biggest hockey stadium is being set up in the state.

(a) West Bengal
(b) Odisha
(c) Telangana
(d) Andhra Pradesh

Q77. The total population per net cultivated area of a country refers to its _____.

(a) Agricultural density
(b) livestock density
(c) population density
(d) physiological density

Q78. Which of the following songs do the peasants of Rajasthan sing while working in fields?

(a) Pandavani
(b) Pankhida
(c) Chhakri
(d) Barhamasa

Q79. Which of the following states launched India's and South-Asia's first blockchain-enabled rooftop solar trading platform in December 2020?

(a) Gujarat
(b) Uttar Pradesh
(c) Madhya Pradesh
(d) Rajasthan

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Q80. Which of the following states was NOT formed in the year 2000?

(a) Telangana
(b) Uttarakhand
(c) Jharkhand
(d) Chhattisgarh

Q81. Who among the following rulers belonged to the Tuluva dynasty?

(a) Simha Vishnu
(b) Vishnuvardhana
(c) Pushyamitra Sunga
(d) Krishnadeva Raya

Q82. Who among the following won a bronze medal at the World Athletics Championship in Paris in 2003?

(a) Anju Bobby George
(b) PT Usha
(c) Seema Punia
(d) Krishna Poonia

Q83. In which of the following states is the Shatrunjaya Hills located?

(a) Karnataka
(b) Andhra Pradesh
(c) Madhya Pradesh
(d) Gujarat

Q84. Who among the following cricketers won the Sir Garfield Sobers Award for 'ICC Male Cricketer of the Decade' in December 2020?

(a) Steve Smith
(b) Mahendra Singh Dhoni
(c) Rashid Khan
(d) Virat Kohli

Q85. Where is the Rumi Darwaza located?

(a) Lucknow
(b) Bhopal
(c) Gwalior
(d) Agra

Q86. The _____ is a three or four letter abbreviation that signifies the file type.

(a) name
(b) virus
(c) search
(d) extension

Q87. Who among the following travellers came to India from Uzbekistan in the 11th century?

(a) Abdur Razzaq Samarquandi
(b) Ibn Battuta
(c) Al-Biruni
(d) Francois Bernier

Q88. Which of the following crops is grown throughout the year in the southern states of India?

(a) Rice
(b) Maize
(c) Finger millet
(d) Sorghum

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Q89. Where was the first hot air balloon wildlife safari launched in India in December 2020?

(a) Palamu Tiger Reserve
(b) Pilibhit Tiger Reserve
(c) Ranthambore Tiger Reserve
(d) Bandhavgarh Tiger Reserve

Q90. Which of the following cells is NOT used in watches?

(a) Zinc air cell
(b) Silver oxide cell
(c) Lead acid cell
(d) Mercury cell

Q91. Who among the following were awarded the Nobel Prize in Chemistry 2020 for their exemplary work in genome editing?

(a) George P Smith and Sir Gregory P Winter
(b) James P Allison and Tasuku Honjo
(c) Jennifer A Doudna and Emmanuelle Charpentier
(d) Gerard Mourou and Donna Strickland

Q92. Which of the following quantities is measured using a torsion balance?

(a) Magnetism
(b) Force
(c) Charge
(d) Pressure

Q93. An ambassador of which of the following countries was elected as the President of the United Nations Human Rights Council in January 2021?

(a) Ghana
(b) Cuba
(c) Libya
(d) Fiji

Q94. Which of the following ports is used to connect a computer to a wired network?

(a) Super-video port
(b) Parallel port
(c) Ethernet port
(d) Universal serial bus port

Q95. In which of the following years did the Reserve Bank of India liberalise the licensing policy for Urban Co-operative Banks?

(a) 1993
(b) 2001
(c) 1995
(d) 1998

Q96. Which of the following is a vector-borne disease?

(a) Malaria
(b) Cholera
(c) Pneumonia
(d) Mumps

Q97. Which of the following books did the famous cricketer Sunil Gavaskar author?

(a) Democracy's XI: The Great Indian Cricket Story
(b) Playing It My Way
(c) Runs 'n Ruins

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(d) Captain Cool

Q98. As per Union Budget 2020, the Government of India intends to double the country's milk processing capacity by the year _____.

(a) 2028
(b) 2025
(c) 2030
(d) 2023

Q99. Which of the following soils is found in areas of heavy rainfall and high humidity?

(a) Yellow soil
(b) Red soil
(c) Saline soil
(d) Peaty soil

Q100. Who is the Governor of the state of Chhattisgarh as of May 2020?

(a) Ramesh Bais
(b) Anusuiya Uikey
(c) Bhupesh Baghel
(d) Y S Jagan Mohan Reddy

ANSWER KEY

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

SOLUTIONS

Q1. Answer: (a) Preshious

The incorrect spelling is- Preshious.

Key Points

• The correct spelling of the word is- Precious.
• The meaning of the word is- of great value; not to be wasted or treated carelessly.
• The synonyms of the word can be Valuable, rare, expensive, etc.

Hence, the correct answer is Option 1.

Additional Information

• The rest of the words are absolutely correct. The meaning of the words is-
• Plenary- unqualified; absolute.
• Presentable- clean, smart, or decent enough to be seen in public.
• Peaceful- free from disturbance; tranquil.

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Q2. Answer: (d) Waver

The solution is in Hindi. Read it online.

Q3. Answer: (a) Utopia

The correct answer is Utopia.

Key Points

• Let's see the meanings of the given words-

• Utopia- an imagined place or state of things in which everything is perfect.

• Heaven- a place regarded in various religions as the abode of God (or the gods) and the angels, and of the good after death, often traditionally depicted as being above the sky.

• Paradise- (in some religions) heaven as the ultimate abode of the just.

• Aden- the main port and commercial capital of Yemen, on the N coast of the Gulf of Aden

• Hence, according to the meaning of the given words, the correct answer is Option 1.

Q4. Answer: (b) sanitize her hands

The erroneous part is "Sanitize her hands."

Key Points

• In the given sentence, the usage of 'Sanitize' is incorrect instead of it use 'Sanitized'

• According to the rule of parallelism, Whenever the verbs are in parallel then we need to use all the verbs in the same form. Here, put is in the second form as we can get a hint from the verb walked as it is given in the second form also it is connected with the conjunction 'and'

• Hence, the correct sentence is- Vidya put on her mask, sanitized her hands and walked into the shop.

Q5. Answer: (c) deputed

The correct answer is deputed.

Key Points

• Let's see the meanings of the given words-

• Committed- pledged or bound to a certain course or policy; dedicated.

• Declared- openly or formally asserted or announced.

• Deputed- appoint or instruct (someone) to perform a task for which one is responsible.

• Reserved- slow to reveal emotion or opinions.

• Hence, according to the meanings of the given words, the correct answer is Option 3 i.e. Deputed.

• The speaker of the sentence wants to say that The principal was busy which is why the principal appointed someone else to attend the conference. Hence, according to the context 'Deputed' is the correct answer.

Q6. Answer: (a) Residue

The correct answer is Residue.

Key Points

• Let's see the meanings of the given words-

• Silt- fine sand, clay, or other material carried by running water and deposited as a sediment, especially in a channel or harbour.

• Residue- a small amount of something that remains after the main part has gone or been taken or used.

• Cut- make an opening, incision, or wound in (something) with a sharp-edged tool or object.

• Incision- a surgical cut made in skin or flesh.

• Opening- a space or gap that allows passage or access.

• Hence, according to the meanings of the given words, the correct answer is Option 1 i.e. Residue.

Q7. Answer: (a) Flexible

The correct answer is Flexible.

Key Points

• Let's see the meanings of the given words-

• Rigid- unable to bend or be forced out of shape; not flexible.

• Flexible- capable of bending easily without breaking.

• Adamant- refusing to be persuaded or to change one's mind.

• Definite- clearly stated or decided; not vague or doubtful.

• Firm- having a solid, almost unyielding surface or structure.

• Hence, according to the meanings of the given words, the correct answer is Option 1 i.e. Flexible.

Q8. Answer: (b) Make a beginning or start something

The solution is in Hindi. Read it online.

Q9. Answer: (d) Regardless of whether

The correct answer is Regardless of whether.

Key Points

• In the given sentence, the usage of 'Regard of whether' is incorrect instead use 'Regardless of whether'

• 'Regard' is a verb. We need to use an adverb that will work as a connector.

• Regardless means despite; not being affected by something.

• This job is open to all, regardless of previous experience.

• We need to use 'Whether' because there is doubtfulness in the sentence that the students were ready or not hence, we need to use 'Whether' ((used especially in reporting questions and expressing doubts) if, or not)

• Example- I wasn't sure whether you'd like it.

Hence, the correct sentence is- Regardless of whether the students were ready or not the teacher announced the dates of the test.

Q10. Answer: (a) Competent

The correct answer is Competent.

Key Points

• Let's see the meanings of the given words-

• Inept- not skilled or effective

• Competent- having the necessary ability, knowledge, or skill to do something successfully.

• Lacking- not available or in short supply.

• Useless- not fulfilling or not expected to achieve the intended purpose or desired outcome.

• Partial- existing only in part; incomplete.

• Hence, the correct answer (Antonym) is Option 1 i.e. Competent.

Q11. Answer: (c) contain

The solution is in Hindi. Read it online.

Q12. Answer: (b) Suceed

The solution is in Hindi. Read it online.

Q13. Answer: (a) he has to isolate himself

The correct answer is he has to isolate himself

Key Points

• In the given sentence, the usage of 'have to' is incorrect instead of it we need to use 'has to'

• The subject of the sentence is- 'he' hence, we need to use a singular verb so 'has to' will be used.

• 'Has to' is a modal auxiliary verb that means 'to need to or be forced to; must' and the main verb of the sentence is 'isolate'

• Example- He has to go to Vermont tomorrow.

Hence, the correct sentence is- If a person tests positive for Covid-19, he has to isolate himself immediately so that he does not infect others.

Q14. Answer: (a) DACB

The correct answer is 'DACB'

Key Points

• Whenever the years are given in the sentences then try to reorganize the years.

• The given sentences are talking about Nepal gaining the name of a democratic republic.

• The first sentence will be sentence D as the year mentioned in this sentence is '1950' and there is a crown's authority in 1951.

• The second sentence will be Sentence A as the year mentioned in this sentence is '1955'

• The third sentence will be sentence C as the year menioned in this sentence is '1991' also tells that in this year the parliamentary system has been established.

• The fourth sentence will be sentence B as the year mentioned in this sentence is "2008"

So the correct sequence is- DACB

Q15. Answer: (a) period of poor performance

The correct answer is 'Period of poor performance'

Key Points

• The meaning of the idiom 'A lean patch' is- Period of poor performance. Or 'A period of failure, decline, or poor performance or results.'

• Let's see an example-

• Almost every new business experiences a lean patch at some point or another.

• Hence, the correct answer is Option 1.

Q16. Answer: (c) Your advices were timely

The erroneous part is 'Your advices were timely'

Key Points

• In the given sentence, the usage of 'Advices were' is incorrect instead of it use 'advice was'

• According to grammar, 'Advice' is an uncountable noun (Abstract noun) hence, we cannot use it in the plural form so the correct use should be in the singular with the singular verb.

• In the given sentence, the speaker wants to say that the subject got his advice timely and guided him to take the right decisions.

• Let's see an example-

• My advice is to go by train.

• Hence, the correct sentence is- Your advice was timely and guided me to take the right decisions.

Q17. Answer: (d) The car was driven towards the highway for a trial run by Ravi.

The correct answer is 'The car was driven towards the highway for a trial run by Ravi.'

Key Points

• The given sentence is in the passive voice.

• While changing the sentence into passive voice the main thing you have to keep in mind is the tense of the sentence because it doesn't change.

• In the given sentence, the tense of the sentence is in the past tense.

• Hence, the structure will be- was + V3.

• Also, the object of the sentence will become the subject of the sentence. The object is 'The car' and the subject is 'Ravi'

Hence, the correct passive of the sentence is- The car was driven towards the highway for a trial run by Ravi.

Q18. Answer: (c) BADC

The correct answer is 'BADC'

Key Points

• On reading the sentences, we can comprehend that the passage is all about checking the article before going live.

• The first sentence will be sentence B as it is the introduction of the passage because it tells that 'Encylopedia's' every article should be checked thoroughly.

• The second sentence will be sentence A as it uses a noun 'first' so it gives the hint of what will be the first step.

• The third sentence will be sentence D it tells who can be an author of the article given in Encyclopedia.

• The fourth sentence will be sentence C as it is the only sentence left.

So the correct passage is- Every article in the Encyclopedia goes through a rigorous editorial process to make sure it's clear, accurate, objective, and fair. First, a new article comes into our offices. The author may be an editor at the Encyclopedia who knows that subject or a prominent scholar with specialized expertise in that field. The article is first reviewed by a fact-checker, who uses a variety of sources to make sure the article is accurate and the facts are correct.

Q19. Answer: (a) Chronology

The solution is in Hindi. Read it online.

Q20. Answer: (c) The customer said to the bank manager, “Are you working next Saturday?”

The correct answer is 'The customer said to the bank manager, “Are you working next Saturday?”'

Key Points

• The given sentence is in Indirect speech.

• As the given sentence has 'if' it means the interrogative reported speech will be there in Direct speech.

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• The pronoun will be used according to the object that is 'Bank manager' so the pronoun will be 'You'

• The tense will be the present continuous tense.

• The reporting verb 'asked' will be changed into 'said to'.

So the correct answer is- The customer said to the bank manager, “Are you working next Saturday?”

Q21. Answer: (a) Composed

The correct answer is 'Composed'

Key Points

• Seychelles, one of the world’s smallest countries, is (1) _____ of two main island groups:

• Let's see the meaning of the given words-

• Composed- constitute or makeup (a whole, or a specified part of it).

• Contained- have or hold (someone or something) within.

• Covered- put something on top of or in front of (something), especially in order to protect or conceal it.

• Combined- join or merge to form a single unit or substance.

• According to the sentence, we need to use a word that means makeup because 'Seychelles' is made up of small islands.

Hence, the correct sentence is- Seychelles, one of the world’s smallest countries, is composed of two main island groups:

Q22. Answer: (b) More

The correct answer is 'More'

Key Points

• the Mahé group of (2) _____ than 40 central, mountainous granitic islands

• In the given sentence, we need to use a determiner that means a greater or additional amount or degree of.

• Hence, the correct answer is Option 2 i.e. More.

So the correct sentence is- the Mahé group of more than 40 central, mountainous granitic islands

Q23. Answer: (d) Second

The correct answer is 'Second'

Key Points

• and a (3) _____ group of more than 70 outer, flat, coralline islands.

• As the first group of islands is The Mahe group it is already mentioned in the passage. So the second group has more than 70 outer, flat, coralline islands.

• So the correct answer is Option 4 i.e. Second.

Hence, the correct sentence is- and the second group of more than 70 outer, flat, coralline islands.

Q24. Answer: (b) Typically

The correct answer is 'Typically'

Key Points

• The islands of the Mahé group are rocky and (4) _____ have a narrow coastal strip and a central range of hills.

• Let's see the meanings of the given words-

• Regularly- with a constant or definite pattern, especially with the same space between individual items.

• Typically- in most cases; usually.

• Routinely- as part of a regular procedure rather than for a special reason.

• Habitually- by way of habit; customarily.

• Hence, according to the meanings of the given words, the correct answer is Option 2 i.e. Typically.

So the correct sentence is- The islands of the Mahé group are rocky and typically have a narrow coastal strip and a central range of hills.

Q25. Answer: (b) Predominant

The correct answer is 'predominant'

Key Points

• The (5) _____ feature of those islands, with their lush tropical vegetation, is that of high-hanging gardens overlooking silver-white beaches and clear lagoons.

• Let's see the meanings of the given words-

• Collective- done by people acting as a group.

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• Predominant- present as the strongest or main element.
• Global- relating to the whole world; worldwide.
• Wide- of great or more than average width.
• Hence, the correct answer is Option 2 i.e. Predominant.
• The sentence is talking about the strongest feature of the islands

Hence, the correct sentence is- The predominant feature of those islands, with their lush tropical vegetation, is that of high-hanging gardens overlooking silver-white beaches and clear lagoons.

Q26. Answer: (a) Fertile

The logic followed here is:
Given:
Sacred : Profane → Profane is the antonyms of Sacred.
Similarly,
Barren : Fertile → Fertile is the antonyms of Barren.
Hence, ‘Fertile’ is the correct answer.

Q27. Answer: (a) XEEMRTE

he table is alphabets place value:
The pattern followed here is:
Given:
COMPETE : OCETPME
Similarly,
EXTREME : ?
Hence, 'EXTREME' is coded as "XEEMRTE".

Q28. Answer: (d) Only conclusion II follows.

Statements:
All bats are sticks.
All sticks are woods.
The least possible diagram for the given statements is as follows
Conclusions:
I. Some woods are not bats → False (Some woods not being bats is a possibility but it is not definite.)
II. All bats are woods → True (Because all bats are sticks and all sticks are woods so all bats are also woods)
Hence, “Only conclusion II follows” is the correct answer.

Q29. Answer: (b) [figure]

The embedded part of this image is:
Hence, option (2) is the correct answer.

Q30. Answer: (b) 12

The number of cubes in the given figure is:
So, there are a total of 12 cubes in the figure.
Hence, ‘12’ is the correct answer.

Q31. Answer: (d) [figure]

The Venn diagrams best represent the relationship between - Carnivorous, Frog, Amphibian figures are shown below:
All Frogs are Amphibian and carnivorous. some amphibians are carnivorous.
Hence, ‘option 4’ is the correct answer.

Q32. Answer: (d) c f e t

Given :- t _ f e t c _ _ _ c f e
By checking options and substituting accordingly.
Option (1) e c f t → t e f e / t c c f / t c f e
Option (2) t c f e → t t f e / t c c f / e c f e
Option (3) f e t c → t f f e / t c e t / c c f e

Option (4) c f e t → t c f e / t c f e / t c f e
• Option (4) gives a pattern of t c f e - t c f e - t c f e.
Hence, 'c f e t' is the correct answer.

Q33. Answer: (a) Sound

The logic followed here is:
Given:
Hollow : Worthless → Worthless is the synonyms of Hollow (adjective).
Similarly,
Solid : Sound → Sound is the synonyms of Solid (adjective).
Hence, 'Sound' is the correct answer.

Q34. Answer: (c) 1

For this question, the relation is given below -
Logic: If two dice have the same two face value in the given image then the third number is opposite to each other.
In first dice and second dice.
Number 2 and 5 is common.
So, number 1 is opposite to 4.
Hence, the correct answer is "1"

Q35. Answer: (d) [figure]

The image obtained when the paper is unfolded is,
Hence, option 4 is the correct answer.

Q36. Answer: (b) 3 - 5 - 1 - 4 - 2

The logical and meaningful order of the given words is as follows:
LOGIC: The words have been arranged according to the stage create a building or houses etc.
3. Foundation → First we create the foundation of any structure.
5. Column → Then we stand column for structure.
1. Beam → Then we create a beam on a column.
4. Roof → After creating the basic structure we create a roof.
2. Canopy → We create a canopy that is above all of them.
Hence, "3 - 5 - 1 - 4 - 2" is the correct answer.

Q37. Answer: (c) 5 and 8; × and ÷

Option (1) 98 ÷ 4 - 126 + 96 × 5 = 266
After interchange 8 and 2 and - and +.
92 ÷ 4 + 186 - 96 × 5 = 866
23 + 186 - 96 × 5 = 866
23 + 186 - 480 = 866
209 - 480 = 866
• 271 = 866 (LHS ≠ RHS)
Option (2) 98 ÷ 4 - 126 + 96 × 5 = 266
After interchange 6 and 4 and × and ÷.
98 × 6 - 124 + 94 ÷ 5 = 244
98 × 6 - 124 + 18.8 = 244
588 - 124 + 18.8 = 244
606.8 - 124 = 244
482.8 = 244 (LHS ≠ RHS)
Option (3) 98 ÷ 4 - 126 + 96 × 5 = 266
After interchange 5 and 8 and × and ÷.
95 × 4 - 126 + 96 ÷ 8 = 266
95 × 4 - 126 + 12 = 266
380 - 126 + 12 = 266

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392 – 126 = 266
126 = 126 (LHS = RHS)
Option (4) 98 ÷ 4 - 126 + 96 × 5 = 266
After interchange 5 and 9 and + and ÷.
58 + 4 - 126 ÷ 56 × 9 = 266
58 + 4 – 2.25 × 9 = 266
58 + 4 – 20.25 = 266
62 – 20.25 = 266
41.75 = 266 (LHS ≠ RHS)
Hence, “Option (3)” is the correct answer.

Q38. Answer: (a) 53

The pattern followed here is:
Hence, '53' is the correct answer.

Q39. Answer: (c) 98

Table show alphabet serial number –
The pattern followed here is:
Sum of the opposite letters positional values + 1 = number.
TOGETHER is coded as 119
=> Sum of the opposite letters positional values + 1
= (7 + 12 + 20 + 22 + 7 + 19 + 22 + 9) + 1
= 118 + 1 = 119
And,
MASTER is coded as 87
=> Sum of the opposite letters positional values + 1
= (14 + 26 + 8 + 7 + 22 + 9) + 1
= 86 + 1 = 87
Similarly,
REVERSE is coded as
=> Sum of the opposite letters positional values + 1
= (9 + 22 + 5 + 22 + 9 + 8 + 22) + 1
= 97 + 1 = 98
Hence, REVERSE will be written as “98”.

Q40. Answer: (d) 60 km

Given:
Train A:
Speed = 90 km/h
Time at station Y = 8 a.m.
Train B:
Speed = 120 km/h
Time at station Y = 8.10 a.m.
Time at station Z = 8.40 a.m.
Total time taken from station Y to Z = 8.10 to 8.40 = 30 min = 0.5 hours
We know that,
=> Speed = Distance / Time
=> Speed of train B = (Distance from station Y to Z) / (Time taken from station Y to Z)
=> 120 = (Distance from station Y to Z) / 0.5
=> 120 × 0.5 = Distance from station Y to Z
=> Distance from station Y to Z = 120 × 0.5 = 60 km
Hence, distance between Stations Y and Z is “60 km”.

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Q41. Answer: (a) 183

The logic followed here is:

All the given options except option (1), are the prime numbers whereas option 1 is not a prime number.

Option (1) 183 → It is not a prime number.

Option (2) 199 → It is a prime number.

Option (3) 163 → It is a prime number.

Option (4) 139 → It is a prime number.

Hence, “183” is an odd one.

Q42. Answer: (a) XJJGOYE

The table is alphabets place value:

The pattern followed here is:

TRAILER is written as QPXGICO

Similarly,

'ALMIRAH' = ?

Hence, 'ALMIRAH' is coded as "XJJGOYE".

Q43. Answer: (d) Coward

The logic followed here is:

Option (1) Confident → Confident is a positive attitude feeling.

Option (2) Honest → Honest is a positive attitude feeling.

Option (3) Intelligent → Intelligent is a positive attitude feeling.

Option (4) Coward → Coward is a negative attitude feeling.

Hence, All word are positive attitude feeling except coward.

Hence, “Coward” is an odd one.

Q44. Answer: (c) 26 : 48 : 92

The logic followed here is:

1^(st) number

2^(nd) number = 1^(st) number × 2 – (1^(st) number bigger digit – 1^(st) number smaller digit)

3^(rd) number = 2^(nd) number × 2 – (2^(nd) number bigger digit – 2^(nd) number smaller digit)

For 32 : 63 : 123

1^(st) number = 32

2^(nd) number = 1^(st) number × 2 – (1^(st) number bigger digit – 1^(st) number smaller digit)

= 32 × 2 – (3 - 2) = 64 – 1 = 63

3^(rd) number = 2^(nd) number × 2 – (2^(nd) number bigger digit – 2^(nd) number smaller digit)

= 63 × 2 – (6 - 3) = 126 – 3 = 123

Option 1 → 33 : 66 : 130

1^(st) number = 33

2^(nd) number = 1^(st) number × 2 – (1^(st) number bigger digit – 1^(st) number smaller digit)

= 33 × 2 – (3 - 3) = 66 – 0 = 66

3^(rd) number = 2^(nd) number × 2 – (2^(nd) number bigger digit – 2^(nd) number smaller digit)

= 66 × 2 – (6 - 6) = 132 – 0 = 132 ≠ 130

Option 2 → 35 : 72 : 149

1^(st) number = 35

2^(nd) number = 1^(st) number × 2 – (1^(st) number bigger digit – 1^(st) number smaller digit)

= 35 × 2 – (5 - 3) = 70 - 2 = 68 ≠ 72

3^(rd) number = 2^(nd) number × 2 – (2^(nd) number bigger digit – 2^(nd) number smaller digit)

= 68 × 2 – (8 - 6) = 136 – 2 = 134 ≠ 149

Option 3 → 26 : 48 : 92

1^(st) number = 26

2^(nd) number = 1^(st) number × 2 – (1^(st) number bigger digit – 1^(st) number smaller digit)

= 26 × 2 – (6 - 2) = 52 - 4 = 48

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3^(rd) number = 2^(nd) number × 2 – (2^(nd) number bigger digit – 2^(nd) number smaller digit)
= 48 × 2 – (8 - 4) = 96 - 4 = 92
Option 4 → 26 : 51 : 100
1^(st) number = 26
2^(nd) number = 1^(st) number × 2 – (1^(st) number bigger digit – 1^(st) number smaller digit)
= 26 × 2 – (6 - 2) = 52 - 4 = 48 ≠ 51
3^(rd) number = 2^(nd) number × 2 – (2^(nd) number bigger digit – 2^(nd) number smaller digit)
= 48 × 2 – (8 - 4) = 96 - 4 = 92 ≠ 100
Hence, the correct answer is "26 : 48 : 92".

Q45. Answer: (b) 85 : 98

The logic followed here is:
The first number + (1^(st) digit of 1^(st) number + 2^(nd) digit of 1^(st) number) = 2^(nd) number.
For 56 : 67
= 56 : 56 + (5 + 6)
= 56 : 56 + 11
= 56 : 67
Option 1 → 49 : 58
= 49 : 49 + (4 + 9)
= 49 : 49 + 13
= 49 : 62 ≠ 58
Option 2 → 85 : 98
= 85 : 85 + (8 + 5)
= 85 : 85 + 13
= 85 : 98
Option 3 → 63 : 75
= 63 : 63 + (6 + 3)
= 63 : 63 + 9
= 63 : 72 ≠ 75
Option 4 → 76 : 88
= 76 : 76 + (7 + 6)
= 76 : 76 + 13
= 76 : 89 ≠ 88
Hence, the correct answer is "85 : 98".

Q46. Answer: (b) GDBY

Table show alphabet serial number –
The pattern followed is,
All follow the same pattern, except 'GDBY'.
Hence, "GDBY" is the odd one.

Q47. Answer: (b) [figure]

The figure that will replace the question mark (?) in the following figure series is shown below:
1) Lower left side small figure transfer to lower right side.
2) Lower right side small figure transfer to the middle.
3) Middle small figure transfer to the upper left side.
4) Upper left side small figure transfer to the upper right side.
5) Upper right side small figure transfer to lower left side.
Final series is
Hence, ‘option 2’ is the correct answer.

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Q48. Answer: (b) (83, 78, 77)

The Logic here is as follows:

1^(st) number

2^(nd) Number = (1^(st) Number) – (1^(st) number bigger digit – 1^(st) number smaller digit)

3^(rd) Number = (2^(nd) Number) – (2^(nd) number bigger digit – 2^(nd) number smaller digit)

In (92, 85, 82)

1^(st) number = 92

2^(nd) Number = 92 – (9 - 2) = 92 – 7 = 85

3^(rd) Number = 85 – (8 - 5) = 85 – 3 = 82

Now check the all options,

Option (1) (69, 66, 62)

1^(st) number = 69

2^(nd) Number = 69 – (9 - 6) = 69 – 3 = 66

3^(rd) Number = 66 – (6 - 6) = 66 – 0 = 66 ≠ 62

Option (2) (83, 78, 77)

1^(st) number = 83

2^(nd) Number = 83 – (8 - 3) = 83 – 5 = 78

3^(rd) Number = 78 – (8 - 7) = 78 – 1 = 77

Option (3) (28, 23, 21)

1^(st) number = 28

2^(nd) Number = 28 – (8 - 2) = 28 – 6 = 22 ≠ 23

3^(rd) Number = 22 – (2 - 2) = 22 – 0 = 22 ≠ 21

Option (4) (71, 65, 62)

1^(st) number = 71

2^(nd) Number = 71 – (7 - 1) = 71 – 6 = 65

3^(rd) Number = 65 – (6 - 5) = 65 – 1 = 64 ≠ 62

Hence, the correct answer is "(83, 78, 77)".

Q49. Answer: (d) [figure]

The correct mirror image of the given figure when the mirror is held at the right side is:

Hence, "option (4)" is the correct answer.

Additional Information

In Mirror image left side and right side changed vice-versa where top and bottom remain same.

Reflection of an object into the water is its water image. It appears by inverting an object vertically i.e. upside down.

The water image of the figure looks like the mirror image of the figure in case the mirror is horizontally at the bottom of the figure.

Water image is just a reflection where top and bottom part of the images changed where left and right side of the image remain same.

Q50. Answer: (c) Cousin

Preparing the family tree using the following symbols,

Given:

Sunaina introduced Ritik as the son of the brother of her mother.

We can draw the following Family Tree from the information given above:

Hence, Ritik is the "cousin" of Sunaina.

Q51. Answer: (a) 836

Given:

a + b + c = 11 and ab + bc + ca = 15

Concpet used:

$a^3 + b^3 + c^3 – 3abc = (a + b + c)[(a + b + c)^2 – 3(ab + bc + ca)]$

Calculation:

a3 + b3 + c3 - 3abc = [11{$(11)^2$ - 3 × 15}]

=> [11{121 – 3 × 15]

=> [11{121 – 45}]

=> 11 × 76

=> 836

Therefore Required answer is 836

Q52. Answer: (d) 8

Given:

Working together A, B and C can complete a piece of work in 3 days.

A complete the same work in 24 days.

B alone can complete the work in 6 days.

Concept Used:

Total work = LCM of time taken by the workers

Calculation:

LCM of 24 and 6 = 24

Efficiency of A = 24/24 = 1 unit per day.

Efficiency of B = 24/6 = 4 unit per day.

Efficiency of all three = 24/3 = 8 unit per day.

So, efficiency of C = 8 - 5

=> 3

Time taken by C to complete the work = 24/3 = 8 days.

Therefore C alone take 8 days to complete the same work.

Q53. Answer: (a) 115.5

Given:

Volume of a right circular cone is 462 cm^3.

Height = 12 cm.

Concept used:

Volume of a cone = $1/3 \times \pi \times r^2 \times h$

Area of base = $\pi \times r^2$

Calculation:

$1/3 \times \pi \times r^2 \times h = 462$

=> $1/3 \times \pi \times r^2 \times 12 = 462$

=> $\pi \times r^2 = 462/4 = 115.5$

Therefore Area of its base (in cm^2) = 115.5

Shortcut Trick In the questions of area and volume. The answer must be divided by 11.

Only 115.5 is divisible by 11.

Therefore Area of its base (in cm2) = 115.5

Q54. Answer: (c) 78°

Given:

QT perpendicular to PR and S is a point on QR.

angle TQR = 44° and angle SPR = 32°

Concept used:

Sum of angle of a triangle is 180°

Vertically opposite angles are angles that are opposite one another at a specific vertex and are created by two straight intersecting lines.

Calculation:

Let PS and QT intersect each other at O.

Now, angle QTP = 90°

So, angle POT = (180 – 32 - 90) = 58°

We know that, angle POT = angle QOS

Again, In ΔQOS

=> 44 + p + 58 = 180

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=> p = 180 – 102 = 78°

Therefore Value of p is 78°.

Q55. Answer: (d) -1

Given:

a + b + c = 5, $a^2 + b^2 + c^2 = 27$ and $a^3 + b^3 + c^3 = 125$

Concept used:

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

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

Calculation:

$27 = 5^2 - 2(ab + bc + ca)$

=> ab + bc + ca = -1

Now,

$a^3 + b^3 + c^3 - 3abc = [(a + b + c)\{a^2 + b^2 + c^2 - (ab + bc + ca)\}]$

=> 125 - 3abc = (5){27 - (-1)}

=> 3abc = 125 - 140

=> 3abc = -15

=> abc = -5

Therefore The value of abc/5 is -1

Q56. Answer: (b) √6

Given:

4y6884805x6 is divisible by 72

Concept used:

Divisibility rule for 8 → If the last three digits of a number are divisible by 8, then the number is completely divisible by 8.

Divisibility rule for 9 → If the sum of digits of the number is divisible by 9, then the number itself is divisible by 9

Calculation:

5x6 must be divisible by 8

Only possible value of x is 3

Now, 4 + y + 6 + 8 + 8 + 4 + 8 + 0 + 5 + 3 + 6

=> 52 + y is divisible by 9

So, y = 2

Now, √(3 × 2)

=> √6

Therefore Required answer is √6

Confusion PointsIf we take y = 7, then x will also be 7 and there is a condition given in the question that x cannot be equal to y.

Let's understand:

Let y = 7

576 will be divisible by 8.

Now, we will check the divisibility of 3.

Now, 4 + y + 6 + 8 + 8 + 4 + 8 + 0 + 5 + 7 + 6

=> 56 + y is divisible by 9

So, y = 7

But according to the condition, x ≠ y.

Thus, 3 is the correct value of y.

Q57. Answer: (a) 20%

Concept used:

One complete circle = 360°

Calculation:

In this question the given value of total expenditure is of no use as the percentage of expenditure is asked.

Degree of cost for cement = 72°

So, percentage of expenditure on cement = 72/360 × 100 = 20%

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Therefore The percentage of expenditure on cement is 20%.

Q58. Answer: (c) cosec θ sec θ

Given:

(1 + cot2θ) + (1 + (cot2θ)-1) is equal to k

Concept used:

$\sin^2\theta + \cos^2\theta = 1$

Calculation:

(1 + cot²θ) + (1 + (cot²θ)^(-1)) = k

=> cosec²θ + (1 + tan²θ) = k

=> cosec²θ + sec²θ = k

=> 1/sin²θ + 1/cos²θ = k

=> (sin²θ + cos²θ)/sin²θcos²θ = k

=> k = 1/sin²θcos²θ

=> √k = 1/sinθcosθ

=> √k = cosecθsecθ

Therefore The value of √k is cosecθsecθ

Q59. Answer: (c) 3

Given:

$(x - 1.5)^3 + (x - 4)^3 + (x - 3.5)^3 = 3 (x - 1.5) (x - 4) (x - 3.5)$

Concept used:

If $a^3 + b^3 + c^3 = 3abc$ then (a +b + c) = 0

Calculation:

According to the concept

(x - 1.5) + (x - 4) + (x - 3.5) = 0

=> 3x - 9 = 0

=> 3x = 9

=> x = 3

Therefore The value of x is 3

Q60. Answer: (c) 54.4

Given:

Total students = 80

60% are girls

The average weight of boys is 58 kg and the average weight of girls is 52 kg.

Concept Used:

Average weight = (Sum of the weight of all the students/Total no. of students)

Calculation:

Number of girls = 80 × (60/100) = 48

Number of boys = (80 - 48) = 32

Now average weight of whole class = ((32 × 58) + (48 × 52))/80 = 4352/80 = 54.4

Therefore The average weight (in kg) of the whole class will be 54.4.

Q61. Answer: (a) 17/3

Given:

$3\cos\theta = 2\sin^2\theta$

Concept Used:

$\sin^2\theta + \cos^2\theta = 1$

Calculation:

$3\cos\theta = 2\sin^2\theta$

=> $3\cos\theta = 2(1 - \cos^2\theta)$

=> $2\cos^2\theta + 3\cos\theta - 2 = 0$

=> $2\cos^2\theta + (4 - 1)\cos\theta - 2 = 0$

=> $2\cos^2\theta + 4\cos\theta - \cos\theta - 2 = 0$

=> $2\cos\theta (\cos\theta + 2) - 1(\cos\theta + 2) = 0$

=> $(2\cos\theta - 1) (\cos\theta + 2) = 0$

=> $(\cos\theta + 2) = 0$ and $(2\cos\theta - 1) = 0$

=> $\cos\theta = -2$ (Not Possible)

=> $(2\cos\theta - 1) = 0$

=> $\cos\theta = 1/2$

So, $\theta = 60°$

Now, $(\tan^2 60° + \sec^2 60° - \text{cosec}^2 60°)$

$= ((\sqrt{3})^2 + 2^2 - (2/\sqrt{3})^2)$

$= (3 + 4 - 4/3)$

$= (7 - 4/3)$

$= 17/3$

Therefore The value of $(\tan^2\theta + \sec^2\theta - \text{cosec}^2\theta)$ is 17/3

Q62. Answer: (b) 21.5

Concept used:

$\text{cosec}^2\theta - \cot^2\theta = 1$

$\sin^2\theta + \cos^2\theta = 1$

Calculation:

$\cot^2 46° - \sec^2 44° + (\sin^2 1° + \sin^2 3° + \sin^2 5° + ... + \sin^2 89°)$

$= \cot^2 46° - \sec^2(90 - 46) + (\sin^2 1° + \sin^2 3° + \sin^2 5° + ... + \sin^2 45° + ... + \sin^2 85° + \sin^2 87° + \sin^2 89°)$

$= \cot^2 46° - \text{cosec}^2 46° + \{\sin^2 1° + \sin^2 3° + \sin^2 5° + ... + \sin^2 45° + ... + \sin^2(90 - 5)° + \sin^2(90 - 3)° + \sin^2(90 - 1)°\}$

$= -1 + \sin^2 1° + \sin^2 3° + \sin^2 5° + ... + \sin^2 45° + ... + \cos^2 5° + \cos^2 3° + \cos^2 1°$

$= -1 + \sin^2 1° + \cos^2 1° + \sin^2 3° + \cos^2 3° + \sin^2 5° + \cos^2 5° + ... \sin^2 43° + \cos^2 43° + \sin^2 45°$

From 1° to 43° there are 22 such odd pairs.

$= -1 + 22(1) + 1/2$ (as $\sin^2\theta + \cos^2\theta = 1$)

$= 21.5$

Therefore The required value is 21.5

Q63. Answer: (a) 47.3%

Given:

The selling price of a car = Rs 632500

Profit = 15%

Concept Used:

Profit% = ((S.P – C.P)/C.P) × 100%

Calculation:

Let C.P of the car be Rs. 100x.

According to the question,

100x + 15x = 632500

=> 115x = 632500

=> x = 632500/115 = 5500

=> 100x = 550000 = CP

New S.P = 8,10,000

So, profit % = ((810000 - 550000)/550000) × 100%

=> (260000/550000) × 100%

=> 47.27% = 47.3%(Approx.)

Therefore The profit percentage will be 47.3%

Q64. Answer: (d) 1 : 2

Given:

First and third proportional = 1.2 and 10.8

First and second proportional = 0.2 and 1.2

Concept used:

If a, b and c are in proportion then:

Mean proportional:

=> $b^2 = a \times c$

Third proportional:

=> $c = b^2/a$

Calculation:

Let mean proportional be x and third proportional be y.

=> $x^2 = 1.2 \times 10.8$

=> $x = 3.6$

Again,

=> $y = (1.2)^2/0.2 = 7.2$

Now, ratio of x to y = 3.6 : 7.2 = 1 : 2

Therefore Ratio of mean proportional to the third proportional will be 1 : 2

Q65. Answer: (c) 2.4

Given:

In a trapezium ABCD, DC || AB

AB = 16 cm and DC = 11.2 cm

Concept:

The line joining the midpoints of two diagonals of a trapezium = Difference of length of parallel side/2

Calculation:

In the above figure, AB and CD are the parallel sides and M_(1,)M2 are the midpoints of the diagonal AC and BD

So, M1M2 = (AB – CD)/2

= (16 – 11.2)/2

= 4.8/2 = 2.4 cm

Therefore The length of the line segment joining the midpoints of its diagonals is 2.4 cm

Q66. Answer: (d) 36 km

Given:

A man covers 5/12 of a total journey by train,

7/18 of the journey by bus and the remaining 7 km on foot

Calculation:

LCM of 12 and 18 is 36

Let the total journey be 36x

Now,

Distance covered by train = 5/12 × 36x = 15x

Distance covered by bus = 7/18 × 36x = 14x

Remaining distance which is covered by foot = (36x – 15x – 14x) = 7x

According to the question,

7x = 7

=> x = 1

So, total journey = 36x = 36 × 1 = 36 km

Therefore His total journey (in km) is 36 km.

Q67. Answer: (b) 3 : 7

Calculation:

Number of persons of age less than 15 years = 2 + 7 + 6 = 15

Number of persons of age less than 30 years = 2 + 7 + 6 + 7 + 9 + 4 = 35

Their ratio = 15 : 35 = 3 : 7

Therefore The required ratio is 3 : 7

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Q68. Answer: (c) 7 : 3

Given:

The sides AB, BC and AC of ΔABC are 12 cm, 8 cm and 10 cm.

A circle is inscribed in the triangle touching AB, BC and AC at D, E and F.

Concept Used:

Length of tangents from a fixed point outside the circle is always same.

Calculation:

Let length of AD = AF = x

Length of BD = BE = y

And length of CE = CF = z

Now,

2 × (x + y + z) = (12 + 8 + 10)

=> x + y + z = 15

Again,

AB = (x + y) = 12 cm

BC = (y + z) = 8 cm

CA = (x + z) = 10 cm

Now, x = (x + y + z) – (y + z) = 15 – 8 = 7 cm

z = (x + y + z) – (x + y) = 15 – 12 = 3 cm

AD : CE = 7 : 3

Therefore Ratio of the lengths of AD to CE is 7 : 3

Q69. Answer: (b) Gain 4.375%

Given:

Markup% = 25%

She sells 25% of the goods at the marked price

60% at 25% discount and the remaining at 10% discount.

Concept used:

SP = MP – MP × Discount%

SP = CP + CP × Profit%

SP = CP – CP × loss%

Calculation:

Let the total number of goods be 100x and cost price of each goods be 100y

Total CP = 10000xy

Marked Price of each goods = 100(1 + 25%) = 125y

SP of 25x goods = 25x × 125y = 3125xy

SP of 60x goods = 60x × 125y(1 – 25%) = 5625xy

SP of remaining (100x – 25x – 60x = 15x goods) = 15x × 125y(1 – 10%) = 1687.5xy

Total SP = 3125xy + 5625xy + 1687.5xy = 10437.5xy

Profit = 10437.5xy - 10000xy = 437.5xy

Profit% = 437.5xy/10000xy × 100 = 4.375%

Therefore His overall gain% is 4.375%

Q70. Answer: (b) 56.25%

Given:

Price of an item was reduced by 20%

Sales increased by x%

Concept used:

Total Revenue = Total sales × Price of each item

Calculation:

Let total sales be 100a and price of each item be 100b

So, Total Revenue = 10000ab

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Price after 20% reduction = 80a

10000ab(1 + 25%) = 80b × 100a(1 + x%)

=> 12500ab = 8000ab × (100 + x)/100

=> 1250/8 = 100 + x

=> 8x = 450

=> x = 56.25%

Therefore The value of x is 56.25%

Q71. Answer: (a) 5,800, 7.6%

Shortcut Trick

Since Simple Interest is constant every year, SI for 3 years = Amount4 − Amount1

=> 3 years SI = 7563.20 − 6240.80 = Rs. 1322.40

=> 1 year SI = 1322.40 ÷ 3 = Rs. 440.80

=> Principal = 6240.80 − 440.80 = Rs. 5800

=> Rate = (440.80 ÷ 5800) × 100 = 7.6%

Therefore The correct answer is Rs. 5800, 7.6%.

Alternate Method

Given:

Amount after 1 year (A1) = Rs. 6240.80

Amount after 4 years (A4) = Rs. 7563.20

Formula Used:

Simple Interest (SI) = (P × R × T) ÷ 100

Amount (A) = P + SI

Calculations:

=> SI for 3 years = A4 − A1

=> SI for 3 years = 7563.20 − 6240.80 = 1322.40

=> SI for 1 year = 1322.40 ÷ 3 = 440.80

=> Principal (P) = A1 − SI for 1 year

=> P = 6240.80 − 440.80 = 5800

=> Rate of Interest (R) = (SI for 1 year × 100) ÷ P

=> R = (440.80 × 100) ÷ 5800

=> R = 44080 ÷ 5800 = 7.6%

Therefore The correct answer is Rs. 5800, 7.6%.

Additional Information

Simple Interest vs Compound Interest

In Simple Interest, the principal remains constant every year, meaning the interest generated is the same annually. In Compound Interest, the accumulated interest of past periods is added to the principal to form the base for the next period.

Principal from Amounts Rule

If a principal becomes A1 in T1 years and A2 in T2 years under Simple Interest, the principal can be directly calculated as P = A1 − [(A2 − A1) ÷ (T2 − T1)] × T1.

Constant SI Property

Since Simple Interest does not compound, the interest accrued over any N-year period is always directly proportional to N, making it uniformly additive.

Q72. Answer: (c) 2

Calculation:

Total exports in the five years = 400 + 450 + 600 + 440 + 650 = 2540

Average export per year = 2540/5 = 508

80% of the Average export = 80% of 508 = 406.4

So we can see that in the years 2013 and 2014, the imports are 330 and 360 i.e below 406.4

Therefore In 2 years the imports were less than 80% of the average exports

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Q73. Answer: (b) 2√5 (2 + √13)

Given:

The Radii of the two circles are 18 cm and 12 cm.

The length of their common chord is 16 cm.

Concept used:

A line that is drawn perpendicular to the chord from the center of a circle always bisects the chord.

$H^2 = B^2 + P^2$

Calculation:

At first join O, P and A

Now, OBA is a right angle triangle and PBA is also a right angle triangle.

Length of AB = AC/2 = 16/2 = 8 cm.

Again, $OB^2 = 18^2 – 8^2 = 260$

=> OB = √260 = 2√65

And $BP^2 = 12^2 – 8^2 = 80$

=> BP = 4√5

Now distance between their centres is OP = OB + BP

=> OP = 2√65 + 4√5

=> OP = 2√5(2 + √13)

Therefore Distance (in cm) between their centers is 2√5(2 + √13)

Q74. Answer: (a) 28.6%

Calculation:

Total target production of ACs in February, March, April and May = 30 + 80 + 90 + 100 = 300(in thousands)

Total actual production of ACs over five months = 70 + 50 + 100 + 80 + 120 = 420(in thousands)

Their difference = 420 – 300 = 120

Required % = 120/420 × 100 = 28.57% ~ 28.6%

Therefore The required % is 28.6%

Q75. Answer: (a) 100000

Given:

(775 × 775 × 775 + 225 × 225 × 225)/(77.5 × 77.5 + 22.5 × 22.5 - 77.5 × 22.5)

Concept used:

(a3 + b3) = (a + b)(a2 + b2 - ab)

Calculation:

Let 775 be a and 225 be b

So,

$(775 \times 775 \times 775 + 225 \times 225 \times 225)/(77.5 \times 77.5 + 22.5 \times 22.5 - 77.5 \times 22.5) = (a^3 + b^3)/((a^2)/100 + (b^2)/100 - (a \times b)/100)$

$=> [(a^3 + b^3) \times 100]/(a^2 + b^2 - ab)$

=> [(a + b)(a2 + b2 - ab) × 100]/(a2 + b2 - ab)

=> (a + b) × 100

=> (775 + 225) × 100

=> 1000 × 100

=> 100000

Therefore The required answer is 100000

Shortcut Trick 1/.01 = 100, Take 100 as common then write in this form

[a3 + b3]/(a2 + b2 - ab) = a + b

100(775 + 225) = 100000

Q76. Answer: (b) Odisha

The correct answer is Odisha.

• In December 2020, the Chief Minister of Odisha announced that India's biggest hockey stadium is being set up in the state.

Key Points

• The Chief Minister of Odisha Shri Naveen Patnaik announced a new world-class hockey stadium in Biju Patnaik University of

Technology campus, Rourkela city

• It would be the biggest stadium of Hockey in India with a sitting capacity of 20 thousand.

• Other stadiums in Odisha: Birsa Munda International Hockey Stadium(20,000 capacity), Rourkela and Kalinga Stadium, Bhubaneshwar.

• These two stadiums will be the host venues for Men's Hockey World Cup 2023.

Additional Information

• National Hockey Stadium, Lahore, Pakistan is the world's biggest stadium(45,000 capacity).

• Birsa Munda International Hockey Stadium(20,000 capacity) is expected to open in July 2022 in India's biggest Hockey Stadium.

Q77. Answer: (d) physiological density

The correct answer is physiological density.

• The total population per net cultivated area of a country refers to its physiological density.

Key Points

• Physiological density or Real Population density is the number of people per unit area of arable land.

• A higher physiological density suggests that the available agricultural land is being used by more and may reach its output limit sooner than a country that has lower physiological density.

• Egypt is a notable example of physiological density reaching that of Bangladesh despite much desert.

• It measure is helpful while studying population pressure and overcrowding.

Additional Information

• Agricultural density: is the number of farmers per unit area of farmland.

• It is one of the three measures of statistical analysis for population density in Demography

• It is useful in recognizing trends in population growth, development and stability.

• Livestock density: It is defined as the ratio of total livestock to total utilised agriculture area of a farm, region or country.

• It is an indicator of the intensity of Live Stock production.

• Population density: It is the measurement of population per unit area or unit volume.

• It is frequently applied to living organisms mostly Humans.

Q78. Answer: (b) Pankhida

The correct answer is Pankhida.

• Peasants of Rajasthan sing Pankhida while working in fields.

Key Points

• Pankhida: The meaning of the pankhida is lover.

• Pankida a folk music tradition sung by the peasants of Rajasthan while working in fields they sing and speak while playing algoza and manjira.

• Algoza is a paired woodwind instrument.

• Manjira is a traditional hand percussion instrument of India.

Additional Information

Folk music tradition	Details
Pandavani	• It is a folk music tradition of the state Chhatisgarh. - Tales from mahabharat are sung as a ballad - The main singer assumes all the characters of the chosen episodes with singing and symbolic gestures
Chhakri	• It is the most popular form of folk music in Kashmir. - A singer along with his chorus, instruments like Sarangi, Rabab narrates the legendary folklore stories.
Barhamasa	• It is the regional music of Kumaon. - It describes the twelve months of a year each with specific qualities

Q79. Answer: (b) Uttar Pradesh

The correct answer is Uttar Pradesh.

• Uttar Pradesh state launched India's and South-Asia's first blockchain-enabled rooftop solar trading platform in December 2020.

Important Points

• Uttar Pradesh launched India's and South-Asia's first blockchain-enabled peer-peer rooftop solar trading platform for rooftop

solar producers in Lucknow on December 17 2020.

• The pilot project will be implemented by India Smart Grid Forum, Power Ledger(Australia based Blockchain technology partner), Abajyon consulting.

• Trading of energy generated from Rooftop solar powers installed in buildings will be facilitated.

• Functions of the platform: Fixing prices, buying and selling of energy, settlement of surplus solar energy transactions.

Q80. Answer: (a) Telangana

The correct answer is Telangana.

• Telangana state was NOT formed in the year 2000.

Key Points

• Telangana was India's 29th state that was formed on June 2^(nd) 2014.

• The genesis for the formation of the Telangana state dates back to several movements that occurred in 1969,1972,2009.

• In the 21st century the movement for a new Telangana state gained momentum by an initiative of the Telangana Political Joint Action Committee(TJAC).

• In 2010 Srikrishna committee was formed to find a solution for the issue, it recommended united Andhra Pradesh.

• Union cabinet approved a bill for the bifurcation of the state.

• Andhra Pradesh Reorganisation Bill was passed in 2014 with Hyderabad as common capital.

Additional Information

• Uttarakhand state is also known as Uttaranchal was formed on 8th November 2000.

• It is referred to as Devbhumi due to its religious significance.

• The state was formed from northwestern districts of Uttar Pradesh

• Jharkhand the 15th largest state by area was formed on 15th November 2000.

• It is known as the Land of the forest.

• It was previously a part of Bihar.

• Chhatisgarh a landlocked state is located in central India.

• It was granted statehood on 1st November 2000.

• It was formerly a part of Madhya Pradesh.

Q81. Answer: (d) Krishnadeva Raya

The correct answer is Krishnadeva Raya.

• Krishnadeva Raya belonged to the Tuluva dynasty.

Key Points

• Tuluva dynasty is the third dynasty of the Vijayanagara empire the other three are Sangama, Saluva, Aravidu dynasties.

• Krishnadevaraya was the second son of Tulva Narasa Nayaka.

• He ruled the largest empire after the decline of the Delhi Sultanate.

• Titles: Andhra Bhoja, Kannada Rajya Rama Ramana, Dakshinasamudradhishwara.

• Foriegn Travellers: Domingo Paes, Fernao Nuniz both are from Portugese.

• Note: His reign is considered as Telugu Literature. Eight Telugu known as Ashtadigajjas were considered as pillars of his literary assembly.

Additional Information

• Simha Vishnu is one of the kings of the Pallava Dynasty.

• He was the first Pallava monarch whose kingdom extended beyond Kanchipuram.

• Vishnuvardhana belonged to Hoysala Empire.

• Originally a follower of Jainism converted into Hinduism under the influence of Ramanujacharya.

• Pushyamitra Sunga was the founder of the Sunga Empire.

• His history is recorded in Harshacharita authored by Banabhatta.

Q82. Answer: (a) Anju Bobby George

The correct answer is Anju Bobby George.

• Anju Bobby George won a bronze medal at the World Athletics Championship in Paris in 2003.

Key Points

• Anju Bobby George is an Indian retired athlete.

• She won the bronze medal in the long jump.

• she became the first Indian athlete to win a medal in World Championships in Athletics
• Awards: Arjuna, Khel Ratna, Padma Shri, BBC Lifetime achievement award.

Additional Information

• PT Usha who hails from Kerala is an Indian track and field athlete.
• She is known as "Queen of Indian track and field"
• She was awarded Padma Shri in the year 1985.
• Seema Punia is an Indian Disc thrower.
• She is known as Millennium Child".
• She won the gold medal at the 2000 World Junior Championships.
• Krishna Poonia is an International gold medalist, disc thrower, Indian track and field athlete, participated in Olympics twice.
• Awards: Arjuna, Padma Shri

Q83. Answer: (d) Gujarat

The correct answer is Gujarat

• Shatrunjaya Hills is located in Gujarat.

Important Points

• Shatrunjaya(place of victory against inner enemies) hills are located by the city Palitana, in Bhavanagar district, Gujarat India.
• They are situated on the banks of the river Shetrunji.
• It is the most sacred place for Jains.

Additional Information

State	Hills
Karnataka	• Baba Budangiri,Kemmanagudi, Chikmagalur, Coorg, Nandi hills.
Andhra Pradesh	• Nallamalla hills, Horsley hills, Palkonda hills, Seshachalam hills, Tirumala hills
Madhya Pradesh	• Panchamarhi, Amarkantak

Q84. Answer: (d) Virat Kohli

The correct answer is Virat Kohli.

• Virat Kohli won the Sir Garfield Sobers Award for ‘ICC Male Cricketer of the Decade’ in December 2020.

Key Points

• Virat Kohli is an Indian International cricketer.
• He holds the world record of being the fastest to 23,000 international runs.

Additional Information

Name	Details
Steve Smith	• He is an Australian cricketer
Mahendra Singh Dhoni	• He is an Indian cricketer
Rashid Khan	• He is an Afghan cricketer

Q85. Answer: (a) Lucknow

The correct answer is Lucknow.

• Rumi Darwaza is located in Lucknow.

Key Points

• Rumi Darwaza is also known as the Turkish gate was built by Nawab-Asaf-Ud-Daula,
• It was built in the year 1784.
• The sixy feet massive gate is situated between Bara imambara and Chota Imambara.
• It is an example of Awadhi architecture.
• Awadhi school of architecture is an attempt to preserve the Mughal school of architecture

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Q86. Answer: (d) extension

The correct answer is Extension.

• The Extension is a three or four-letter abbreviation that signifies the file type.

Key Points

• A file extension is a suffix to the name of the computer file.

• The extension indicates the characteristic of the file contents.

• It is the ending of a file that helps identify the type of file in operating systems.

• In Microsoft Windows, the file name extension is a period that is often followed by three characters but may also be one, two, or four long

Important Points

• A computer virus is a type of computer program that when executed replicates itself by modifying other computer programs and inserting its code.

• If this replication succeeds the affected areas are then said to be infected with a computer virus.

• They generally require a host program.

• When the program runs the program is executed first causing infection and damage.

Q87. Answer: (c) Al-Biruni

The correct answer is Al-Biruni.

• Al-Biruni is a traveller who came to India from Uzbekistan in the 11th century.

Key Points

• Al-Biruni was a Khwarazmian Iranian scholar and polymath during the Islamic golden age.

• He is well versed in physics, mathematics, astronomy, natural science.

• Work: Kitab-al-Tafhim.

Important Points

Name	Details
Abdur Razzaq Samarquandi	• He is an Islamic scholar and Persian Timurid, chronicler. - As an ambassador he visited Kozhikode, western India in the early 1440s.
Ibn Battuta	• He was an Arab scholar. He was from Morocco. - He reached the royal courts of Mohammad Bin Tughlaq
Francois Bernier	• He was a French physician, philosopher and traveller. - He lived in India for 12 years. - He was associated with the Mughal court as a personal physician of Dara Shikoh

Q88. Answer: (a) Rice

The correct answer is Rice.

• Rice crops are grown throughout the year in the southern states of India.

Key Points

• Rice is a Kharif crop.

• Rice growing in India varies for different parts of the country based on the varying altitude and climate.

• Factors of growth: Temperature, rainfall, soil types, water availability.

• Since a mean temperature is found in the eastern and western regions which are favourable for rice cultivation it is grown throughout the year.

• In northern and western parts only one crop is grown owing to high rainfall and low winter temperature from May to November.

Additional Information

Name	Details
Maize	• Maize is a cereal grain. - In India, it is grown in the Kharif season with high temperatures and rainfall.
Finger millet	• Finger millet is also known as ragi is grown as grain or forage. - It is small millet - In India, it is grown in different seasons in different parts of the country.

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Sorghum	• It is known as great millet. - In India, it is grown in different seasons in different parts of the country

Q89. Answer: (d) Bandhavgarh Tiger Reserve

The correct answer is Bandhavgarh Tiger Reserve.

• In Bandhavgarh Tiger Reserve the first hot air balloon wildlife safari launched in India in December 2020.

Key Points

• India's first air balloon wild safari was launched in Tiger reserve Madhya Pradesh.

• Bandhavgarh Tiger Reserve is located in Umaria district, Madhya Pradesh.

• It is known for its royal population of royal bengal tigers.

• It consists of three main zones Tala, Madadhi,Kitauli.

• Tala zone has a rich biodiversity.

Additional Information

Tiger reserve	Details
Palamu Tiger Reserve	• It is one of the nine tiger reserves in Jharkhand. - It forms a part of Betla National park and Palamau wildlife sanctuary
Pilibhit Tiger Reserve	• It is located in the Philbhit district of Uttar Pradesh. - It was notified as a tiger reserve in 2014. - It forms a part of the Terai Arc Landscape in the upper Indo-Gangetic along the Indo-Nepal border.
Ranthambore Tiger Reserve	• It is located in the Sawai Madhopur district of southeastern Rajasthan. - It is bounded to the north by Banas river and south by Chambal river.

Q90. Answer: (c) Lead acid cell

The correct answer is Lead-acid cell.

• The lead-acid cell is NOT used in watches.

• It is one of the oldest rechargeable batteries.

• They are known as secondary batteries.

• The chemical reactions that occur in secondary cells are reversible.

Key Points

Cell	Details
Zinc-air cell	• They are metal-air batteries powered by oxidizing zinc with oxygen from the air. - Uses Hearing aids, film cameras,grid-scale energy storage.
Silver oxide cell	• It is a primary cell using silver oxide as a cathode and as an anode. - They are used in the Apollo program for the lunar module and lunar rover.
Mercury cell	• It is a non-rechargeable electrochemical battery. - It is a primary cell - Uses Calculators, watches, hearing aids.

Q91. Answer: (c) Jennifer A Doudna and Emmanuelle Charpentier

The correct answer is Jennifer A Doudna and Emmanuelle Charpentier.

• Jennifer A Doudna and Emmanuelle Charpentier were awarded the Nobel Prize in Chemistry 2020 for their exemplary work in genome editing.

Important Points

• Genome editing is the technology that allows the addition, alteration and removal of genetic material at particular locations in the genome.

• Specific changes in the DNA of a cell or organism are made.

• Clustered Regularly Interspaced Short Palindromic Repeats(CRISPR) technology is a gene-editing technology that can be used for the purpose of changing the genome of an Organism.

• French American Duo was awarded the Nobel Prize in Chemistry 2020 for the chemistry of CRISPR.

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• Cas9 is a special protein known as a genetic scissor which is used to break and remove the problematic sequence.

Additional Information

• Nobel prize in chemistry

• George P Smith and Sir Gregory P Winter have been awarded in 2018 " for the directed evolution of enzymes"

• Nobel prize in Physiology or Medicine

• James P Allison and Tasuku Honjo have been awarded in 2018 for" their discovery of cancer therapy by inhibition of negative immune regulation"

• Nobel prize in Physics

• Gerard Mourou and Donna Strickland have been awarded in 2018 for "groundbreaking interventions in the field of laser Physics"

Q92. Answer: (b) Force

The correct answer is Force.

Key Points

• Torsion balance is an instrument used to measure small forces.

• It is based on the principle that a wire or thread resists twisting with a force that is proportional to the stress.

• It is used to measure the gravitational acceleration at the Earth's surface.

Additional Information

Name	Details
Magnetism	• It is the force exerted by the magnets when they attract or repel each other
Force	• Force is an influence that can change the motion of the object. - It can cause an object with mass to change its velocity.
Charge	• It is a physical property of matter that causes an experience of force when placed in the field.
Pressure	• It is the force applied perpendicular to the surface of an object per unit area over which that force is distributed.

Q93. Answer: (d) Fiji

The correct answer is Fiji.

• Fiji was elected as the President of the United Nations Human Rights Council in January 2021.

Key Points

• United Nations Human Rights Council in January 2021 elected Fiji's ambassador in 2021 as its president.

• The island nation's ambassador Nazhat Shameem Khan is elected to lead the only intergovernmental global body to promote and protect human rights worldwide.

• United Nations Human Rights Council is a United Nations body to promotes and protect human rights.

• It has 47 members elected for staggered three-year terms on a regional group basis.

• Its headquarters is located in Geneva, Switzerland.

Q94. Answer: (c) Ethernet port

The correct answer is Ethernet port.

• Ethernet port

• It is an opening on computer network equipment that Ethernet cables plug into.

• The purpose is to connect wired network hardware in an Ethernet LAN, metropolitan network or Wide area network.

Important Points

Name	Details
Super-video port	• It transmits a medium quality analogue video signal between devices
Parallel port	• It is an interface allowing a personal computer to transmit or receive data down multiple bundled cables to a peripheral device like a printer

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Universal serial bus port	• It is the most common type of port found in modern computers. - It is used to connect various peripherals such as keyboards, mice, printers, scanners, external storage devices.

Q95. Answer: (a) 1993

The correct answer is 1993

• In the year 1993, the Reserve Bank of India liberalise the licensing policy for Urban Co-operative Banks

Important Points

• Cooperative banking is retail and commercial banking organized on a cooperative basis.

• The institutions take deposits and lend money in most parts of the world.

• The licencing policy 1993 is based on S.S MARATHE COMMITTEE.

Q96. Answer: (a) Malaria

The correct answer is Malaria.

Important Points

Disease	Details
Malaria	• It is a mosquito-borne infectious disease. - It is caused by single-celled microorganisms of the plasmodium group. - It is spread through the bites of infected Anopheles mosquitoes.
Cholera	• It is an acute diarrheal illness. - It is caused by the infection of the intestine with Vibro Cholerae bacteria.
Pneumonia	• It is an infection in one or both lungs caused by Bacteria, Viruses, Fungi.
Mumps	• It is caused by a family of viruses known as paramyxoviruses. - The viral infection affects the salivary gland that is preventable by vaccine

Q97. Answer: (c) Runs 'n Ruins

The correct answer is Runs 'n Ruins

• Runs 'n Ruins is the book authored by famous cricketer Sunil Gavaskar.

Important Points

Book	Author
Democracy’s XI: The Great Indian Cricket Story	• Rajdeep Sardesai is the author of the book. - It narrates post-independence cricket.
Playing It My Way	• It is the autobiography of Sachin Tendulkar. - It entered the Limca Book of Records for being the best selling adult hardback across both fiction and non-fiction categories
Runs 'n Ruins	• It was written in 1984. - Sunil Gavaskar is a former cricketer and Indian cricket commentator. - He was a recipient of Padma Shri and Padma Bhushan
Captain Cool	• It is authored by Ezekiel Gulu. - It is the story of MS Dhoni

Q98. Answer: (b) 2025

The correct answer is 2025

• As per Union Budget 2020, the Government of India intends to double the country's milk processing capacity by the year 2025.

Important Points

• The union budget of India is also known as the Annual Financial Statement in Article-112 of the Constitution of India.

• Department of Economic Affairs in the finance ministry is the nodal body responsible for producing a budget.

• It is presented by means of the Finance bill and appropriation bill to be passed by Lok Sabha.

Additional Information

• India is one of the largest milk producers in the world.

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• As of 2021, Uttar Pradesh is the largest milk-producing state.

Q99. Answer: (d) Peaty soil

The correct answer is Peaty soil.

• Peaty soil is found in areas of heavy rainfall and high humidity.

Important Points

Soil	Details
Yellow soil	• It is formed under broad leaves in humid subtropical regions. - Its yellow colour is due to ferric oxide - It has an acid reaction and low humus content. - Mainly found in Odisha and Chhattisgarh regions.
Red soil	• It develops in warm, temperate and humid climates. - It contains thin organic mineral layers of highly leached soil resting on a red layer of alluvium - Mainly found in Odisha and Chhattisgarh regions.
Saline soil	• It contains a lower amount of Na adsorbed onto soil particles. - They exist in arid and semi-arid regions in the regions of poor natural drainage - It occurs in Bihar, Uttar Pradesh, West Bengal, Orissa, Tamil Nadu, Rajasthan, Haryana, Gujarat
Peat soil	• It has a high water-holding capacity, high natural moisture content. - It occurs in the northern part of Bihar, Southern part of Uttranchal, coastal areas of West Bengal, Orissa, Tamil Nadu

Q100. Answer: (b) Anusuiya Uikey

The correct answer is Anusuiya Uikey.

• Anusuiya Uikey is the Governor of the state of Chhattisgarh as of May 2020.

Important Points

Governor	State(May 2022)
Ramesh Bais	• He is the current governor of Jharkhand. - He served as the 18th governor of Tripura.
Anusuiya Uikey	• He is the current governor of Chhattisgarh
Bhupesh Baghel	• He is the current chief minister of Chhattisgarh
Y S Jagan Mohan Reddy	• He is the current chief minister of Andhra Pradesh

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