SSC CHSL Tier-1 2024: Official Paper (Held On: 11 Jul, 2024 Shift 1) (Previous Year Paper)

SSC Combined Higher Secondary Level (CHSL) • 2024 • 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 option that will improve the given sentence by using the most appropriate verb.

Soorya walking to college every day.

(a) Soorya walked to college every day.
(b) Soorya have walked to college every day.
(c) Soorya is walking to college every day.
(d) Soorya walk to college every day.

Q2. Parts of the following sentence have been given as options. Select the option that contains an error.

She was fond of walking along the path besides the lake.

(a) She was
(b) fond of walking
(c) besides the lake
(d) along the path

Q3. Parts of the following sentence have been underlined and given as options. Select the option that contains an error.

Policeman came to my village and asked about a person who burgled a house last night.

(a) my village
(b) a person
(c) a house
(d) policeman

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.

Father took the newspaper / in his hand to / go through it once again.

(a) No error
(b) Father took the newspaper
(c) go through it once again
(d) in his hand to

Directions

In the following passage, some words have been deleted. Read the passage carefully and select the most appropriate option to fill in each blank.

What is literacy? It is the golden key that (1)_____ the gates to a whole new world. It heralds the dawn of a new (2)__. But the media hype seems to give the impression that literacy simply means the ability to sign one's name, instead of putting thumb impression. Isn't that a very (3)____, simplistic interpretation of the word?

Taking up this narrow meaning of the word, politicians proclaim that their states have achieved 80 or 90 per cent literacy or even (4)____. But quite often, what happens is, once the training course is over, to produce (5)____, the neo-literates soon lapse into illiteracy.

Q5. Select the most appropriate option to fill in blank no. 1.

(a) opens
(b) controls
(c) leads
(d) closes

Q6. Select the most appropriate option to fill in blank no. 2.

(a) era
(b) day
(c) season
(d) month

Q7. Select the most appropriate option to fill in blank no. 3.

(a) limited
(b) daunted
(c) small
(d) wide

Q8. Select the most appropriate option to fill in blank no. 4.

(a) higher
(b) lower
(c) moderate
(d) better

Q9. Select the most appropriate option to fill in blank no. 5.

(a) literates
(b) education
(c) pupils
(d) beginners

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

Indigenous

(a) Aboriginal
(b) Literary
(c) Tangible
(d) Artificial

Q11. Select the most appropriate ANTONYM of the underlined word in the given sentence.

He is not friendly with him in the office.

(a) Gregarious
(b) Hostile
(c) Intelligent
(d) Revel

Q12. Select the most appropriate synonym of the given word.

Magnificent

(a) Humble
(b) Modest
(c) Regular
(d) Splendid

Q13. The following sentence has been split into four segments. Identify the segment that contains a grammatical error.

When Serena / will arrive, / she will / call you.

(a) When Serena
(b) call you

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(c) she will
(d) will arrive

Q14. Select the most appropriate option that can substitute the underlined segment in the given sentence.

No sooner did we reach at the party that it began to rain.

(a) than it began to rain
(b) as it began to rain
(c) before it began to rain
(d) it began to rain

Q15. Select the most appropriate spelling of the underlined word in the given sentence.

He lost all senisation in his legs through a cramp.

(a) sensation
(b) sansation
(c) syansation
(d) sensition

Q16. Select the most appropriate synonym of 'amazement' to fill the blank.

Leena was filled with _____ when she saw the diamond ring as her wedding gift.

(a) astonishment
(b) haughtiness
(c) measurement
(d) happiness

Q17. Select the most appropriate meaning of the given idiom.

A sting in the tail

(a) An unexpected, typically unpleasant or problematic end to something
(b) To initiate a situation that is very complicated or problematic
(c) A situation in which a large group has to do something to satisfy a small group
(d) Something which seems bad at first but contains a pleasant part at the end

Q18. Select the most appropriate option that can substitute the underlined words in the following sentence.

The interdisciplinary approach utilised in this study facilitates comprehensive understanding of the complex phenomenon under investigation.

(a) is facilitates a comprehensive understanding
(b) will have facilitated a comprehensive understanding
(c) utilises a comprehensive understanding
(d) facilitated a comprehensive understanding

Q19. Select the most appropriate pair of words to fill in the blanks.

Yesterday, he _____ pizza and _____ burgers in one go.

(a) eight; eight
(b) ate; eight
(c) ate; ate
(d) eight; ate

Q20. Identify the most appropriate ANTONYM of the given word.

He worked alone as he did not want anyone to hamper his project.

(a) Finish
(b) Care
(c) Impede
(d) Help

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

Abandon

(a) Randomize
(b) Adopt
(c) Destroy
(d) Surrender

Q22. Select the most appropriate option that can substitute the underlined segment in the given sentence. If there is no need to substitute it, select 'No substitution required'.

I cannot use my office at the moment because it being painted.

(a) it had been paint
(b) it has being painted
(c) it is being painted
(d) No substitution required

Q23. Identify the INCORRECTLY spelt word in the following sentence.

To avoid indigetion, it is necessary to chew food properly.

(a) necessary
(b) properly
(c) chew
(d) indigetion

Q24. Select the most appropriate meaning of the given idiom.

Gift of the gab

(a) Talent for speaking
(b) Humorous
(c) Talent for singing
(d) Witty

Q25. Select the most appropriate collocation to fill in the blank.

Ujjwal was imprisoned for _____ a crime.

(a) making
(b) undertaking
(c) involving
(d) committing

GENERAL INTELLIGENCE

Q26. What should come in place of the question mark (?) in the given series?

66, 77, 99, 132, 176, ?

(a) 233
(b) 230
(c) 232
(d) 231

Q27. Select the correct mirror image of the given figure when the mirror is placed at MN as shown below.

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(a)



(b)



(c)

kre7cdD

(d)



Q28. What will come in the place of the question mark (?) in the following equation, if '+' and '-' are interchanged and '×' and '÷' are interchanged?

204 × 6 - 6 ÷ 4 + 7 = ?

(a) 51
(b) 41
(c) 21
(d) 31

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Q29. GJHK is related to IMKM in a certain way based on the English alphabetical order. In the same way, QTRU is related to SWUW. To which of the following is ILJM related, following the same logic?

(a) KMON
(b) KNMN
(c) KPNP
(d) KOMO

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

(NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into their constituent digits. E.g. 13 – Operations on 13 such as adding/subtracting/multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed.)

(12, 4, 16)

(27, 9, 36)

(a) (39, 13, 54)
(b) (37, 13, 52)
(c) (39, 15, 52)
(d) (39, 13, 52)

Q31. In this question, three statements are given, followed by three conclusions numbered I, II and III. Assuming the statements to be true, even if they seem to be at variance with commonly known facts, decide which of the conclusion(s) logically follows/follow from the statements.

Statements:

All ladders are chairs.

All chairs are tables.

No table is a stair.

Conclusions:

I. Some tables are ladders.

II. No chair is a stair.

III. Some ladders are stairs.

(a) Only conclusion I follows.
(b) Both conclusions I and II follow.
(c) Only conclusion III follows.
(d) Only conclusion II follows.

Q32. 14 is related to 43 by certain logic. Following the same logic, 17 is related to 52. To which of the following is 19 related, following the same logic?

(NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits. E.g. 13 – Operations on 13 such as adding/subtracting/multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed.)

(a) 38
(b) 50
(c) 57
(d) 58

Q33. Select the word-pair that best represents a similar relationship to the one expressed in the pair of words given below.

(The words must be considered as meaningful English words and must not be related to each other based on the number of letters/number of consonants/vowels in the word.)

Leaf : Oak

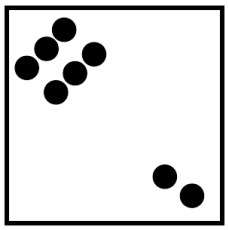
(a) Needle : Pine
(b) Bulb : Tulip
(c) Tree : Forest
(d) Berry : Fruit

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Q34. A square sheet of paper is folded along the dotted line successively along the directions shown and is then punched in the end. How would the paper look when unfolded?



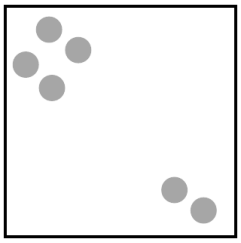
(a)



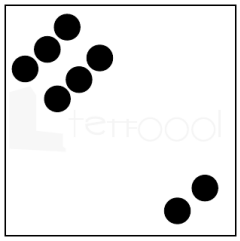
(b)



(c)



(d)



Q35. In a certain language,

A & B means A is the wife of B,

A ÷ B means A is the daughter of B,

A × B means A is the son of B,

A + B means A is the sister of B and

A @ B means A is the father of B.

P & Q @ L + T & U @ V

Based on the above, how is Q related to V?

(a) Sister

(b) Mother's father

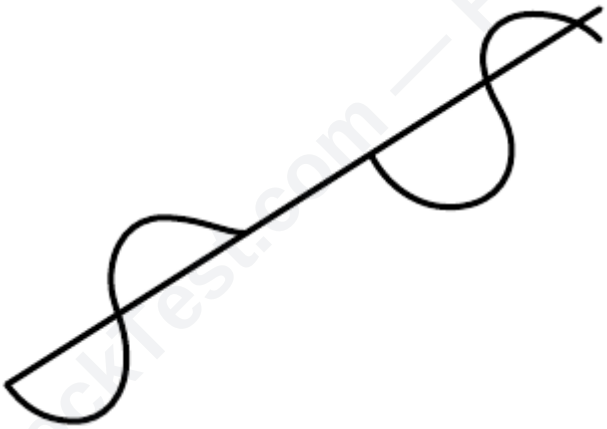
(c) Mother

(d) Father's mother

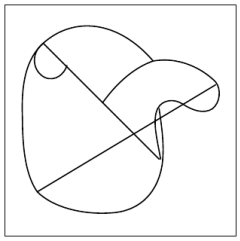
Q36. If 'A' stands for '÷', 'B' stands for '×', 'C' stands for '+' and 'D' stands for '–', then the resultant of which of the following will be 100?

(a) 15 C 9 D 810 A 9 B 55
(b) 15 A 9 D 810 B 9 C 55
(c) 15 B 9 D 810 A 9 C 55
(d) 15 D 9 B 810 A 9 C 55

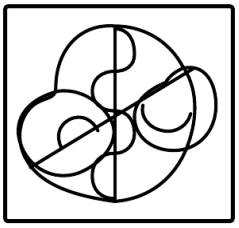
Q37. Select the option figure in which the given figure is embedded as its part (rotation is NOT allowed).



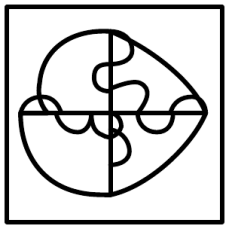
(a)



(b)

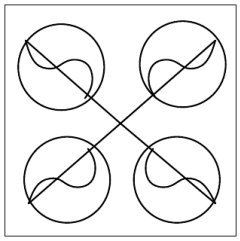


(c)

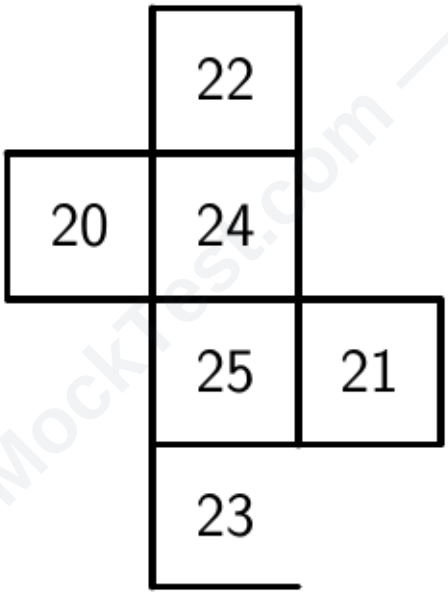


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(d)



Q38. What would be the number on the opposite side of '23' if the given sheet is folded to form a cube?



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

Q39. If 'A' stands for '÷', 'B' stands for '×', 'C' stands for '+' and 'D' stands for '-', what will come in place of the question mark (?) in the following equation?

62 B 2 D 190 A 5 C 7 = ?

(a) 91
(b) 92
(c) 93
(d) 90

Q40. In a certain code language. 'BORN' is coded as '8234' and 'NORM' is coded as '6328'. How is 'M' coded in the given language?

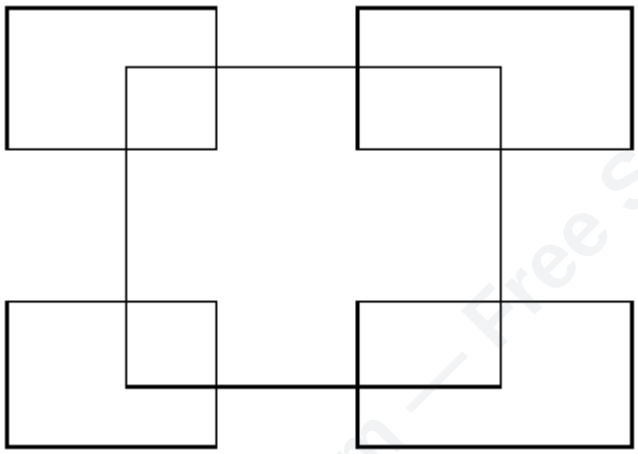
(a) 6
(b) 4
(c) 8
(d) 2

Q41. In a certain code language, 'DZLV' is coded as 'HDJT' and 'CQYH' is coded as 'GUWF'. What is the code for 'MTBE' in the given code language?

(a) QXZC
(b) YZXB
(c) QZYB
(d) YAYB

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Q42. How many rectangles are there in the following figure?



(a) 10
(b) 9
(c) 5
(d) 7

Q43. JHDC is related to KGEB in a certain way based on the English alphabetical order. In the same way, QOKJ is related to RNLI. To which of the following is USON related, following the same logic?

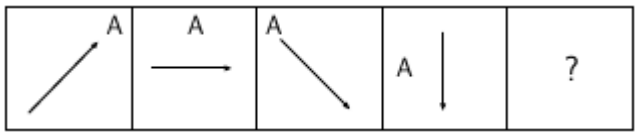
(a) VSPM
(b) VRPM
(c) VRQM
(d) VSQM

Q44. Select the correct option that when filled in the blanks in the same sequence will make the series logically complete.

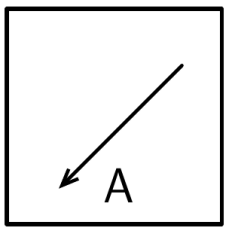
QUAI_Q_YIL_U_ILQUU_L

(a) LIQAU
(b) LWQUI
(c) LUQWI
(d) LXIUQ

Q45. Identify the figure given in the options which when put in place of the question mark (?) will logically complete the series?

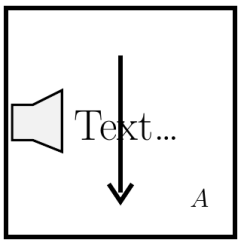


(a)

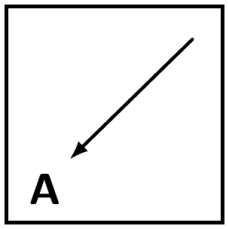


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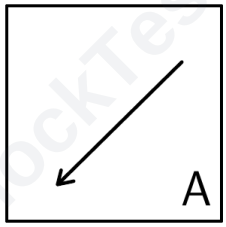
(b)



(c)



(d)



Q46. Which of the following numbers will replace the question mark (?) in the given series?

214 111 179 126 144 141 109 156 ?

(a) 89
(b) 96
(c) 61
(d) 74

Q47. Four letter-clusters have been given, out of which three are alike in some manner and one is different. Select the letter-cluster that is different.

(Note: The odd one out is not based on the number of consonants/vowels or their position in the letter cluster)

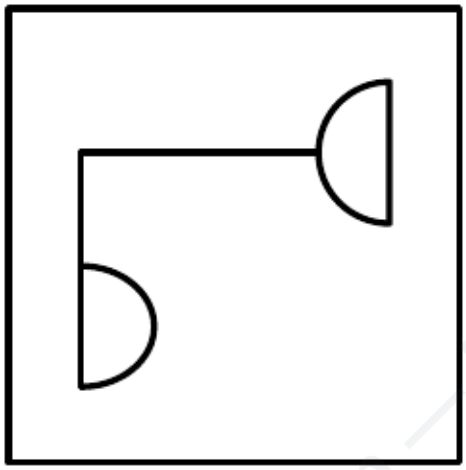
(a) PKRI
(b) PLRI
(c) MNOL
(d) AZCX

Q48. If 24 July 1999 was Saturday, then what was the day of the week on 28 July 2003?

(a) Tuesday
(b) Saturday
(c) Sunday
(d) Monday

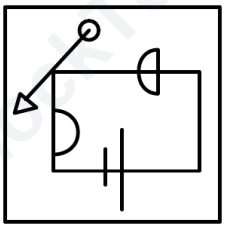
Q49. Select the option in which the given figure X is embedded (rotation is NOT allowed).

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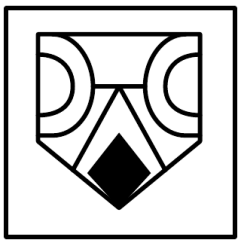


(X)

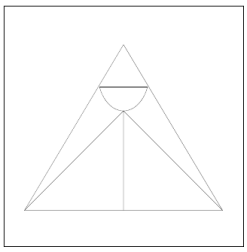
(a)



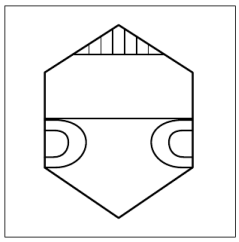
(b)



(c)



(d)



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Q50. What should come in place of the question mark (?) in the given series?

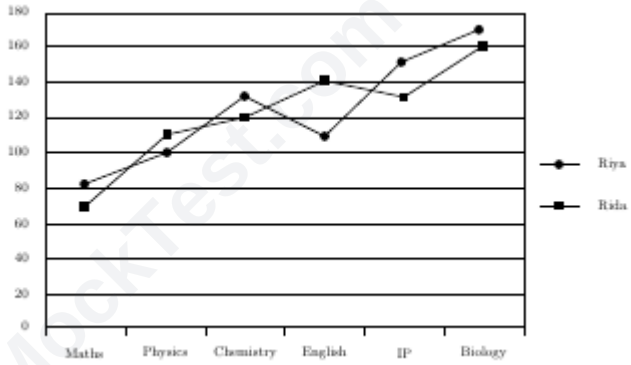
33, 61, 117, 229, ?

(a) 354
(b) 453
(c) 435
(d) 543

QUANTITATIVE APTITUDE

Q51. Study the given graph and answer the question that follows.

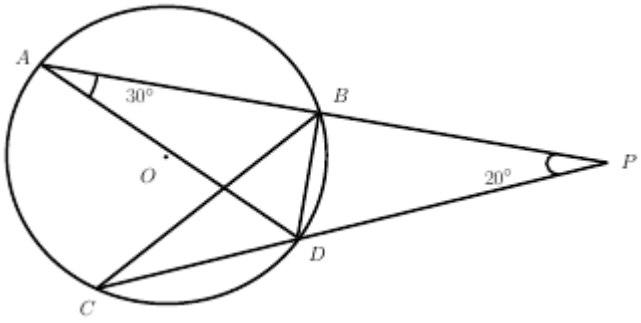
The graph shows the marks obtained by Riya and Rida in six subjects in the CBSE 12th exam. The maximum marks in Maths, Physics and Chemistry are 140, and that in English, IP and Biology are 180.



What is the difference between the percentage of marks obtained by Riya and Rida in IP?

(a) 11.11%
(b) 31%
(c) 20%
(d) 19%

Q52. PBA and PDC are two secants. AD is the diameter of the circle with the centre at O. angle A = 30°, angle P = 20°. Find the measure of angle DBC.



(a) 50°
(b) 30°
(c) 40°
(d) 45°

Q53. A police travelling at 65 km/h is chasing a thief who is 1200 m away from him and is travelling at 41 km/h. Find the time taken by the policeman to catch the thief.

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

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Q54. The following table shows the loan disbursed by four banks (in Crores) over four years:

Banks	2016	2017	2018	2019
A	10	15	20	22
B	5	10	15	18
C	20	25	15	20
D	5	10	25	20

In which year total disbursement of loans of banks A and B is exactly equal to the total disbursement of loans of banks C and D?

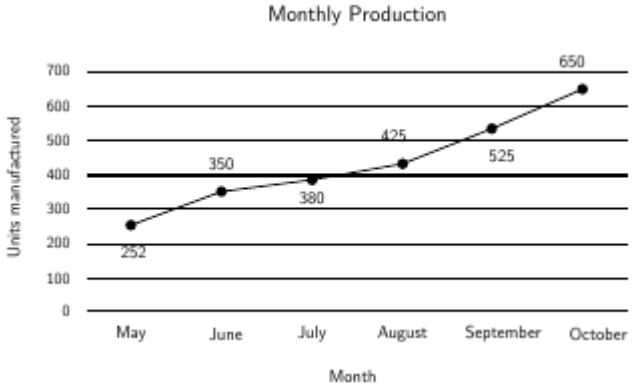
(a) 2017
(b) 2019
(c) 2016
(d) 2018

Q55. The average age of Ruby and Soni is 40 years. The ratio of their ages is 11 : 5, respectively. What is the age (in years) of Soni?

(a) 55
(b) 25
(c) 30
(d) 15

Q56. The following line graph shows the units manufactured by a company in some months. In which month did the company report the highest growth (in %) in production as compared with the respective previous month's production?

Monthly Production



(a) July
(b) September
(c) October
(d) June

Q57. A shopkeeper sells goods at 40% loss on cost price but uses 25% less weight. What is his percentage profit or loss?

(a) Loss, 10%
(b) Loss, 20%
(c) Profit, 10%
(d) Profit, 20%

Q58. The ratio of red to green sweets in a bag is 3 : 4. How many red sweets are there in the bag if the number of green sweets is 120?

(a) 100
(b) 90
(c) 70

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(d) 80

Q59. The value of ((sin θ)/(1+cos θ)+(1+cos θ)/(sin θ)) (1/(tan θ+cot θ)) is equal to:

(a) 2 sin θ
(b) tan θ
(c) 1
(d) 2 cos θ

Q60. A laptop charger is sold for Rs. 2,540 in cash or for a down payment of Rs. 1,340 in cash together with Rs. 1,205 to be paid after one month. Find the rate of interest charged in the instalment scheme.

(a) 10% p.a.
(b) 5% p.a.
(c) 20% p.a.
(d) 15% p.a.

Q61. The population of a village was 4,00,000. It increased by 20% in the first year and increased by 30% in the second year. Its population after two years is _____.

(a) 5,40,000
(b) 6,24,000
(c) 5,20,000
(d) 6,25,000

Q62. What is the value of ([1/4 ÷ 1/4 × 1/4] × 1/4)/([1/8+1/8 × 1/8]) + (1-4/9) ?

(a) 1
(b) 3
(c) 0
(d) 2

Q63. A solid metallic sphere of radius 6 cm is melted and recast into spherical balls of radius 3 cm. The number of spherical balls thus obtained is:

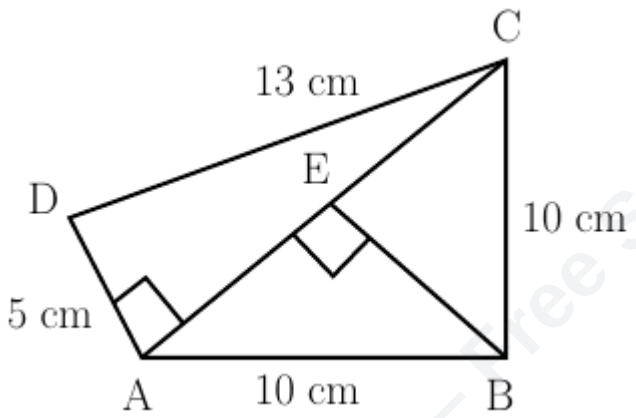
(a) 10
(b) 6
(c) 4
(d) 8

Q64. Find the altitude (in cm) from the vertex Q to side PR of triangle PQR with side lengths PQ = 40 cm, PR = 40 cm and QR = 60 cm.

(a) 25√7
(b) 20√7
(c) 30√7
(d) 15√7

Q65. What is the area of a quadrilateral ABCD, (shown below) in which sides AB and BC are equal, sides AD and CD are of lengths 5 cm and 13 cm. respectively, and side AD is perpendicular to the diagonal AC?

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(a) 75 cm2
(b) 80 cm2
(c) 78 cm2
(d) 82 cm2

Q66. By selling an article for Rs. 2,160, Prashant allows a 20% discount and earns 28% profit. If the article is sold without any discount, the profit will be:

(a) 50%
(b) 60%
(c) 55%
(d) 65%

Q67. From a circle of radius r units, the largest equilateral triangle is cut out. What is the length (in units) of the side of the triangle?

(a) (r)/(√(2))
(b) √(3) r
(c) (r)/(√(3))
(d) √(2) r

Q68. A number increased by 20% gives 240. Find the number.

(a) 280
(b) 250
(c) 240
(d) 200

Q69. The sum of two numbers is 76. Three times the larger number is 46 more than four times the smaller one. Find the two numbers.

(a) 35 and 41
(b) 40 and 36
(c) 44 and 32
(d) 50 and 26

Q70. If the number 6p5157q is divisible by 88, then p × q = _____, where p and q are single digit numbers.

(a) 12
(b) 15
(c) 18
(d) 20

Q71. Nirmal completed the school project in 45 days. How many days will Amit take to complete the same work if he is 25% more efficient than Nirmal?

(a) 36
(b) 25
(c) 30

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(d) 38

Q72. The given table represents the percentage marks of three students in three subjects. Study the table and answer the question.

subject	Geography	History	Economics
Student			
Rohan	78	77	74
Sohan	84	80	82
Mohan	87	83	86

The average marks (to the nearest integer) obtained by the students in History and Economics (repectively) are:

(a) 78 and 80
(b) 80 and 81
(c) 81 and 80
(d) 80 and 78

Q73. By what percentage should a racer increase the speed to reduce the time by 25% to cover a fixed distance?

(a) 41%
(b) 31%
(c) 37 (1)/(3) %
(d) 33 (1)/(3) %

Q74. Find the surface area (in cm^2) of a cardboard box in the shape of a cuboid whose length is 60 cm. breadth is half its length and height is one-third of its breadth.

(a) 2700
(b) 10800
(c) 5400
(d) 8100

Q75. PQR is a triangle. MN is a line segment intersecting PQ in M and PR in N such that MN || QR and divides ΔPQR into two parts, which are equal in area. What is the ratio of MQ to PQ?

(a) √(2): 1
(b) √(2):(√(2)-1)
(c) (√(2)-1): √(2)
(d) 1: √(2)

GENERAL AWARENESS

Q76. Which Indian festival is a festival of lights?

(a) Holi
(b) Diwali
(c) Bihu
(d) Onam

Q77. Articles 344 (1) and 351 of the Constitution of India are related to the:

(a) Sixth Schedule
(b) Eighth Schedule
(c) Fifth Schedule
(d) Third Schedule

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Q78. Most major sports awards are accompanied by a cash reward. Which of the following is the only national sports award that does NOT include a cash reward?

(a) Maulana Abul Kalam Azad Trophy
(b) Dronacharya Award
(c) Major Dhyan Chand Khel Ratna
(d) Rashtriya Khel Protsahan Puruskar

Q79. Which Mughal ruler was responsible for the execution of Guru Tegh Bahadur in the year 1675?

(a) Jahangir
(b) Aurangzeb
(c) Shahjahan
(d) Akbar

Q80. The slide number can be added to each slide of the MS PowerPoint presentation from which of the following?

(a) View
(b) Footer
(c) Table Design
(d) Page Formatting

Q81. In which Gharana do singers perform the Khandhar Vani and Gauhar Vani?

(a) Bettiah Gharana
(b) Dagari Gharana
(c) Darbhanga Gharana
(d) Talwandi Gharana

Q82. On 11 August 2021, the General Insurance Business (Nationalisation) Amendment Bill, 2021 was passed by the Parliament and it amended the _____.

(a) Motor Insurance (Nationalisation) Act, 1980
(b) General Business (Nationalisation) Act, 1970
(c) Life Insurance (Nationalisation) Act, 1975
(d) General Insurance Business (Nationalisation) Act, 1972

Q83. In Microsoft Office, how is the font size determined?

(a) Centimetres
(b) Pixels
(c) Inches
(d) Points

Q84. Which of the following statements about planet Saturn is true?

(a) Saturn's environment is conducive to life.
(b) Saturn is the fourth planet from the Sun and the largest planet in our solar system.
(c) Saturn is a massive ball made up mostly of nitrogen.
(d) Satellites like Enceladus and Titan of Saturn are home to internal oceans, could possibly support life.

Q85. The Howrah bridge was officially opened in the year _____.

(a) 1948
(b) 1930
(c) 1935
(d) 1943

Q86. The famous folk music of Rajasthan that was developed in royal courts is known as:

(a) Sohar
(b) Dandiya
(c) Lavani
(d) Maand

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Q87. Which of the following is NOT the colour of a warning card in kabaddi?

(a) Black
(b) Yellow
(c) Green
(d) Red

Q88. Which of the following statements most accurately describes the Cyclostomata group?

(a) They are characterised by having an elongated eel-like body, circular mouth, slimy skin and are scaleless.
(b) They are ectothermic animals having mucus glands in the skin, and a three chambered heart.
(c) They are warm-blooded, oviparous, bipedal, feathered, winged and toothless vertebrates.
(d) Their skin is covered with scales/plates and their hearts have only two chambers.

Q89. Which of the following isotopes is used as a fuel in nuclear power plants for generating electricity?

(a) Uranium - 235
(b) Sodium - 24
(c) Carbon - 14
(d) Arsenic - 74

Q90. Where did India win its last Olympic medal in men's hockey? (As of March, 2024).

(a) Munich
(b) Rio
(c) Tokyo
(d) Mexico City

Q91. Delhi ridge is the water divide between which of the following rivers?

(a) Ganges and Yamuna
(b) Ganges and Indus
(c) Ganges and Sind
(d) Indus and Mahi

Q92. The Lucknow Gharana of Kathak was founded by _____, a devotee of the Bhakti movement who lived in southeast Uttar Pradesh.

(a) Shyam Kumar
(b) Ishwari Prasad
(c) Ram Kumar
(d) Bhagwan Ram

Q93. _____ was named as the new Shiv Sena president at the party national executive meeting in Mumbai in 2023.

(a) Rahul Ramesh Shewale
(b) Eknath Shinde
(c) Aditya Uddhav Thackeray
(d) Narayan Rane

Q94. In which year did Swami Vivekananda give his speech at the Chicago Parliament of Religions?

(a) 1893
(b) 1891
(c) 1890
(d) 1892

Q95. What is/are the objective(s) of Fiscal Policy?

1) Boost growth
2) Control inflation

(a) Only 2
(b) Both 1 and 2
(c) Only 1

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(d) Neither 1 nor 2

Q96. Which Commission drew the boundary line between India and Pakistan?

(a) Hilton Young Commission
(b) Bretton woods Commission
(c) Radcliffe Boundary Commission
(d) Gandhi Irwin Pact

Q97. The Fundamental Duties of Citizens were introduced by the 42nd Amendment in the year:

(a) 1980
(b) 1988
(c) 1978
(d) 1976

Q98. The Parliament of India has passed the 86th Constitutional Amendment Act 2002, which establishes the basic rights of primary education for children between:

(a) 7 - 16 Years
(b) 6 - 14 Years
(c) 5 - 11 years
(d) 6 - 17 Years

Q99. Which of the following statement/(s) is /are true with respect to Supreme Court Observation in A.G. Perarivalan vs The State Of Tamil Nadu State?

1. It highlighted that the Governor's powers are qualified by the constitutional mandate, chiefly requiring them to act in aid and advice of the council of ministers

2. The bench headed by justice L Nageswara Rao ordered the freedom of one of the convicts in the Rajiv Gandhi assassination case.

3. The bench was of the opinion that there are three sources of power-Governor, Council of Ministers and the Constitution.

(a) Only 1
(b) Only 3
(c) Both 2 and 3
(d) Both 1 and 2

Q100. Match the states in column A with their official languages in column B.

Column A (States)	Column B (Official Languages)		
1.	Andhra Pradesh	a.	Malayalam
2.	Kerala	b.	Telugu
3.	Karnataka	c.	Konkani
4.	Goa	d.	Kannada

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

ANSWER KEY

1	a	2	c	3	d	4	a	5	a	6	a	7	a	8	a	9	a	10	a
11	b	12	d	13	d	14	a	15	a	16	a	17	a	18	d	19	b	20	d
21	b	22	c	23	d	24	a	25	d	26	d	27	b	28	a	29	d	30	d

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31	b	32	d	33	a	34	a	35	b	36	c	37	b	38	c	39	c	40	a
41	a	42	b	43	b	44	c	45	c	46	d	47	b	48	d	49	a	50	b
51	a	52	c	53	b	54	b	55	b	56	d	57	b	58	b	59	d	60	b
61	b	62	a	63	d	64	d	65	c	66	b	67	b	68	d	69	d	70	c
71	a	72	b	73	d	74	c	75	c	76	b	77	b	78	d	79	b	80	b
81	c	82	d	83	d	84	d	85	d	86	d	87	a	88	a	89	a	90	c
91	b	92	b	93	b	94	a	95	b	96	c	97	d	98	b	99	d	100	b

SOLUTIONS

Q1. Answer: (a) Soorya walked to college every day.

The correct answer is Option 1.

Key Points

• The primary issue in the sentence is the incorrect use of the verb form "walking".

• To convey a habitual action, the correct verb form should be "walked".

• The correct sentence should be "Soorya walked to college every day," ensuring grammatical correctness and clarity.

Therefore, the correct answer is Option 1.

Correct Sentence: "Soorya walked to college every day."

Additional Information

• Option 2: "Soorya have walked to college every day," – This option is incorrect because "have walked" is not appropriate for the given context.

• Option 3: "Soorya is walking to college every day," – This option is incorrect because it suggests an ongoing action that is not habitual.

• Option 4: "Soorya walk to college every day," – This option is incorrect because "walk" should be in the past tense "walked" to indicate a habitual action in the past.

Q2. Answer: (c) besides the lake

The correct answer is Option 3.

Key Points

• The primary issue in the sentence is the use of the word "besides" instead of the correct word "beside."

• "Beside" means "next to" or "at the side of," which is appropriate in this context.

• "Besides" means "in addition to," which does not fit the context.

• Thus, the error is located in Option 3 of the sentence.

Therefore, the correct answer is Option 3.

Correct Sentence: "She was fond of walking along the path beside the lake."

Additional Information

• Option 1: "She was," – This part of the sentence is grammatically correct and does not require any changes.

• Option 2: "fond of walking," – This part of the sentence is grammatically correct and does not require any changes.

• Option 4: "along the path," – This part of the sentence is grammatically correct and does not require any changes.

Q3. Answer: (d) policeman

The solution is in Hindi. Read it online.

Q4. Answer: (a) No error

The correct answer is Option 4.

Key Points

• The primary issue in the sentence is the incorrect use of the preposition "in" before "his hand."

• The correct preposition to use in this context is "with."

• The correct phrase should be "with his hand," ensuring grammatical correctness and clarity.

• Thus, the error is located in part 4 of the sentence.

Therefore, the correct answer is Option 4.

Correct Sentence: "Father took the newspaper with his hand to go through it once again."

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Additional Information

• Option 1: "No error" – This would be the correct option if there were no mistakes in the sentence, but there is an error in part 4.

• Option 2: "Father took the newspaper" – This part of the sentence is grammatically correct and does not require any changes.

• Option 3: "go through it once again" – This part of the sentence is grammatically correct and does not require any changes.

• Option 4: "in his hand to" – This part of the sentence contains the error. The correct phrase should be "with his hand to."

Q5. Answer: (a) opens

The solution is in Hindi. Read it online.

Q6. Answer: (a) era

The solution is in Hindi. Read it online.

Q7. Answer: (a) limited

The solution is in Hindi. Read it online.

Q8. Answer: (a) higher

The solution is in Hindi. Read it online.

Q9. Answer: (a) literates

The solution is in Hindi. Read it online.

Q10. Answer: (a) Aboriginal

The solution is in Hindi. Read it online.

Q11. Answer: (b) Hostile

The solution is in Hindi. Read it online.

Q12. Answer: (d) Splendid

The solution is in Hindi. Read it online.

Q13. Answer: (d) will arrive

The correct answer is Option 4.

Key Points

• The primary issue in the sentence is the incorrect usage of the future tense "will arrive" after the conjunction "When."

• In English grammar, when referring to future events after conjunctions like "when," "if," or "as soon as," the present simple tense is used.

• The correct phrase should be "When Serena arrives," ensuring grammatical correctness and clarity.

• Thus, the error is located in part 4 of the sentence.

Therefore, the correct answer is Option 4.

Correct Sentence: "When Serena arrives, she will call you."

Additional Information

• Option 1: "When Serena," – This part of the sentence is grammatically correct and does not require any changes.

• Option 2: "call you," – This part of the sentence is grammatically correct and does not require any changes.

• Option 3: "she will" – This part of the sentence is grammatically correct and does not require any changes.

Q14. Answer: (a) than it began to rain

The correct answer is Option 1.

Key Points

• The phrase "No sooner" is typically followed by "than," making the correct phrase "No sooner did we reach the party than it began to rain."

• "Than" is used to introduce the second event that happened immediately after the first event.

• The use of "that" in the original sentence is incorrect and should be replaced with "than."

Therefore, the correct answer is Option 1.

Correct Sentence: "No sooner did we reach the party than it began to rain."

Additional Information

• Option 2: "as it began to rain" is incorrect because "as" does not convey the immediate sequence of events as strongly as "than."

• Option 3: "before it began to rain" changes the meaning of the sentence and is not appropriate.

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• Option 4: "it began to rain" is incomplete and does not follow the structure required by "No sooner."

Q15. Answer: (a) sensation

The solution is in Hindi. Read it online.

Q16. Answer: (a) astonishment

The solution is in Hindi. Read it online.

Q17. Answer: (a) An unexpected, typically unpleasant or problematic end to something

The solution is in Hindi. Read it online.

Q18. Answer: (d) facilitated a comprehensive understanding

The correct answer is Option 4.

Key Points

• The primary issue in the sentence is the verb tense and structure.

• The original sentence uses "facilitates comprehensive understanding," which is correct.

• However, the instruction is to find the most appropriate option that can substitute the underlined words.

• Option 4, "facilitated a comprehensive understanding," correctly maintains the meaning and improves grammatical clarity.

Therefore, the correct answer is Option 4.

Correct Sentence: "The interdisciplinary approach utilised in this study facilitated a comprehensive understanding of the complex phenomenon under investigation."

Additional Information

• 1: "is facilitates a comprehensive understanding," – This option is grammatically incorrect as "is facilitates" is not proper usage.

• 2: "will have facilitated a comprehensive understanding," – This option incorrectly changes the tense to future perfect, which is not suitable in this context.

• 3: "utilises a comprehensive understanding," – This option changes the meaning of the sentence, making it incorrect.

Q19. Answer: (b) ate; eight

The solution is in Hindi. Read it online.

Q20. Answer: (d) Help

The solution is in Hindi. Read it online.

Q21. Answer: (b) Adopt

The solution is in Hindi. Read it online.

Q22. Answer: (c) it is being painted

The correct answer is Option 3.

Key Points

• The primary issue in the sentence is the incorrect use of the verb form "being painted" without an auxiliary verb.

• The correct form should include the auxiliary verb "is" to form the present continuous tense.

• The correct phrase should be "it is being painted" to ensure grammatical correctness and clarity.

Therefore, the correct answer is Option 3.

Correct Sentence: "I cannot use my office at the moment because it is being painted."

Additional Information

• Option 1: "it had been paint" – Incorrect tense and form of the verb.

• Option 2: "it has being painted" – Incorrect auxiliary verb usage.

• Option 4: No substitution required – This option is incorrect because the original segment is not grammatically correct.

Q23. Answer: (d) indigetion

The solution is in Hindi. Read it online.

Q24. Answer: (a) Talent for speaking

The solution is in Hindi. Read it online.

Q25. Answer: (d) committing

The solution is in Hindi. Read it online.

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Q26. Answer: (d) 231

The logic followed here is:

Hence, "Option 4" is the correct answer.

Q27. Answer: (b) [figure]

The correct mirror image of the given figure is:

Hence, the correct answer is "Option 2".

Q28. Answer: (a) 51

Given : 204 × 6 - 6 ÷ 4 + 7 = ?

According to the question, after '+' and '-' are interchanged and '×' and '÷' are interchanged:

204 × 6 - 6 ÷ 4 + 7 = ? => 204 ÷ 6 + 6 × 4 - 7 = ?

=> 204 ÷ 6 + 6 × 4 - 7 = ?

=> 34 + 6 × 4 - 7 = ?

=> 34 + 24 - 7 = ?

=> 58 - 7 = ?

=> 51 = ?

Hence, "Option 1" is the correct answer.

Q29. Answer: (d) KOMO

The logic followed here is:

GJHK is related to IMKM

And,

QTRU is related to SWUW

Similarly,

ILJM is related to

Hence, "Option 4" is the correct answer.

Q30. Answer: (d) (39, 13, 52)

The logic followed here is:

Logic: 1st number + 2nd number = 3rd number.

Now,

For, (12, 4, 16)

=> 12 + 4 = 16.

For, (27, 9, 36)

=> 27 + 9 = 36.

Similarly, for (39, 13, 52)

=> 39 + 13 = 52.

Hence, the correct answer is "Option 4".

Q31. Answer: (b) Both conclusions I and II follow.

The least possible Venn diagram for the given statements is as shown below :

Conclusions:

I. Some tables are ladders → Follow (As all ladders are chairs and all chairs are tables. As whole ladders comes in chairs which whole comes in tables, therefore it is true.)

II. No chair is a stair → Follow (As all chairs are tables and no table is a stair. As whole chairs comes in tables which cannot be stairs, therefore it is true.)

III. Some ladders are stairs → Does not follow (As all ladders are chairs, all chairs are tables and no table is a stair. As whole ladders comes in chairs which whole comes in tables which cannot be stairs, therefore it is false.)

Therefore Here, Both conclusions I and II follow.

Hence, the correct answer is "Option 2"

Q32. Answer: (d) 58

The logic followed here is:

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Logic: (1st number × 2) + 4 = 2nd number.
Now,
For, 14 : 43
=> (14 × 3) + 1 = 42 + 1 = 43.
For, 17 : 52
=> (17 × 3) + 1 = 51 + 1 = 52.
Similarly, for 19 : ?
=> (19 × 3) + 1 = 57 + 1 = 58.
Hence, the correct answer is "Option 4".

Q33. Answer: (a) Needle : Pine

The logic followed here is:
Logic: Part and Whole Relationship.
Here,
Leaf : Oak → Leaf is a part of an Oak Tree.
Similarly,
Needle : Pine → Needle is a part of a Pine Tree.
Hence, the correct answer is "Option 1".

Q34. Answer: (a) [figure]

The figure which will look like the paper when unfolded is shown below:
Thus, option Figure 1 will look like the paper when unfolded.
Hence, "Option 1" is the correct answer.

Q35. Answer: (b) Mother's father

Decoding symbols:

	A is				
Symbol	&	÷	×	•	@
Meaning	Wife	Daughter	Son	Sister	Father
	to B				

Given: P & Q @ L + T & U @ V
P & Q → P is the wife of Q.
Q @ L → Q is the father of L.
L + T → L is the sister of T.
T & U → T is the wife of U.
U @ V → U is the father of V.
Thus, Q is V's maternal grandfather or mother's father.
Hence, the correct answer is "Option 2"

Q36. Answer: (c) 15 B 9 D 810 A 9 C 55

Decoding signs:

Letter	**A**	**B**	**C**	**D**
Stands For	÷	×	•	–

Required resultant: 100
So, checking each option one by one:
Option 1) 15 C 9 D 810 A 9 B 55 => 15 + 9 - 810 ÷ 9 × 55
=> 15 + 9 - 810 ÷ 9 × 55
=> 15 + 9 - 90 × 55
=> 15 + 9 - 4950
=> 24 - 4950

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=> -4926

Option 2) 15 A 9 D 810 B 9 C 55 => 15 ÷ 9 - 810 × 9 + 55

=> 15 ÷ 9 - 810 × 9 + 55

=> 1.67 - 810 × 9 + 55

=> 1.67 + 55 - 7290

=> 56.67 - 7290

=> -7233.33

Option 3) 15 B 9 D 810 A 9 C 55 => 15 × 9 - 810 ÷ 9 + 55

=> 15 × 9 - 810 ÷ 9 + 55

=> 15 × 9 - 90 + 55

=> 135 + 55 - 90

=> 190 - 90

=> 100

Option 4) 15 D 9 B 810 A 9 C 55 => 15 - 9 × 810 ÷ 9 + 55

=> 15 - 9 × 810 ÷ 9 + 55

=> 15 - 9 × 90 + 55

=> 15 + 55 - 810

=> 70 - 810

=> -740

Hence, "Option 3" is the correct answer.

Q37. Answer: (b) [figure]

The image embedded in the given figure is as shown below :

Therefore Here, the given figure is embedded in Option Figure 2.

Hence, the correct answer is "Option 2".

Q38. Answer: (c) 24

The faces opposite to each other are shown below:

=> As the alternate positions become opposite to each other, the remaining two faces become opposite to each other.

So, opposite pairs are:

22 → 25

24 → 23

20 → 21

Therefore, '24' is the opposite of '23'.

Hence, "Option 3" is the correct answer.

Q39. Answer: (c) 93

Given Equation: 62 B 2 D 190 A 5 C 7 = ?

BODMAS Rule:

Decoding the given information:

Alphabet	A	B	C	D
Meaning	÷	×	•	•

Now replacing the sign from left to right using BODMAS Rule, we get:

=> 62 × 2 - 190 ÷ 5 + 7 = ?

=> 62 × 2 - 38 + 7 = ?

=> 124 - 38 + 7 = ?

=> 131 - 38 = 93.

Hence, the correct option is "Option 3".

Q40. Answer: (a) 6

The logic followed here is:

'BORN' is coded as '8234'

'NORM' is coded as '6328'
Thus, code for M is 6.
Hence, "Option 1" is the correct answer.

Q41. Answer: (a) QXZC

The logic followed here is:
'DZLV' is coded as 'HDJT'
And,
'CQYH' is coded as 'GUWF'
Similarly,
'MTBE' is coded as
Hence, "Option 1" is the correct answer.

Q42. Answer: (b) 9

The number of rectangle in the given figure are shown below:
Thus, as marked there are a total of 9 rectangles.
Hence, "Option 2" is the correct answer.

Q43. Answer: (b) VRPM

The logic followed here is:
JHDC is related to KGEB
And,
QOKJ is related to RNLI
Similarly,
USON is related to
Hence, "Option 2" is the correct answer.

Q44. Answer: (c) LUQWI

The logic followed here is:
Hence, "Option 3" is the correct answer.

Q45. Answer: (c) [figure]

The logic followed here is:
1) Arrow element → Shift 45º clockwise.
2) Letter 'A' element → Shift anticlockwise.
Thus, the final series is:
Hence, "Option 3" is the correct answer.

Q46. Answer: (d) 74

The logic followed here is:

Hence, "Option 4" is the correct answer.

Q47. Answer: (b) PLRI

The logic followed here is:
Option 1) PKRI
Option 2) PLRI
Option 3) MNOL
Option 4) AZCX
Thus, out of all the options, 'PLRI' is the odd one out.
Hence, "Option 2" is the correct answer.

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Q48. Answer: (d) Monday

Given: 24 July 1999 was Saturday.

Now,

1999 to 2003 = 4 Years (3 Ordinary Years and 1 Leap Year).

And, In 4 Years = 1 Leap Year and 3 Ordinary Years.

So, 1 Leap Year has 2 odd days,

And, 3 Ordinary Years have 3 odd days.

Total odd days = 2 + 3 = 5.

5 odd days → 5/7 = 0 weeks and 5 odd days.

then, 24 July 2003 will be Saturday + 5 = Thursday.

Now, the number of days between 24 July 2003 to 28 July 2003

= 4 days.

= 4 days → 4/7 = 0 weeks and 4 odd days.

So, 28 July 2003 will be Thursday + 4 = Monday.

Hence, the correct answer is "Option 4".

Q49. Answer: (a) [figure]

The image embedded in the given figure is as shown below :

Therefore Here, the given figure is embedded in Option Figure 1.

Hence, the correct answer is "Option 1".

Q50. Answer: (b) 453

The logic followed here is:

Hence, "Option 2" is the correct answer.

Q51. Answer: (a) 11.11%

Given:

Marks obtained by Riya in IP = 150

Marks obtained by Rida in IP = 130

Maximum marks in IP = 180

Formula used:

Percentage = (Marks obtained / Maximum marks) × 100

Calculation:

Difference in marks obtained by Riya and Rida = 150 - 130 = 20

So, % Difference = (20/180) × 100 = 1/9 × 100 = 11.11%

Therefore The difference between the percentage of marks obtained by Riya and Rida in IP is 11.11%.

Q52. Answer: (c) 40°

Shortcut Trick

In triangle PAD, we have angle P = 20° and angle A = 30°.

Exterior angle ODC at vertex D = angle P + angle A = 20° + 30° = 50°.

In isosceles triangle OCD (where OC = OD = radius), angle OCD = angle ODC = 50°.

Center angle angle COD = 180° − (50° + 50°) = 80°.

Measure of angle DBC = angle DAC (Angles in same segment) = angle COD ÷ 2 = 80° ÷ 2 = 40°.

Therefore The correct answer is 40°.

Alternate Method

Given: angle A = 30°, angle P = 20°, and AD is the diameter of the circle with center O.

Formula Used: Sum of angles in a triangle is 180°; Angles subtended by the same arc at the circumference are equal; Angle at the center is twice the angle at the circumference.

In ΔPAD:

=> angle PDA = 180° − (angle APD + angle PAD)

=> angle PDA = 180° − (20° + 30°) = 130°

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=> angle ODC = 180° − angle PDA = 180° − 130° = 50° (Linear pair on secant PDC)

In ΔOCD (where OC = OD as radii):

=> angle OCD = angle ODC = 50° (Angles opposite to equal sides)

=> angle COD = 180° − (50° + 50°) = 80°

angle DAC is the angle at the circumference subtended by arc CD:

=> angle DAC = (1 ÷ 2) × angle COD = 80° ÷ 2 = 40°

angle DBC and angle DAC are angles in the same segment subtended by arc CD:

=> angle DBC = angle DAC = 40°

Therefore The correct answer is 40°.

Additional Information

Angle in a Semicircle

The angle subtended by a diameter at any point on the circumference of the circle is always a right angle (90°).

Angles in the Same Segment

Angles subtended by the same chord or arc at the circumference in the same segment of a circle are equal.

Central Angle Theorem

The angle subtended by an arc at the center of a circle is double the angle subtended by it at any point on the remaining part of the circle.

Q53. Answer: (b) 3 min

Given:

Speed of the policeman = 65 km/h

Speed of the thief = 41 km/h

Distance between the policeman and the thief = 1200 m

Formula Used:

Time = Distance / Relative Speed

Calculation:

Relative speed = Speed of the policeman - Speed of the thief

Relative speed = 65 - 41

Relative speed = 24 km/h

Convert 1200 m to km:

1200 m = 1200 / 1000 km = 1.2 km

Time taken to catch the thief = Distance / Relative Speed

=> Time taken to catch the thief = 1.2 km / 24 km/h

=> Time taken to catch the thief = 1.2 / 24

=> Time taken to catch the thief = 0.05 hours

Convert hours to minutes:

0.05 hours × 60 minutes/hour = 3 minutes

The time taken by the policeman to catch the thief is 3 minutes.

Q54. Answer: (b) 2019

Given:

Banks	2016	2017	2018	2019
A	10	15	20	22
B	5	10	15	18
C	20	25	15	20
D	5	10	25	20

Calculation:

2016: A + B = 15, C + D = 25 => Not equal

2017: A + B = 25, C + D = 35 => Not equal

2018: A + B = 35, C + D = 40 => Not equal

2019: A + B = 40, C + D = 40 => Equal

Therefore The total disbursement of loans of banks A and B is equal to the total disbursement of loans of banks C and D in the year 2019.

Q55. Answer: (b) 25

Given:

The average age of Ruby and Soni = 40 years.

The ratio of their ages (Ruby : Soni) = 11 : 5.

Formula Used:

Average age = (Sum of ages) / 2

Calculation:

Let the ages of Ruby and Soni be 11x and 5x, respectively.

Average age = (11x + 5x) / 2

40 = (11x + 5x) / 2

40 = 16x / 2

=> 40 = 8x

=> x = 40 / 8

=> x = 5

Age of Soni = 5x

=> Age of Soni = 5 × 5

=> Age of Soni = 25 years

The age of Soni is 25 years.

Q56. Answer: (d) June

Given:

May: 252 units

June: 350 units

July: 380 units

August: 425 units

September: 525 units

October: 650 units

Formula used:

Percentage Growth = ((New Value - Old Value) / Old Value) × 100

Calculation:

June over May:

=> ((350 - 252) / 252) × 100 = 38.89%

July over June:

=> ((380 - 350) / 350) × 100 = 8.57%

August over July:

=> ((425 - 380) / 380) × 100 = 11.84%

September over August:

=> ((525 - 425) / 425) × 100 = 23.53%

October over September:

=> ((650 - 525) / 525) × 100 = 23.81%

Therefore The highest percentage growth was in June over May with 38.89%.

Q57. Answer: (b) Loss, 20%

Given:

The shopkeeper sells goods at a 40% loss on cost price.

The shopkeeper uses 25% less weight.

Formula Used:

Effective Profit or Loss Percentage = [(Loss% on Cost Price) / (1 - Fractional Reduction in Weight)]

Calculation:

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Let the Cost Price (CP) be 100 units.
Selling Price (SP) at 40% loss = CP - 40% of CP
=> SP = 100 - 40
=> SP = 60 units
Actual weight used = 75% of the original weight
Fractional reduction in weight = 25% = 0.25
Effective Selling Price (considering 25% less weight) = SP / 0.75
=> Effective SP = 60 / 0.75
=> Effective SP = 80 units
Percentage Profit or Loss = [(Effective SP - CP) / CP] × 100
=> Percentage Profit or Loss = [(80 - 100) / 100] × 100
=> Percentage Profit or Loss = -20%
The shopkeeper incurs a 20% loss.

Q58. Answer: (b) 90

Given:
Ratio of red to green sweets = 3:4
Number of green sweets = 120
Formula Used:
Number of red sweets = (Ratio of red sweets / Ratio of green sweets) × Number of green sweets
Calculation:
Number of red sweets = (3 / 4) × 120
=> Number of red sweets = 3 × (120 / 4)
=> Number of red sweets = 3 × 30
=> Number of red sweets = 90
The number of red sweets in the bag is 90.

Q59. Answer: (d) 2 cos θ

Given:
The expression: ((sin θ)/(1+cos θ)+(1+cos θ)/(sin θ))(1/(tan θ+cot θ))
Step 1: Simplify tan θ + cot θ
tan θ = (sin θ)/(cos θ), cot θ = (cos θ)/(sin θ)
So, tan θ + cot θ = (sin θ)/(cos θ) + (cos θ)/(sin θ) = (sin² θ + cos² θ)/(sin θ cos θ) = 1/(sin θ cos θ)
Step 2: Simplify 1/(tan θ + cot θ)
1/(tan θ + cot θ) = sin θ cos θ
Step 3: Simplify (sin θ)/(1 + cos θ) + (1 + cos θ)/(sin θ)
Taking the LCM: (sin² θ + (1 + cos θ)²)/(sin θ (1 + cos θ))
Expanding (1 + cos θ)² = 1 + 2 cos θ + cos² θ
So, the expression becomes: (sin² θ + 1 + 2 cos θ + cos² θ)/(sin θ (1 + cos θ))
Using the identity sin²θ + cos²θ = 1.
(2 + 2 cos θ)/(sin θ (1 + cos θ))
Factoring out the 2: (2(1 + cos θ))/(sin θ (1 + cos θ))
Cancel: 1 + cosθ
2/(sin θ)
Step 4: Multiply both parts
Now, multiply 2 / sin θ by sin θ cos θ
2 cos θ
Therefore The value of the expression is 2 cos θ.

Q60. Answer: (b) 5% p.a.

Given:
Cash price of the laptop charger = Rs. 2,540
Down payment = Rs. 1,340

Amount to be paid after one month = Rs. 1,205
Formula Used:
Simple Interest formula: SI = (P × R × T) / 100
Where:
• P = Principal amount (Rs. 1,200)
• R = Rate of interest per annum
• T = Time (1 month = 1/12 year)
Calculation:
Correct Principal amount P = 2,540 - 1,340 = 1,200
Interest amount I = 1,205 - 1,200 = 5
Using the Simple Interest formula:
5 = (1,200 × R × 1/12) / 100
=> 5 = (1,200 × R) / 1,200
=> R = 5%
The rate of interest charged in the instalment scheme is 5% p.a.

Q61. Answer: (b) 6,24,000

Given:
The initial population of the village = 4,00,000.
Population increase in the first year = 20%.
Population increase in the second year = 30%.
Formula Used:
New Population after first year = Initial Population × (1 + Rate of Increase)
New Population after second year = Population after first year × (1 + Rate of Increase)
Calculation:
Population after first year = 4,00,000 × (1 + 20/100)
=> Population after first year = 4,00,000 × 1.20
=> Population after first year = 4,80,000
Population after second year = 4,80,000 × (1 + 30/100)
=> Population after second year = 4,80,000 × 1.30
=> Population after second year = 6,24,000
The population after two years is 6,24,000.

Q62. Answer: (a) 1

Solution:
We are given the expression:
([1/4 ÷ 1/4 × 1/4] × 1/4)/([1/8 + 1/8 × 1/8]) + (1 - 4/9)
Step 1: Simplify the numerator
1/4 ÷ 1/4 × 1/4 = 1 × 1/4 = 1/4
Now multiply by 1/4
1/4 × 1/4 = 1/16
Step 2: Simplify the denominator
1/8 + 1/8 × 1/8 = 1/8 + 1/64 = 9/64
Step 3: Divide the numerator by the denominator
(1/16)/(9/64) = 64/144 = 4/9
Step 4: Simplify the second part
1 - 4/9 = 5/9
Step 5: Add the two parts
4/9 + 5/9 = 1
Therefore The value of the expression is 1.

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Q63. Answer: (d) 8

Given:

Radius of the solid metallic sphere = 6 cm

Radius of the smaller spherical balls = 3 cm

Formula used:

The volume of a sphere is given by:

$V = 4/3\ \pi\ r^3$, where r is the radius of the sphere.

Step 1: Calculate the volume of the large metallic sphere

$V_{(large)} = 4/3\ \pi\ (6)^3 = 288\ \pi\ cm^3$

Step 2: Calculate the volume of one smaller spherical ball

$V_{(small)} = 4/3\ \pi\ (3)^3 = 36\ \pi\ cm^3$

Step 3: Find the number of smaller spherical balls

The number of smaller spherical balls is:

$(V_{(large)})/(V_{(small)}) = (288\ \pi)/(36\ \pi) = 8$

Therefore The number of spherical balls obtained is 8.

Q64. Answer: (d) 15√7

Given:

PQ = 40 cm

PR = 40 cm

QR = 60 cm

Formula Used:

Area of a triangle = 0.5 × base × height

Heron's formula for the area of a triangle: Area = $\sqrt{s(s-a)(s-b)(s-c)}$

where s = (a + b + c) / 2

Calculation:

a = 40 cm

b = 40 cm

c = 60 cm

s = (40 + 40 + 60) / 2

s = 70 cm

Using Heron's formula:

Area = $\sqrt{70(70-40)(70-40)(70-60)}$

Area = $\sqrt{70 \times 30 \times 30 \times 10}$

Area = $\sqrt{630000}$

Area = $300\sqrt{7}\ cm^2$

Let h be the altitude from vertex Q to side PR.

Area = 0.5 × PR × h

$300\sqrt{7} = 0.5 \times 40 \times h$

$\Rightarrow h = (300\sqrt{7} \times 2) / 40$

$\Rightarrow h = (600\sqrt{7}) / 40$

$\Rightarrow h = 15\sqrt{7}$

The altitude from the vertex Q to side PR is $15\sqrt{7}$ cm.

Q65. Answer: (c) 78 cm2

Given:

AB = BC = 10 cm

AD = 5 cm, CD = 13 cm

Calculation:

In Δ ADC

$AC = \sqrt{\{CD^2 - AD^2\}} = \sqrt{\{13^2 - 5^2\}} = \sqrt{144} = 12$ cm

So,

Area of Δ ADC = 1/2 × AD × AC = 1/2 × 5 × 12 = 30 cm²
Now,
In Δ ABC
AB = BC = 10 cm and AC = 12 cm
Because In an isosceles triangle, altitude is equal to the perpendicular bisector
So, AE = EC = 1/2 × 12 = 6 cm
BE = √{10² - 6²} = √{100 - 36} = √64 = 8 cm
So,
Area of triangle ABC = 1/2 × AC × BE = 1/2 × 12 × 8 = 48 cm²
Thus, Total Area = 48 + 30 = 78 cm²
Therefore The correct answer is option (3).

Q66. Answer: (b) 60%

Given:
Selling price with discount (SP) = Rs. 2,160
Discount = 20%
Profit = 28%
Formula Used:
1. Selling Price (SP) = Marked Price (MP) - Discount
2. Profit% = (Profit / Cost Price) × 100
3. Cost Price (CP) = Selling Price / (1 + Profit%)
Calculation:
Let the Marked Price be MP.
Since a 20% discount is given, the Selling Price is 80% of the Marked Price.
=> 0.8 × MP = Rs. 2,160
=> MP = Rs. 2,160 / 0.8
=> MP = Rs. 2,700
Now, Cost Price (CP) is calculated using the given profit percentage.
Profit% = 28%
=> CP = SP / (1 + Profit%)
=> CP = Rs. 2,160 / 1.28
=> CP = Rs. 1,687.50
If the article is sold without any discount, the Selling Price will be equal to the Marked Price.
New Selling Price = MP = Rs. 2,700
New Profit = New SP - CP
=> New Profit = Rs. 2,700 - Rs. 1,687.50
=> New Profit = Rs. 1,012.50
New Profit% = (New Profit / CP) × 100
=> New Profit% = (Rs. 1,012.50 / Rs. 1,687.50) × 100
=> New Profit% = 0.6 × 100
=> New Profit% = 60%
The profit will be 60% if the article is sold without any discount.

Q67. Answer: (b) √(3) r

Given:
Radius of the circle = r units.
Formula Used:
Side of the largest equilateral triangle inscribed in a circle = r × √3
Calculation:
The side length of the largest equilateral triangle inscribed in a circle is given by:
Side = r × √3
Therefore,

Side length = r × √3

The length of the side of the largest equilateral triangle is r × √3 units.

Q68. Answer: (d) 200

Given:

A number increased by 20% gives 240.

Formula Used:

The formula to calculate the original number when increased by a percentage is:

Original number = Increased number / (1 + Percentage increase)

Calculation:

Let the original number be x.

It is given that the number increased by 20% gives 240.

Hence,

x + 0.2x = 240

=> 1.2x = 240

=> x = 240 / 1.2

=> x = 200

The original number is 200.

Q69. Answer: (d) 50 and 26

Solution:

Let the larger number be x and the smaller number be y.

Given that:

• The sum of the two numbers is 76: x + y = 76

• Three times the larger number is 46 more than four times the smaller number: 3x = 4y + 46

Step 1: Solve for x from equation (1)

x = 76 - y

Step 2: Substitute x = 76 - y in equation (2)

3(76 - y) = 4y + 46

Expanding:

228 - 3y = 4y + 46

Rearranging terms:

182 = 7y

y = 26

Step 3: Find x using equation (1)

x + 26 = 76

x = 50

Final Answer: The two numbers are 50 and 26.

Q70. Answer: (c) 18

Given:

The number 6p5157q is divisible by 88.

Formula Used:

A number is divisible by 88 if and only if it is divisible by both 8 and 11.

Calculation:

1. Divisibility by 8:

The last three digits must be divisible by 8.

157q must be divisible by 8.

The possible values of q is 6 (since 1576 is divisible by 8).

2. Divisibility by 11:

The difference between the sum of digits in odd positions and the sum of digits in even positions must be 0 or divisible by 11.

q = 6

Number: 6p51576

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Sum of digits in odd positions: 6 + 5 + 5 + 6 = 22
Sum of digits in even positions: p + 1 + 7 = 8 + p
So,
22 - (8 + p) = 11
=> 22 - 8 - p = 11
=> 14 - p = 11
=> p = 14 - 11 = 3
So, p = 3 and q = 6
=> p × q = 3 × 6 = 18
The correct answer is option 3.

Q71. Answer: (a) 36

Given:
Time taken by Nirmal to complete the project = 45 days
Amit is 25% more efficient than Nirmal
Formula Used:
Efficiency and Time are inversely proportional.
Calculation:
Let the efficiency of Nirmal be 100 units.
Then, efficiency of Amit = 100 + 25 = 125 units
Since Efficiency prop. to 1/Time, we have:
Time taken by Amit = (Efficiency of Nirmal / Efficiency of Amit) × Time taken by Nirmal
=> Time taken by Amit = (100 / 125) × 45
=> Time taken by Amit = (4 / 5) × 45
=> Time taken by Amit = 36 days
Amit will take 36 days to complete the same work.

Q72. Answer: (b) 80 and 81

Given:
The table shows the percentage marks obtained by three students (Rohan, Sohan, and Mohan) in three subjects: Geography, History, and Economics.

Subject	Geography	History	Economics
Rohan	78	77	74
Sohan	84	80	82
Mohan	87	83	86

Step 1: Calculate the average marks in History
Average in History = (77 + 80 + 83) / 3 = 80
Step 2: Calculate the average marks in Economics
Average in Economics = (74 + 82 + 86) / 3 = 80.67 ≈ 81
Final Answer: The average marks obtained by the students in History and Economics are 80 and 81, respectively.

Q73. Answer: (d) 33 (1)/(3) %

Given:
Time reduction = 25%
Formula Used:
Speed prop. to 1 / Time
Percentage Increase in Speed = (New Speed - Old Speed) / Old Speed × 100%
Calculation:
Let the original speed be S and the original time be T.
New time = T - 0.25T = 0.75T
Since Speed prop. to 1 / Time:

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New Speed = S / 0.75

New Speed = 4S / 3

Percentage Increase in Speed = ((4S / 3) - S) / S × 100%

=> Percentage Increase in Speed = (4/3 - 1) × 100%

=> Percentage Increase in Speed = (1/3) × 100%

=> Percentage Increase in Speed = 33 (1/3)%

The correct answer is option 4.

Q74. Answer: (c) 5400

Given:

Length of the cuboid (l) = 60 cm

Breadth of the cuboid (b) = ½ of its length = 60/2 = 30 cm

Height of the cuboid (h) = 1⁄3 of its breadth = 30/3 = 10 cm

Formula Used:

Surface Area of a cuboid = 2(l×b + b×h + h×l)

Calculation:

Surface Area = 2(l×b + b×h + h×l)

=> Surface Area = 2(60×30 + 30×10 + 10×60)

=> Surface Area = 2(1800 + 300 + 600)

=> Surface Area = 2(2700)

=> Surface Area = 5400 cm^2

The surface area of the cardboard box is 5400 cm^2.

Q75. Answer: (c) (√(2)-1): √(2)

Given:

PQR is a triangle. MN is a line segment intersecting PQ in M and PR in N such that MN || QR and divides ΔPQR into two parts, which are equal in area.

Calculation:

Since, MN||QR,

angle PMN = angle PQR (corresponding angles)

angle PNM = angle PRQ (corresponding angles)

Hence, by AA similarity,

ΔPMN ~ ΔPQR.

We know that

Area (ΔPMN) / Area (ΔPQR) = $PM^2/PQ^2 = MN^2/QR^2 = PN^2/PR^2$

Since, Area (ΔPMN) = Area (quad. MNRQ) [Given],

We can say.

Area(ΔPMN) / Area(ΔPQR)=1/2

=> PM/PQ = 1/√2

=> 1−(PM/PQ) = 1− (1/√2)

=> (PQ−PM)/PQ = (√2−1)/√2

=> MQ/PQ = (√2−1)/√2

Therefore The correct answer is Option 3.

Q76. Answer: (b) Diwali

The correct answer is Diwali.

Key Points

• Known as the Festival of Lights, Diwali is one of the most popular and widely celebrated festivals in India.

• People celebrate by lighting oil lamps (diyas), bursting firecrackers and worshiping deities like Lakshmi (goddess of wealth) and Lord Ganesha.

• Diwali marks the return of Lord Rama to Ayodhya after a 14-year exile and his victory over Ravana, according to the Ramayana.

• It is typically a five-day festival, with the main celebration on the third day, known as Lakshmi Puja.

Additional Information

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• Holi is celebrated primarily in northern India to welcome the arrival of spring.
• Holi signifies the victory of good over evil, particularly the burning of the demoness Holika.
• Holi falls on the Purnima (full moon) day of the Hindu calendar month of Phalguna, which usually occurs in March.
• There are three types of Bihu celebrated in Assam:
• Rongali Bihu (Bohag Bihu): Celebrates the Assamese New Year and is a spring festival.
• Kongali Bihu (Kati Bihu): A quieter festival, focused on prayer and lighting of lamps during the month of Kati.
• Bhogali Bihu (Magh Bihu): Celebrated in January to mark the end of the harvesting season.
• Onam is the biggest festival in Kerala and celebrates the legendary return of King Mahabali.
• One of the major attractions during Onam is the famous snake boat races, particularly in the Pampa River.
• Onam falls in the Malayalam month of Chingam, which usually occurs in August-September.

Q77. Answer: (b) Eighth Schedule

The correct answer is Eighth Schedule.

Key Points

• Eighth Schedule
• The Eighth Schedule of the Indian Constitution provides a list of all the officially recognized languages in India.
• It is found in Article 344 (1) and 351 of the Constitution
• As of now, there are 22 languages present that are officially recognized by the Indian government.
• They are (1) Assamese, (2) Bengali, (3) Gujarati, (4) Hindi, (5) Kannada, (6) Kashmiri, (7) Konkani, (8) Malayalam, (9) Manipuri, (10) Marathi, (11) Nepali, (12) Oriya, (13) Punjabi, (14) Sanskrit, (15) Sindhi, (16) Tamil, (17) Telugu, (18) Urdu (19) Bodo, (20) Santhali, (21) Maithili and (22) Dogri.
• Originally, only 14 languages were mentioned and later, after several amendments, the other languages were added.
• Sindhi language was added in the 8th schedule by the 21st Amendment Act of 1967.
• Konkani, Manipuri and Nepali were added by the 71st Amendment Act of 1992
• Bodo, Dongri, Maithili and Santhali were added by the 92nd Amendment Act of 2003.
• In all the 22 official languages the Hindi language is spoken by most of Indians.
• Thus, schedule eight of Indian constitution contains the list of recognized language.

Additional Information

• Schedule of the Indian Constitution
• There are 12 Schedules in the Constitution of India.
• The First Schedule of the Indian Constitution contains the name of States and Union Territories.
• Second Schedule of Indian Constitution contains the provisions in relation to allowances, privileges, emoluments of President of India, Governers of Indian States, Speaker of Lok Sabha & Deputy Speaker of Lok Sabha, Chairman of Rajya Sabha & Deputy, Chairman of Rajya Sabha, Speaker and Deputy Speaker of Legislative Assemblies of the Indian States, Chairman and Deputy Chairman of Legislative Councils of the Indian States, Supreme Court Judges, High Court Judges and Comptroller & Auditor General Of India (CAG).
• The third Schedule of the Indian Constitution contains the forms of oath and affirmation for Union Ministers of India, Parliament Election Candidates, Members of Parliament (MPs), Supreme Court Judges, Comptroller and Auditor General, State Ministers, State Legislature Elections' Candidates, State Legislature Members, and High Court Judges.
• The fourth Schedule of the Indian Constitution contains the provisions in relation to the allocation of seats for States and Union Territories in the Rajya Sabha.
• The fifth Schedule of the Indian Constitution contains the provisions in relation to the administration and control of scheduled areas and scheduled tribes.
• The Sixth Schedule of the Indian Constitution contains the provisions in relation to the administration of tribal areas in the states of Assam, Meghalaya, Tripura, and Mizoram.
• The Seventh Schedule of the Indian Constitution deals with the three legislative lists i.e. Union, State, and Concurrent.
• The eighth Schedule of the Indian Constitution deals with the 22 official languages recognized by the Indian Constitution.
• The Ninth Schedule of the Indian Constitution deals with the state acts and regulations that deal with land reforms and the abolition of the zamindari system. It also deals with the acts and regulations of the Parliament dealing with other matters.
• The tenth Schedule of the Indian Constitution contains the provisions relating to disqualification of the members of Parliament and State Legislatures on the ground of defection.
• The Eleventh Schedule of the Indian Constitution contains the provisions that specify the powers, authority, and responsibilities of Panchayats.
• The Twelfth Schedule of the Indian Constitution contains the provisions that specify the powers, authority, and responsibilities of Municipalities.

Q78. Answer: (d) Rashtriya Khel Protsahan Puruskar

The correct answer is Rashtriya Khel Protsahan Puruskar.

Key Points

Sports Honours in India:

• Major Dhyan Chand Khel Ratna Award:

• The recipient(s) is/are selected by a committee constituted by the Ministry and is honoured for their "spectacular and most outstanding performance in the field of sports over a period of four years" at international level.

• Arjun Award:

• The Arjuna Award, officially known as Arjuna Awards for Outstanding Performance in Sports and Games,is the second-highest sporting honour of India.

• Dhyan chand award is the lifetime achievement sporting honour of India..

• Dronacharya Award:

• It is given to coaches for doing outstanding and meritorious work on a consistent basis and enabling sportspersons to excel in International events.

• 'Rashtriya Khel Protsahan Puruskar':

• It is given to corporate entities (both in private and public sector), Sports Control Boards, NGOs, including sports bodies at the State and National level, who have played a visible role in the area of sports promotion and development.

Q79. Answer: (b) Aurangzeb

The correct answer is Aurangzeb.

Key Points

• In the year 1675, Guru Tegh Bahadur was Killed in Delhi under the orders of the Mughal Emperor Aurangzeb, the sixth Mughal emperor, of India.

• He was named head of the Sikh community after the death of the seven-year-old Guru Har Krishan.

• The name Guru Tegh Bahadur was given to him by Guru Hargobind.

• Sikh tradition says that the guru stood up for the interests of Kashmiri Pandits who approached him to intercede with the emperor on their behalf and to urge him to abolish a jizya (tax) recently levied.

• Convinced to stand up for the safety of the Kashmiri Pandits by his uncle, Gobind Rai, who later became Guru Gobind Singh, Guru Tegh Bahadur travelled to Delhi.

• In the late 17th century, Emperor Aurangzeb of Mughal levied Sharia law throughout his realm and an extra jizya levy on non-Muslims.

Additional Information

• At Bakala, Guru Tegh Bahadur meditated at the place for about 26 years 9 months 13 days.

• The ninth of the 10 Gurus of the Sikh religion was Guru Tegh Bahadur, revered as the ninth Nanak.

• The ninth of the 10 Gurus of the Sikh religion, Guru Tegh Bahadur died on November 24, in the year 1675.

• He is famously known for the protection he provided to the Sikhs and the Hindus against a 17th-century law that forced them to convert to Islam.

• His son Guru Gobind Singh, the last Guru of the Sikhs, transformed the community into a martial race to counter the might of the Mughals.

• Guru Tegh Bahadur was the ninth Sikh Guru, often venerated as the 'Protector of Humanity' (Srisht-di-Chadar) by the Sikhs.

• Known as a great teacher, Guru Tegh Bahadur was also an excellent warrior, thinker, and poet, who wrote detailed descriptions of the nature of God, mind, body, and physical attachments among other things spiritual.

• His writings are housed in the sacred text, 'Guru Granth Sahib,' in the form of 116 poetic hymns.

• He was also an avid traveller and played a key role in setting up preaching centres throughout the Indian subcontinent.

• During one such mission, he founded the town of Chak-Nanki in Punjab, which later became a part of Punjab's Anandpur Sahib.

• In the year 1675, Guru Tegh Bahadur was executed in Delhi under the orders of the Mughal Emperor Aurangzeb.

Q80. Answer: (b) Footer

The correct answer is: Option 2) Footer

Key Points

In Microsoft PowerPoint, slide numbers are part of the slide footer elements that can be inserted using the "Header and Footer" dialog box.

Steps to Add Slide Numbers:

1. Go to the Insert tab.

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2. Click on Header & Footer.

3. In the dialog box that appears, check the box for Slide number.

4. Click Apply or Apply to All.

Why Other Options Are Incorrect:

• View: Used for changing slide layouts (Normal, Slide Sorter, etc.), not for inserting slide numbers.

• Table Design: Only appears when a table is selected and is used to format tables, not slides.

• Page Formatting: This is not a feature in PowerPoint; it is more related to Word.

Yes Therefore, the correct option is: Footer

Q81. Answer: (c) Darbhanga Gharana

The correct answer is Darbhanga Gharana.

Key Points

• Darbhanga Gharana

• Darbhanga Gharana is known for its distinctive style of singing Dhrupad, which is one of the oldest forms of North Indian classical music.

• The Gharana has a rich history and has contributed significantly to the preservation and propagation of Dhrupad music.

• Notable features of Darbhanga Gharana include its emphasis on clarity of notes, intricate rhythmic patterns, and powerful vocal delivery.

Additional InformationSome other important Gharana:-

• Jaipur Gharana :

• The Jaipur-Atrauli Gharana emerged from Alladiya Khan's family which originated from Atrauli and migrated to Jaipur.

• The Jaipur-Atrauli Gharana is Hindustani music founded by Alladiya Khan (1855–1946) in the late-19th century.

• The Gharana is known for its distinctive vocal aesthetics, raga repertoire, and technical aptitude.

• The chief exponents of the Jaipur Gharana are Alladiya Khan, Mallikarjun Mansur, Kesarbhai Kerkar, Kishori Amonkar, Shruti Sadolikar, Padma Talwalkar and Ashwini Bhide Deshpande.

• Patiala Gharana :

• ‘Patiala Gharana’ is one of the Gharanas in Indian Classical Music, which was founded by Ustad Fateh Ali Khan, and also Ustad Ali Baksh.

• Patiala Gharana has both kinds of singing – ‘Thumri’ and ‘Khyal’.

• The most famous exponents of Patiala Gharana are Pakistani ghazal singer Gulam Ali, and also the contemporary singer Shafqat Amanat Ali.

• Both the Pakistani singers have also garnered enormous fame in India.

• Banaras Gharana :

• The Benaras Gharana evolved as a result of the great lilting style of khayal singing known by Thumri singers of Benaras and Gaya.

• It was founded by Pt Gopal Mishra.

• The chief exponents of the Benaras Gharana are Rajan Mishra, Sajan Mishra, Girija Devi and others.

• Maihar Gharana :

• The Maihar Gharana is a Gharana or school of Hindustani classical music, a style of Indian classical music originating in the northern parts of the Indian subcontinent.

Q82. Answer: (d) General Insurance Business (Nationalisation) Act, 1972

The correct answer is General Insurance Business (Nationalisation) Act, 1972.

Key Points

• Parliament has passed the General Insurance Business (Nationalisation) Amendment Bill, 2021.

• The Bill seeks to amend the General Insurance Business (Nationalisation) Act, 1972.

• It removes the mandatory provision of 51% shareholding of the central govt in General Insurance Corporation of India, National Insurance, New India Assurance, Oriental Insurance and United India Insurance companies.

Q83. Answer: (d) Points

The correct answer is Points.

Key Points

• Microsoft Word is a graphical word processing program that users can type with.

• It is made by Microsoft.

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• Its purpose is to allow users to type and save documents.
• Simple steps to open MS Word on the computer are:
• Start → All Programs → MS Office → MS Word.

Additional Information

• The first version of Microsoft Word was developed by Charles Simonyi and Richard Brodie.
• The first Word version, Word 1.0, was released in October 1983.
• Then it was renamed to Word 95 and Word 97, Word 2000, and Word for Office XP.
• Other Windows versions are:-
• Word 2007
• Word 2010
• Word 2013
• Word 2016
• And most recently, Word for Office 3

Q84. Answer: (d) Satellites like Enceladus and Titan of Saturn are home to internal oceans, could possibly support life.

The correct answer is Satellites like Enceladus and Titan of Saturn are home to internal oceans, could possibly support life.

Key Points

Saturn is called "The Jewel of the Solar System". It is a ringed planet.

• It is the second-largest planet after Jupiter.
• Its beautiful rings are not solid. They are made up of Ice, dust, and rock.
• Its rings are huge but thin. They can be seen from the earth with the help of a telescope.
• It is very windy on Saturn. Winds around the equator can be 1800 kilometres per hour. On Earth, the fastest winds only get to about 400 kilometres per hour.
• Saturn goes around the Sun very slowly. A year on Saturn is more than 29 Earth years. But, it spins at its axis very fast i.e., 10 hours and 14 minutes a day.

Additional Information

• Solar system: It is the collection of eight planets and their moons in orbit around the sun, together with smaller bodies in the form of asteroids, meteoroids, and comets. The planets of the solar system are (in order of distance from the sun).
• The planets are characterized into two: The terrestrial planets (Mercury, Venus, Earth, Mars), and The Jovian planets (Jupiter, Saturn, Uranus, Neptune).
• The Terrestrial planets have rocky and solid compositions. They are close to the Sun and have few or no Moons. Also, they have no rings around them.
• The Jovian planets are also known as Gas planets. They are larger and composed of gas and liquid. They have multiple Moons. They all have some form of rings around them.
• Mercury is the smallest planet and Jupiter is the biggest planet.

Q85. Answer: (d) 1943

The correct answer is 1943.

Key Points

• The Howrah Bridge is situated on the Hooghly River, Kolkata, West Bengal. It was built in the year 1943.
• It is a balanced cantilever bridge.
• The Howrah Bridge is currently ranked the sixth-longest bridge of balanced cantilever bridge type in the world. When commissioned in 1943, it was the 3rd-longest cantilever bridge in the world.
• At the time it was built the name given to it was the New Howrah Bridge. It was renamed Rabindra Setu on 14 June 1965 after the great Bengali poet Rabindranath Tagore. But it is still popularly known by the name Howrah Bridge.
• It is linking the two cities Howrah and Kolkata (Calcutta).
• Rabindranath Tagore was the first Indian and Asian to get a Nobel prize. He got a Nobel prize for Gitanjali in 1913 in the category of literature.

Additional Information

• There are 4 bridges on the Hooghly River. The other three are:

1. Vidyasagar Setu (popularly called the Second Hooghly Bridge)
2. The Vivekananda Setu
3. The newly built Nivedita Setu.

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Q86. Answer: (d) Maand

The correct answer is Maand.

Key Points

• Maand folk music related to Rajasthan state.

• The classic Maand composition made immortal by legendary singers such as Allah Jilai Bai.

• The Best of Rajwadi Mand, offers valuable insights into Maand, the form of Rajasthani music that once flourished in the courts or Rajwadas of Rajasthan.

• The other artists featured in the compilation include Munshi Khan of Nagaur, Allah Jilai Bai of Bikaner, Lalita Bai of Kishangarh, the Jamila-Kulsum group from Jodhpur, Suraiyaa Begum from Jaipur, the Rukma-Hakla group from Barmer, and the Hasan Khan Manganiyar group from Jaisalmer.

Additional Information

Know about Rajasthan:

• Capital: Jaipur

• Languages: Hindi, Rajasthani, Marwari, Mewari, Jaipuri.

• Major Rivers:

• Chambal owing from the Janapav to Madhya Pradesh

• Sabarmati owing from Aravalli Ranges to Gulf of Cambay

• Banas River – originates from Rajasthan and joins Chambal.

• Luni River owing from Aravalli Ranges.

• Geographical Indications: Kota Doria, Kathputlis, Blue pottery, Molela clay work, Sanganeri, Hand Block Printing, Phulkari, Bikaneri Bhujia, Bagru hand block print, Thewa artwork, Makrana marble.

• World Heritage Sites:

• Jantar Mantar

• Keoladeo National Park

• Chittorgarh Fort

• Kumbhalgarh

• Ranthambore Fort

• Gagron Fort

• Amber Fort

• Jaisalmer Fort

Q87. Answer: (a) Black

The correct answer is Black.

Key Points

• Kabaddi is a popular contact sport in Southern Asia that first originated in Ancient India.

• It is played across the country and is the official game in the states of Punjab, Tamil Nadu, Bihar, Telangana, and Maharashtra.

• In the kabaddi game, each side has 7 players when the game starts.

• There will be 5 substitutes for each side as well.

• The games in Kabaddi are 40 minutes long.

• Each side gets alternating turns to send any one player to the opponent’s side. This player is called the raider and each player on the opposing team is called a defender.

• The two teams alternate between raiding and defending for two halves of twenty minutes each (with a five-minute break between halves and newly introduces small timeouts for teams that are used to generate advertisement revenue).

• After halftime, the two teams switch sides of the court.

• The Lobby is the area of the court which is considered active only when contact has been made between the raider and a defender. Else, it is considered out of bounds for both raider and the defenders.

• The team with the most points at the end of the game wins.

Additional Information

• The International Federation of Kabbadi is the governing body of Kabbadi.

• The International Federation of Kabbadi was formed in 2004.

• The founder and current President of the International Federation of Kabbadi is Janardhan Singh Gehlot.

• Kabbadi World Cup Winner 2016 - India.

• Kabbadi Asia Cup Winner 2017 - India.

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• Kabbadi Asia Games Winner 2018 - Iran.
• Pro Kabbadi League Winner 2019 - Bengal Warriors.
• Pro Kabbadi League Winner 2021–22- Patna Pirates

Q88. Answer: (a) They are characterised by having an elongated eel-like body, circular mouth, slimy skin and are scaleless.

The correct answer is They are characterised by having an elongated eel-like body, circular mouth, slimy skin and are scaleless.

Key Points

• Cyclostomata
• a group of vertebrates that comprises the living jawless fishes: the lampreys and hagfishes.
• They are modified and degenerate offshoots of the primitive vertebrate stalk.
• Because of their round mouths, they are named Cyclostomata.
• Notochord persists throughout life.
• The median fin is supported by cartilaginous fin-rays.

Q89. Answer: (a) Uranium - 235

The correct answer is Uranium - 235.

Key Points

• Uranium-235 (U-235) is a fissile isotope, meaning it can sustain a chain reaction of nuclear fission.
• U-235 is used as fuel in nuclear power plants to generate electricity.
• It is one of the few materials that can undergo nuclear fission, making it crucial for nuclear reactors and nuclear weapons.
• Uranium-235 is naturally occurring, but only about 0.7% of natural uranium is U-235, the rest being Uranium-238.

Additional Information

• Nuclear Fission
• It is the process of splitting a heavy nucleus into two lighter nuclei, accompanied by the release of a large amount of energy.
• In a nuclear reactor, when a U-235 nucleus absorbs a neutron, it becomes unstable and splits, releasing energy, more neutrons, and fission products.
• The additional neutrons can further induce fission in other U-235 nuclei, creating a self-sustaining chain reaction.
• Nuclear Power Plants
• These facilities use the heat generated from nuclear fission to produce steam, which drives turbines connected to generators, thus producing electricity.
• They are considered a low carbon energy source as they do not produce carbon dioxide during operation, unlike fossil fuel-based power plants.
• Isotopes
• Isotopes are variants of a chemical element that have the same number of protons but different numbers of neutrons in their nuclei.
• This results in different atomic masses for the isotopes of the same element.
• Uranium Enrichment
• The process of increasing the proportion of U-235 in natural uranium to make it suitable for use in nuclear reactors or weapons.
• Enrichment is typically required because natural uranium's U-235 content is too low for most nuclear reactors.
• Common methods of enrichment include gas centrifuge and gaseous diffusion.

Q90. Answer: (c) Tokyo

The correct answer is Tokyo.

Key Points

• India won its last Olympic medal in men’s hockey at the Tokyo 2020 Olympics.
• The Indian men's hockey team clinched the bronze medal after defeating Germany 5-4.
• This victory marked the end of a 41-year medal drought in men's field hockey for India at the Olympics.
• The medal win at Tokyo 2020 was India's 12th Olympic medal in men’s hockey.

Additional Information

• Olympic Games
• The Olympic Games are a leading international sporting event featuring summer and winter sports competitions in which thousands of athletes from around the world participate in a variety of competitions.
• The Games are considered the world's foremost sports competition and are held every four years, with the Summer and Winter

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Games alternating by occurring every four years but two years apart.

• Men's Field Hockey

• Field hockey is a team sport of the hockey family, which is played on grass, watered turf, artificial turf, or synthetic field, as well as an indoor boarded surface.

• India has a rich history in men's field hockey, having won numerous medals in past Olympic Games, including eight gold medals.

• Tokyo 2020 Olympics

• The Tokyo 2020 Olympics were originally scheduled to take place in 2020 but were postponed to 2021 due to the COVID-19 pandemic.

• This edition of the Olympics saw significant safety protocols and restrictions due to the ongoing pandemic.

Q91. Answer: (b) Ganges and Indus

The correct answer is Ganges and Indus.

Key Points

• The Delhi Ridge is a northern extension of the ancient Aravalli Range.

• The ridge acts as a natural barrier and water divide between the Ganges and Indus river systems.

• It extends from the southeastern parts of Haryana through Delhi to the Yamuna river.

• The ridge plays a crucial role in the local climate, biodiversity, and water management of the Delhi region.

Additional Information

• Water Divide

• A water divide, also known as a watershed or drainage divide, is a geographical boundary that separates neighboring drainage basins.

• Water divides determine the direction in which water flows and are crucial for managing water resources and preventing floods.

• Aravalli Range

• The Aravalli Range is one of the oldest mountain ranges in the world, dating back to the Proterozoic era.

• It runs approximately 692 km across northwestern India, from Delhi to Gujarat.

• The range plays a vital role in influencing the climate and hydrology of the region.

• Ganges River

• The Ganges, also known as Ganga, is a major river in the Indian subcontinent, flowing through India and Bangladesh.

• It is considered sacred in Hinduism and is vital for agriculture, industry, and domestic use.

• Indus River

• The Indus River is one of the longest rivers in the world, flowing through China (Tibet), India, and Pakistan.

• It is a key water source for agriculture and is historically significant as the cradle of the ancient Indus Valley Civilization.

Q92. Answer: (b) Ishwari Prasad

The correct answer is Ishwari Prasad.

Key Points

• Ishwari Prasad is credited with founding the Lucknow Gharana of Kathak.

• He was a devotee of the Bhakti movement.

• Ishwari Prasad hailed from southeast Uttar Pradesh.

• The Lucknow Gharana is known for its expressive and nuanced storytelling through dance.

Additional Information

• Lucknow Gharana of Kathak

• The Lucknow Gharana is one of the three main schools of Kathak dance, the other two being the Jaipur and Banaras Gharanas.

• It is known for its graceful movements, intricate footwork, and expressive facial expressions.

• This Gharana places a strong emphasis on the storytelling aspect of Kathak, often enacting stories from Hindu mythology.

• The dancers of this Gharana often use subtle gestures and movements to convey emotions and narratives.

• Bhakti Movement

• The Bhakti movement was a medieval Hindu movement of theistic devotional trend that emerged in the 8th century in South India and later spread to the north.

• It emphasized devotion to a personal god and the idea that salvation could be attained through such devotion.

• Bhakti poets composed verses in local languages, making the movement accessible to the common people.

• It was a reaction against the rigidities of the caste system and aimed to make religious experience more personal and direct.

• Kathak Dance

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• Kathak is one of the eight major forms of Indian classical dance.

• The word Kathak is derived from the Vedic Sanskrit word Katha, meaning "story," and Kathakar, meaning "the one who tells a story."

• The dance form traces its origins to the itinerant bards of ancient northern India, known as Kathakars or storytellers.

• Kathak evolved during the Bhakti movement and was later influenced by the Mughal era, incorporating elements of Persian dance and music.

Q93. Answer: (b) Eknath Shinde

The correct answer is Eknath Shinde.

Key Points

• Eknath Shinde is a prominent Indian politician and a senior leader in the Shiv Sena party.

• He has held significant positions in Maharashtra's state government, including Minister of Public Works (Public Undertakings) and Minister of Urban Development and Public Health.

• Shinde is known for his strong grassroots connect and his work towards infrastructure development in Maharashtra.

• He was named the new Shiv Sena president during the party's national executive meeting held in Mumbai in 2023, marking a significant leadership change within the party.

Additional Information

• Shiv Sena

• Founded in 1966 by Bal Thackeray, Shiv Sena is a right-wing Marathi regional and Hindu nationalist political party in India.

• The party primarily operates in Maharashtra and has been a significant force in the state's politics.

• It has a strong base among the Marathi-speaking population and has been involved in both state and national politics.

• Shiv Sena has been an ally of the Bharatiya Janata Party (BJP) but has also had periods of friction and separation.

• National Executive Meeting

• The national executive meeting is a key event in a political party's calendar where crucial decisions are made regarding leadership, strategy, and future directions.

• This meeting typically includes senior leaders and key members of the party.

• Decisions taken during these meetings are pivotal for the party's functioning and political strategy.

• Maharashtra Politics

• Maharashtra is one of India's most politically significant states, with a complex political landscape involving multiple parties such as the Shiv Sena, BJP, Congress, and NCP.

• The state has seen various coalitions and political alliances, often leading to dynamic and changing political scenarios.

• Leadership and alliance decisions in Maharashtra have substantial implications for national politics as well.

Q94. Answer: (a) 1893

The correct answer is 1893.

Key Points

• Swami Vivekananda delivered his famous speech at the Parliament of Religions in Chicago on 11th September 1893.

• His speech began with the words "Sisters and Brothers of America," which received a standing ovation from the audience.

• The speech is considered a watershed moment in the history of India's religious and cultural influence on the West.

• Swami Vivekananda emphasized the importance of religious tolerance and universal acceptance.

Additional Information

• Parliament of Religions

• The Parliament of Religions was an event held in 1893 as part of the World's Columbian Exposition in Chicago.

• It aimed to create a global dialogue on religious matters and promote understanding between different faiths.

• It was the first formal gathering of representatives from Eastern and Western spiritual traditions.

• Swami Vivekananda

• Born as Narendranath Datta on 12th January 1863, Swami Vivekananda was a key figure in introducing Indian philosophies of Vedanta and Yoga to the Western world.

• He was a chief disciple of the 19th-century Indian mystic Ramakrishna.

• Swami Vivekananda founded the Ramakrishna Mission and the Ramakrishna Math, which continue to promote his teachings and humanitarian activities.

• He played a significant role in the revival of Hinduism in India and contributed to the concept of nationalism in colonial India.

• Significance of the Speech

• The speech marked the beginning of global recognition for Indian spirituality and philosophy.

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• It helped dispel many prejudices about Indian culture and religion in the West.

• Swami Vivekananda's address is often cited as a pivotal moment in the history of interfaith dialogue.

Q95. Answer: (b) Both 1 and 2

The correct answer is Both 1 and 2.

Key Points

• Fiscal policy refers to the use of government spending and tax policies to influence economic conditions, including aggregate demand, employment, inflation, and economic growth.

• One of the primary objectives of fiscal policy is to boost economic growth. This can be achieved through increased public spending on infrastructure, education, and healthcare.

• Another key objective of fiscal policy is to control inflation. By adjusting tax rates and public expenditure, the government can influence the level of aggregate demand in the economy.

• Fiscal policy is a crucial tool for managing the business cycle and ensuring economic stability. It helps in reducing unemployment during recessions and controlling inflation during periods of economic boom.

Additional Information

• Fiscal Policy:

• Fiscal policy involves the government's use of taxation and spending to influence the economy. It is a key tool for managing economic activity and achieving macroeconomic objectives.

• Expansionary fiscal policy involves increasing government spending and/or decreasing taxes to stimulate economic growth. This is typically used during periods of recession or low economic activity.

• Contractionary fiscal policy involves decreasing government spending and/or increasing taxes to cool down an overheating economy and control inflation. This is often used during periods of high economic activity and inflation.

• Automatic stabilizers are built-in fiscal mechanisms that automatically adjust government spending and taxes in response to economic conditions, such as unemployment benefits and progressive tax systems.

• Inflation:

• Inflation is the rate at which the general level of prices for goods and services rises, leading to a decrease in purchasing power.

• Moderate inflation is a normal aspect of a growing economy, but high or hyperinflation can be detrimental, leading to uncertainty and reduced economic growth.

• Governments and central banks use various tools, including fiscal policy and monetary policy, to control inflation and maintain price stability.

• Economic Growth:

• Economic growth refers to an increase in the production of goods and services in an economy over a period of time, typically measured as the percentage increase in gross domestic product (GDP).

• Sustainable economic growth is crucial for improving living standards, reducing poverty, and creating jobs.

• Fiscal policy can promote economic growth by investing in infrastructure, education, and technology, which enhance productivity and economic capacity.

Q96. Answer: (c) Radcliffe Boundary Commission

The correct answer is Radcliffe Boundary Commission.

Key Points

• The Radcliffe Boundary Commission was established in 1947 to demarcate the boundary between India and Pakistan.

• The commission was chaired by Sir Cyril Radcliffe, a British lawyer.

• It was formed as part of the Indian Independence Act 1947, which led to the partition of British India.

• The boundary line drawn by the Radcliffe Commission is known as the Radcliffe Line.

Additional Information

• Hilton Young Commission

• Also known as the Royal Commission on Indian Currency and Finance, it was established in 1926.

• It played a significant role in the establishment of the Reserve Bank of India in 1935.

• Bretton Woods Commission

• The Bretton Woods Conference in 1944 led to the establishment of the International Monetary Fund (IMF) and the World Bank.

• It played a crucial role in shaping the post-World War II global economic order.

• Gandhi Irwin Pact

• Signed on March 5, 1931, between Mahatma Gandhi and Lord Irwin, the then Viceroy of India.

• The pact marked the end of the civil disobedience movement and led to the release of political prisoners.

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• Radcliffe Line

• The Radcliffe Line is the boundary demarcation line between India and Pakistan, drawn in 1947 upon the Partition of India.

• The line divides the Indian subcontinent into two nations: India and Pakistan.

• The demarcation was based on religious majorities, with areas predominantly Muslim becoming part of Pakistan and areas predominantly Hindu remaining in India.

• It led to one of the largest mass migrations in human history and significant violence and turmoil.

Q97. Answer: (d) 1976

The correct answer is 1976.

Key Points

• The Fundamental Duties of Citizens were introduced by the 42nd Amendment Act in the year 1976.

• This amendment was enacted during the period of Emergency in India (1975-1977).

• The Fundamental Duties were added on the recommendations of the Swaran Singh Committee.

• Initially, ten Fundamental Duties were incorporated in the Indian Constitution under Article 51A.

Additional Information

• 42nd Amendment Act, 1976:

• Known as the "Mini-Constitution" due to its wide-ranging impact on the Indian Constitution.

• It was passed during the period of Emergency under Prime Minister Indira Gandhi's government.

• Besides introducing Fundamental Duties, it also made significant changes to the Preamble, Fundamental Rights, Directive Principles, and the structure of the Parliament and Judiciary.

• Fundamental Duties:

• These duties are intended to remind citizens of their moral obligations towards the nation and fellow citizens.

• They are non-justiciable, meaning they are not enforceable by the courts for their violation.

• Initially, there were ten Fundamental Duties, but the 86th Amendment Act, 2002 added one more duty, making the total count eleven.

• Swaran Singh Committee:

• This committee was constituted in 1976 to make recommendations for the inclusion of Fundamental Duties and other constitutional changes.

• It was headed by Swaran Singh, a senior Congress leader and former Union Minister.

• The committee's recommendations led to the incorporation of Fundamental Duties in the Constitution.

• Emergency (1975-1977):

• It was a 21-month period when President Fakhruddin Ali Ahmed, upon the advice of Prime Minister Indira Gandhi, declared a state of emergency across the country.

• During this period, civil liberties were suspended, and many political opponents were imprisoned.

• This period saw significant constitutional changes, including the 42nd Amendment Act.

Q98. Answer: (b) 6 - 14 Years

The correct answer is 6 - 14 Years.

Key Points

• The 86th Constitutional Amendment Act was passed by the Parliament of India in December 2002, and it came into effect on July 1, 2003.

• This amendment inserted Article 21A in the Constitution, making education a fundamental right for children aged 6 to 14 years.

• It made it mandatory for the State to provide free and compulsory education to all children in this age group.

• The Right of Children to Free and Compulsory Education (RTE) Act, 2009, was enacted to operationalize this constitutional mandate.

Additional Information

• Constitutional Amendment:

• A constitutional amendment is a change made to the Constitution of a country, which requires a specific procedure to be followed for its adoption.

• In India, a constitutional amendment requires a special majority in both houses of Parliament and, in certain cases, ratification by at least half of the state legislatures.

• Article 21A:

• Article 21A was added to the Indian Constitution by the 86th Constitutional Amendment Act.

• It stipulates that the State shall provide free and compulsory education to all children aged 6 to 14 years in a manner determined

by law.

• Right of Children to Free and Compulsory Education (RTE) Act, 2009:

• The RTE Act was enacted to give effect to Article 21A of the Indian Constitution.

• It mandates that every child has a right to full-time elementary education of satisfactory and equitable quality in a formal school which satisfies certain essential norms and standards.

• It also lays down the responsibilities of the State, parents, schools, and teachers to ensure the implementation of this right.

• Impact of the Amendment:

• This amendment has significantly increased the enrollment rates in primary schools across India.

• It has also brought attention to issues such as infrastructure, quality of education, and teacher training in the Indian educational system.

Q99. Answer: (d) Both 1 and 2

The correct answer is Both 1 and 2.

Key Points

• Governor's Powers: The Supreme Court highlighted that the Governor's powers are qualified by the constitutional mandate, chiefly requiring them to act in aid and advice of the council of ministers.

• Convict's Release: The bench headed by Justice L Nageswara Rao ordered the freedom of one of the convicts in the Rajiv Gandhi assassination case.

• Bench Composition: The Supreme Court bench included Justice L Nageswara Rao and other justices who were instrumental in making the decision regarding the convict's release.

• Constitutional Mandate: The observations made by the Supreme Court emphasized the constitutional mandate that guides the Governor's actions.

Additional Information

• Governor's Role:

• The Governor of a state in India acts as the nominal head, while the real powers of governance lie with the Chief Minister and the Council of Ministers.

• The Governor is appointed by the President of India and holds office at the President's pleasure.

• The Governor's actions and decisions are generally based on the advice of the Council of Ministers, except in certain exceptional situations where they may act at their discretion.

• Rajiv Gandhi Assassination Case:

• Rajiv Gandhi, the former Prime Minister of India, was assassinated on May 21, 1991, by a suicide bomber from the Liberation Tigers of Tamil Eelam (LTTE).

• Several individuals were convicted in connection with the assassination, and the case has seen numerous legal proceedings over the years.

• Supreme Court's Observations:

• The Supreme Court's observations in this case underscore the importance of constitutional principles in guiding the actions of state authorities, including the Governor.

• The case highlights the delicate balance of power between the different branches of government and the role of the judiciary in upholding constitutional mandates.

Q100. Answer: (b) 1 - b, 2 - a, 3 - d, 4 - c

The correct answer is Option 2.

Key Points

• Andhra Pradesh's official language is Telugu. It is one of the classical languages of India and has a rich literary tradition.

• Kerala's official language is Malayalam. Malayalam is spoken by the majority of the people in Kerala and has a significant cultural and historical background.

• Karnataka's official language is Kannada. Kannada is another classical language of India and has a profound literary heritage.

• Goa's official languages include Konkani. Konkani is widely spoken in Goa and is also one of the 22 scheduled languages of India.

Additional Information

• Andhra Pradesh

• Andhra Pradesh is a state in the southeastern coastal region of India.

• It was bifurcated to form the new state of Telangana in 2014.

• It is known for its rich cultural heritage and historical significance.

• Kerala

- Kerala is a state on the southwestern Malabar Coast of India.
- It is known for its backwaters, beaches, and rich tradition of classical arts and dance forms like Kathakali.
- Kerala has the highest literacy rate among Indian states.
- Karnataka
- Karnataka is a state in the southwestern region of India.
- It is known for its technology hub, Bengaluru, and historical sites like Hampi and Mysore.
- Karnataka is also a prominent center of classical Indian music and dance.
- Goa
- Goa is a state on the southwestern coast of India within the region known as the Konkan.
- It was a Portuguese colony until 1961.
- Goa is renowned for its beaches, Portuguese heritage, and vibrant tourism industry.

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