SSC CHSL Previous Paper 9 (Held On: 19 March 2020 Shift 3) (Previous Year Paper)

SSC Combined Higher Secondary Level (CHSL) • 2020 • 100 questions • 60 minutes • Answer key and solutions

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ENGLISH LANGUAGE

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

PENURY

(a) Readability
(b) Temporality
(c) Compatibility
(d) Poverty

Q2. Directions: Select the most appropriate word to fill in the blank.

Although they searched for an hour, they were not able to find the _____ easily.

(a) whereabouts
(b) space
(c) location
(d) meeting

Q3. Directions: Select the wrongly spelt word.

(a) Menifestation
(b) Eradication
(c) Manipulation
(d) Regularization

Q4. Directions: In the sentence identify the segment which contains the grammatical error.

The manager was referring about the previous instances of loss to the employees during his address.

(a) The manager was referring about
(b) the previous instances
(c) during his address
(d) of loss to the employees

Directions

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

Art is the use of (1)____, skill and imagination to create something that's beautiful or emotionally (2)__. This definition needs to be expanded. If you (3)__ a little deeper, you'll see that any skill can be considered an art, (4)__ if you exercise a little (5)____ and creativity in the process.

Q5. Select the most appropriate option for blank No. 1.

(a) emotion
(b) creativity
(c) destruction
(d) intoxication

Q6. Select the most appropriate option for blank No. 2.

(a) creative
(b) comforting
(c) imaginative
(d) tempting

Q7. Select the most appropriate option for blank No. 3.

(a) move
(b) play
(c) dig
(d) look

Q8. Select the most appropriate option for blank No. 4.

(a) commonly
(b) at the outset
(c) generally
(d) particularly

Q9. Select the most appropriate option for blank No. 5.

(a) imagination
(b) hope
(c) desire
(d) dream

Q10. Directions: Select the most appropriate word to fill in the blank.
The wall fell down with a big _____.

(a) hiss
(b) murmur
(c) screech
(d) bang

Q11. Directions: Select the most appropriate ANTONYM of the given word.
MAESTRO

(a) Connoisseur
(b) Enthusiast
(c) Teacher
(d) Amateur

Q12. Directions: Select the word which means the same as the group of words given.
Condition of sleep during certain parts of the year

(a) Somnambulism
(b) Dehydration
(c) Constipation
(d) Hibernation

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

(a) Deserving
(b) Helpful
(c) Trustworthy
(d) Unskilled

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Q14. Directions: Select the correct indirect form of the given sentence.

The lion asked the lioness, "Where will you hide yourself, until I return?"

(a) The lion asked the lioness where she would hide herself, until he returned.
(b) The lion asked the lioness where she will hide herself, until he returns.
(c) The lion asked the lioness whether she would hide herself, until he returned.
(d) The lion asked the lioness where would she hide herself, until he returned.

Q15. Directions: Select the correct passive form of the given sentence.

The Inspector had already proved the case before the investigation team took charge of it.

(a) The investigation team took charge of the case but the Inspector had already proved before it.
(b) The case had already proved by the Inspector before the investigation team took charge of it.
(c) The case was already proved by the Inspector before the investigation team took charge of it.
(d) The case had already been proved by the Inspector before the investigation team took charge of it.

Q16. Directions: Given below are four jumbled sentences. Out of the given options select the one that gives their correct order.

A. The boat floated down the river and reached the other bank.

B. Thinking that she was dead, her friends secretly took her and abandoned her in a boat.

C. The people on the bank took her to a hospital and saved her.

D. Smelling a flower given by the magician, Shweta fell down unconscious.

(a) DBAC
(b) ACDB
(c) DABC
(d) BCAD

Q17. Directions: Select the most appropriate option to substitute the underlined segment in the given sentence. If there is no need to substitute it, select 'No improvement'.

Prithvi likes baseball as long as she likes cricket.

(a) so long as
(b) as much as
(c) No improvement
(d) as many as

Q18. Directions: In the sentence identify the segment which contains the grammatical error.

One of the reason behind malnutrition is the improper way of food intake.

(a) behind malnutrition
(b) of food intake
(c) is the improper way
(d) One of the reason

Q19. Directions: Select the word which means the same as the group of words given.

A person who studies the structure of the earth

(a) Gynaecologist
(b) Geographer
(c) Gemologist
(d) Geologist

Q20. Directions: Select the wrongly spelt word.

(a) Productive
(b) Representative
(c) Palliative
(d) Lucretive

Q21. Directions: Select the most appropriate meaning of the given idiom.

In a fog

(a) Trapped in foggy weather
(b) Sightless and blind
(c) Confused and dazed
(d) Disturbed and unhappy

Q22. Directions: Given below are four jumbled sentences. Out of the given options select the one that gives their correct order.

A. Their classmate, Koushal, hardly studied and spent much of his time wasting on prattles.

B. He made himself busy by collecting old pens and used papers in order to avoid studies.

C. Poonam, the class teacher, was very much loved and respected by her students.

D. Three of them were very intelligent and spent most of their time studying with Poonam.

(a) DCAB
(b) CADB
(c) CDAB
(d) CDBA

Q23. Directions: Select the most appropriate meaning of the given idiom.

Neither fish nor fowl

(a) Something which can neither be purchased nor be grown
(b) Something which can neither be supplied easily nor be made available readily
(c) Something which can neither be categorized easily nor be accepted befittingly
(d) Something which can neither be eaten nor be preserved

Q24. Directions: Select the most appropriate synonym of the given word.

FESTIVITY

(a) Calibration
(b) Botheration
(c) Celebration
(d) Foundation

Q25. Directions: Select the most appropriate option to substitute the underlined segment in the given sentence. If there is no need to substitute it, select ‘No improvement’.

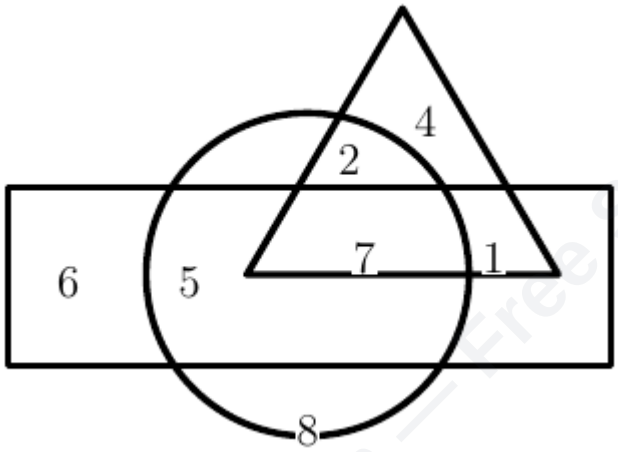
As long to funding is not made available, our construction dreams have been deferred.

(a) No improvement
(b) As high as
(c) In as much as
(d) So long as

GENERAL INTELLIGENCE

Q26. In the given Venn Diagram, 'Circle' represents 'Players', 'Triangle' represents 'Graduates' and 'Rectangle' represents 'Managers'. Which of the numbers depicts the area which represents 'Graduates Players who are not Managers'?

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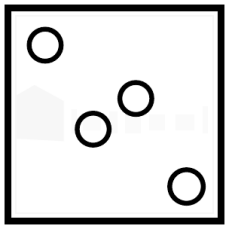


(a) 1
(b) 5
(c) 7
(d) 2

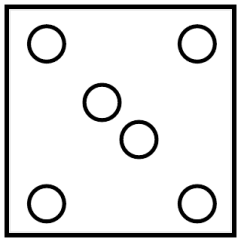
Q27. The sequence of the folding a piece of paper and the manner in which the folded paper has been cut is shown in the following figures. How would this paper look when unfolded?



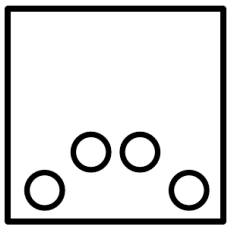
(a)



(b)

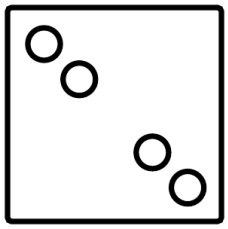


(c)

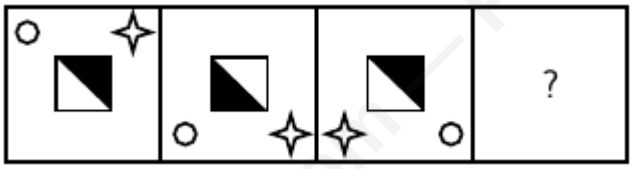


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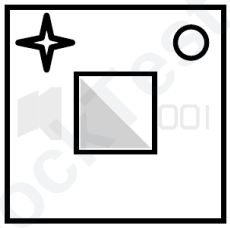
(d)



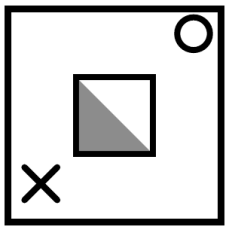
Q28. Select the figure that will come next in the series.



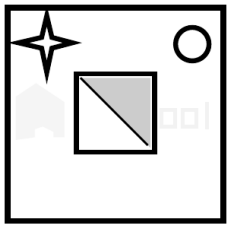
(a)



(b)



(c)



(d)



Q29. Select the option in which the number set shares the same relationship as that shared by the given number set.

(11, 15, 400)

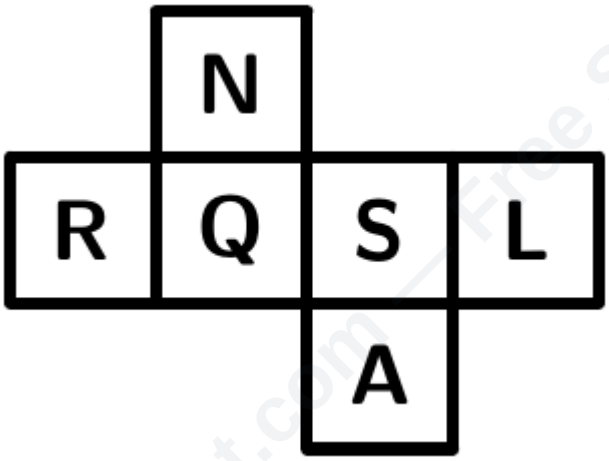
(a) (12, 17, 493)

(b) (10, 12, 244)

(c) (18, 24, 786)

(d) (20, 22, 870)

Q30. A cube is made by folding the given sheet. In the cube so formed, what would be the letter on the opposite side of 'L'?



(a) Q
(b) S
(c) R
(d) N

Q31. In certain code language, 'SHARP' is written as '73'. How will 'AUDIT' be written as in the same language?
(a) 80
(b) 72
(c) 76
(d) 84

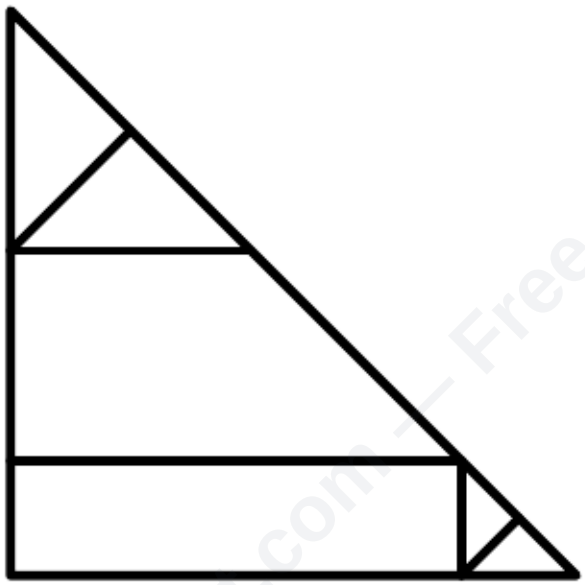
Q32. Select the number that can replace the question mark (?) in the following series.
19, 20, 24, 51, 67, ?
(a) 190
(b) 192
(c) 191
(d) 195

Q33. Select the word-pair in which the two words are related in the same way as are the two words in the given word-pair.
Admission Card: Examination
(a) Hotel : Chef
(b) Weather : Winter
(c) Passenger : Bus Stand
(d) Ticket : Train Journey

Q34. Select the correct combination of mathematical signs to replace the sign (*) and balance the following equation.
15 * 4 * 26 * 2 * 7 * 66
(a) +, ×, -, +, =
(b) +, ×, ÷, -, =
(c) ×, +, ÷, -, =
(d) ×, +, -, ÷, =

Q35. How many triangles are there in the figure given below?

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(a) 9
(b) 7
(c) 10
(d) 8

Q36. Read the given statements and conclusions carefully. Assuming that the information given in the statements is true, even if it appears to be at variance with commonly known facts, decide which of the given conclusions logically follow(s) from the statements.

Statements:

All speakers are equipment.

All equipment are wires.

Conclusions:

1. Some wires are equipment.

2. No speaker is wire.

3. Some speakers are not wires.

(a) Both conclusions 1 and 2 follow.
(b) Only conclusion 1 follows.
(c) All conclusions 1, 2 and 3 follow.
(d) Only conclusion 3 follows.

Q37. Select the combination of letters that when sequentially placed in the gaps of the given letter series will complete the series.

U _ D _ U P _ M _ P D M U _ D M

(a) UMDUD
(b) MPUDU
(c) PMUPD
(d) PMDUP

Q38. Select the option that is related to the third term in the same way as the second term is related to the first term and sixth term is related to fifth term.

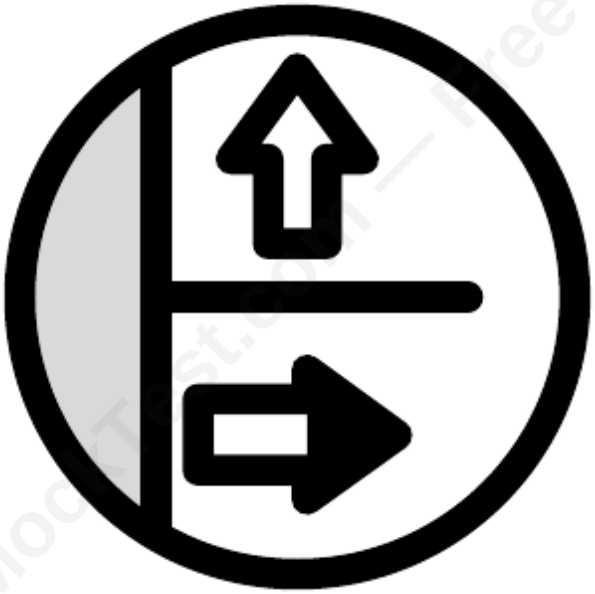
27 : 6 :: 8 : ? :: 64 : 8

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

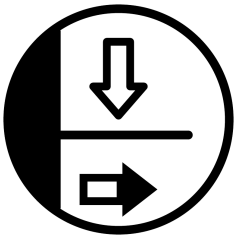
Q39. In a certain code language, 'WARDEN' is written as 'SJIWFB'. How will 'OFFICE' be written as in that language?

(a) JGNKKS
(b) KHNJJT
(c) JHOKKU
(d) JHNKKT

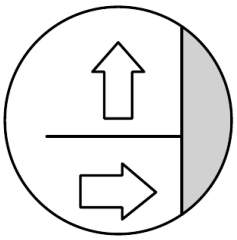
Q40. Select the correct mirror image of the given figure when a vertical mirror is placed on the right of the figure.



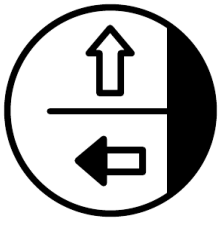
(a)



(b)

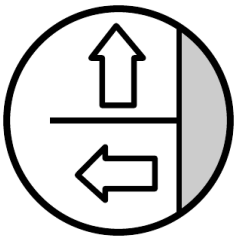


(c)



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(d)



Q41. Select the option in which the number set shares the same relationship as that shared by the given number set.

(14, 24, 84)

(a) (16, 20, 160)
(b) (22, 34, 176)
(c) (12, 60, 186)
(d) (18, 30, 135)

Q42. Select the correct option that arranges the following words in a logical and meaningful sequence.

1. Prize
2. Competition
3. Marking by Judges
4. Winner
5. Participants

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

Q43. Four letter-cluster have been given, out of which three are alike in some manner and one is different. Select the odd one.

(a) SUWY
(b) YACF
(c) LNPR
(d) ZBDF

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

Painting : Colour :: Homework : ?

(a) School
(b) Ink
(c) Notebook
(d) Teacher

Q45. Four words have been given, out of which three are alike in some manner and one is different.Select the odd one.

(a) Second
(b) Minute
(c) Time
(d) Hour

Q46. In a class, every student participated in one of the three activities i.e, folk song, kathak and quiz. 22% of the total students participated in folk song, 25% of the remaining students participated in kathak. The remaining students participated in quiz. What percentage of students participated in quiz?

(a) 53%
(b) 30.6%
(c) 41.5%
(d) 58.5%

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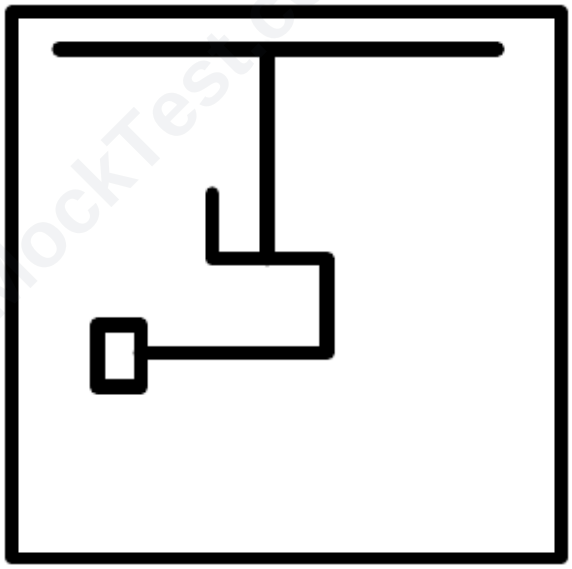
Q47. Four number-pairs have been given, out of which three are alike in some manner and one is different. Select the odd one.

(a) 5 : 26
(b) 13 : 175
(c) 4 : 17
(d) 11 : 122

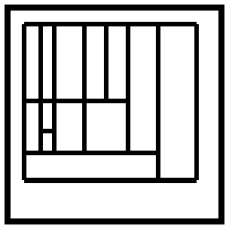
Q48. Himmat is the husband of Kavita. Sharda is daughter of Ravi whose wife is Ketaki. Kavita is Sharda's sister. How is Ravi related to Himmat?

(a) Brother
(b) Father-in-law
(c) Paternal Uncle
(d) Father

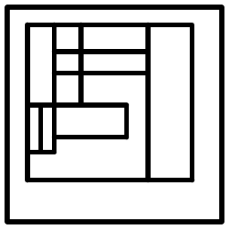
Q49. Select the option in which the given figure X is embedded. (Rotation is not allowed)



(a)

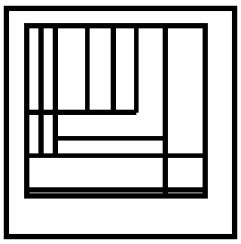


(b)

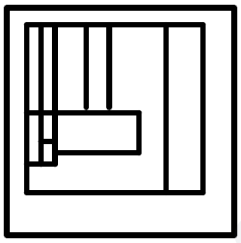


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(c)



(d)



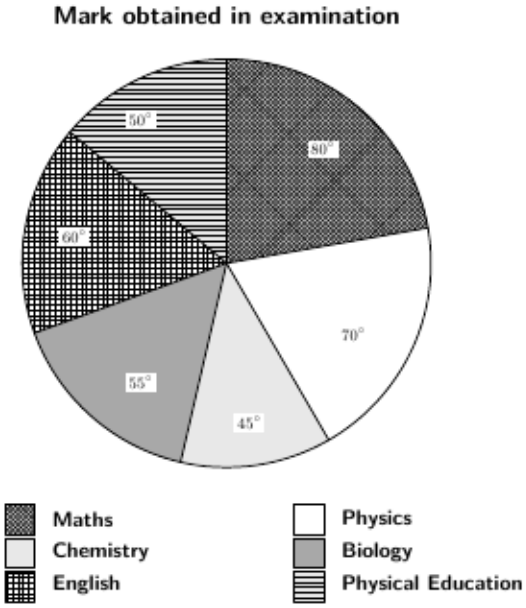
Q50. Select the option that is related to the third letter cluster in the same way as the second letter cluster is relate to the first letter cluster.

UBQ : XET :: NKE : ?

(a) QNH
(b) QMH
(c) QNG
(d) PNH

QUANTITATIVE APTITUDE

Q51. The given pie chart shows the marks obtained in an examination by a student (in degrees). Observe the pie chart and answer the question that follows.



If the total marks are 720, then the marks obtained in English is what percentage of the marks obtained in Maths?

(a) 50%
(b) 55%
(c) 75%
(d) 60%

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Q52. The difference between the compound interest on a sum of Rs. 8,000 for 1 year at the rate of 10% per annum, interest compounded yearly and half yearly is:

(a) Rs. 40
(b) Rs. 10
(c) Rs. 30
(d) Rs. 20

Q53. (√(cosec x - 1))/(√(cosec x + 1)) is equal to:

(a) tan x - sec x
(b) sec x.tan x
(c) tan x + sec x
(d) sec x - tan x

Q54. If xsin30°cos60° = sin45°cos45°, then the value of x is:

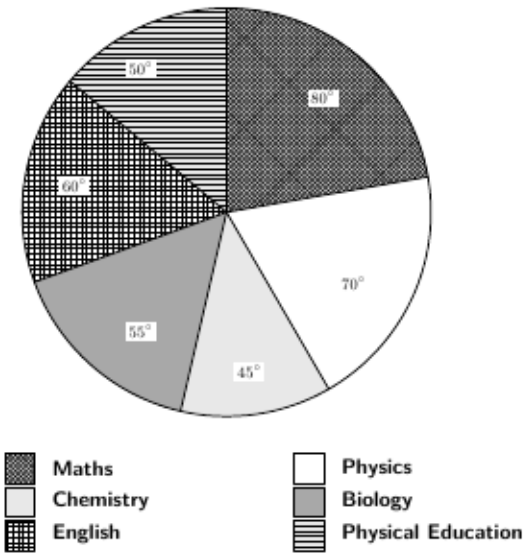
(a) 2
(b) 0
(c) 1
(d) 3

Q55. A sum of Rs. 1,260 is distributed between Ravi and Mohan. If the shares of Ravi and Mohan are in ratio 5 : 4 then the shares of Ravi and Mohan are respectively:

(a) Rs. 680 and Rs. 580
(b) Rs. 800 and Rs. 460
(c) Rs, 700 and Rs. 560
(d) Rs. 750 and Rs. 510

Q56. The given pie chart shows the marks obtained in an examination by a student (in degrees). Observe the pie chart and answer the question that follows.

Mark obtained in examination



If total marks are 720, then the marks obtained in Chemistry, Biology and Maths together is what percentage of the total marks?

(a) 50%
(b) 30%
(c) 60%
(d) 40%

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Q57. The marked price of a toy is Rs. 450. After a certain discount on the marked price, the selling price of the toy is Rs. 405. The rate of discount is:

(a) 8%
(b) 12%
(c) 15%
(d) 10%

Q58. Ravi can complete a task in 6 days and Mohan can complete the task in 9 days. In how many days can Ravi and Mohan together complete the same task?

(a) 33/5 days
(b) 9 days
(c) 15 days
(d) 32/5 days

Q59. Which number is divisible by both 9 and 11?

(a) 10,098
(b) 10,108
(c) 10,089
(d) 10,087

Q60. A car covers 15 km, 20 km, 30 km and 12 km at speeds of 20 km/h, 30 km/h, 40 km/h and 30 km/h respectively. The average speed of the car for the total journey is:

(a) 88 km/h
(b) 60 km/h
(c) 30 km/h
(d) 40 km/h

Q61. Sohan purchased an old scooter, and sold it for Rs. 28,000 thus gaining a 12% profit on the cost price. The cost price of the scooter is:

(a) Rs. 27,000
(b) Rs. 30,000
(c) Rs. 25,000
(d) Rs. 26,000

Q62. A = (x - 1)/(x + 1), then the value of A - 1/A is:

(a) $(- 4(2x - 1))/(x^2 - 1)$
(b) $(x^2 - 1)/(- 4(2x - 1))$
(c) $(x^2 - 1)/(- 4(2x + 1))$
(d) $(- 4x)/(x^2 - 1)$

Q63. If the angle between two radii of a circle be 130º, then the angle between the tangents at the end of these radii (in degree) is:

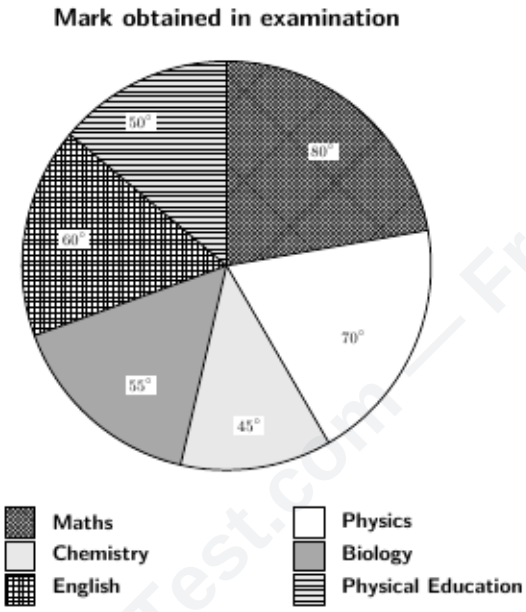
(a) 50º
(b) 90º
(c) 40º
(d) 70º

Q64. In Δ ABC, AB = AC, and angle BAC is 50º. Then angle ABC and angle BCA are, respectively:

(a) 70º and 75º
(b) 65º and 65º
(c) 50º and 55º
(d) 55º and 55º

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Q65. The given pie chart shows the marks obtained in an examination by a student (in degrees). Observe the pie chart and answer the question that follows.



If the total marks are 720, then the marks obtained in Maths are:

(a) 140
(b) 160
(c) 120
(d) 80

Q66. If $x - 1/x = 13$, then the value of $x^2 + 1/(x^2)$ is:

(a) 165
(b) 171
(c) 167
(d) 169

Q67. In a circle centred at O, AB is a chord and C is any point on AB, such that OC is perpendicular to AB. If the length of the chord is 16 cm and OC = 6 cm, the radius of circle is:

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

Q68. The volume of a cube is 343 cm^3. The edge of cube is:

(a) 7 cm
(b) 6 cm
(c) 5 cm
(d) 4 cm

Q69. The value of $7 + [44 \div 4 + \{9 \times 2 - 14 \div 7\} + 5 \times 2]$ is:

(a) 44
(b) 55
(c) 33
(d) 67

Q70. The value of $(\cos 29° \cos ec\ 61° \tan 45° + 2\sin 35° \sec 55°)/(3\sin^2 42° + 3\sin^2 48°)$ is:

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

(d) 2

Q71. Mohan finishes a journey by scooter in 5 hours. He travels the first half of the journey at 30 km/h and the second half of the journey at 20 km/h. The distance covered by him is:

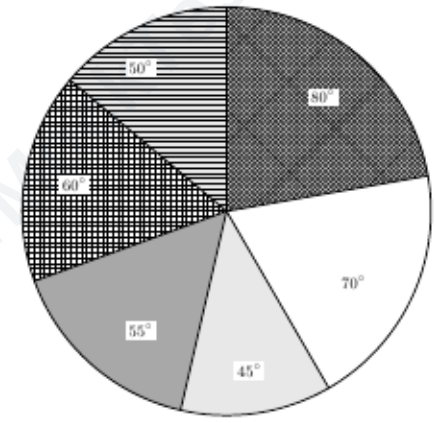
(a) 130 km
(b) 120 km
(c) 140 km
(d) 100 km

Q72. Each side of a rectangular field is increased by 10%. Then percentage increase in the area of the field is:

(a) 21%
(b) 10%
(c) 18%
(d) 15%

Q73. The given pie chart shows the marks obtained in an examination by a student (in degrees). Observe the pie chart and answer the question that follows.

Mark obtained in examination



Maths
Chemistry
English
Physics
Biology
Physical Education

If the total marks are 720, then the difference between the total marks obtained in Physics, Maths and Physical education and the total marks in Chemistry, Biology and English out of the total marks is:

(a) 90
(b) 100
(c) 80
(d) 110

Q74. if $x^3 - 6x^2 + ax + b$ is divisible by $(x^2 - 3x + 2)$, then the values of a and b are:

(a) a = -6 and b = -11
(b) a = -11 and b = 6
(c) a= 11 and b = -6
(d) a = 6 and b = 11

Q75. The measure of one of the exterior angles of a triangle is twice one of the interior opposite angles and the measure of the other interior opposite angles is 60º. The triangle is a/an:

(a) equilateral triangle
(b) right triangle
(c) scalene triangle
(d) isosceles triangle

GENERAL AWARENESS

Q76. Magnus Carlsen is associated with which game?

(a) Badminton
(b) Chess
(c) Squash
(d) Lawn Tennis

Q77. Proteins are assembled from how many amino acids?

(a) 5
(b) 10
(c) 15
(d) 20

Q78. When was the Treaty of Amritsar signed?

(a) 1809
(b) 1824
(c) 1819
(d) 1825

Q79. When was Safari first released by Apple?

(a) 1998
(b) 2003
(c) 2002
(d) 2001

Q80. Who among the following was one of the recipients of Rajiv Gandhi Khel Ratna Award 2019?

(a) Sania Mirza
(b) PV Sindhu
(c) Virat Kohli
(d) Deepa Malik

Q81. Who was the President of India during the emergency of 1975-1977?

(a) Fakhruddin Ali Ahmed
(b) Varahagiri Venkatagiri
(c) R Venkataraman
(d) Giani Zail Singh

Q82. When was the Eden Gardens Stadium, Kolkata established?

(a) 1875
(b) 1864
(c) 1854
(d) 1885

Q83. Who wrote the famous book 'The God of Small Things'?

(a) Ruskin Bond
(b) Arundhati Roy
(c) Kiran Desai
(d) Chetan Bhagat

Q84. What is the sex ratio of Kerala as per census 2011?

(a) 1084
(b) 1044
(c) 1024
(d) 1064

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Q85. When was the 44^(th) Constitutional Amendment Act enacted?

(a) 1975
(b) 1972
(c) 1976
(d) 1978

Q86. Which state ranked first in Sustainable Development Goals Index 2019-20 released by NITI Aayog of India?

(a) Andhra Pradesh
(b) Tamil Nadu
(c) Himachal Pradesh
(d) Kerala

Q87. In the field of computing, what does VGA stand for?

(a) Video Graphics Array
(b) Video Graphics Audio
(c) Visual Graphics Audio
(d) Visual Graphics Array

Q88. When was the Secretariat of the SAARC set up?

(a) 1984
(b) 1987
(c) 1985
(d) 1986

Q89. What type of unemployment is generally found in agricultural sector of India?

(a) Voluntary unemployment
(b) Disguised unemployment
(c) Frictional unemployment
(d) Structural unemployment

Q90. Which award has been given to Narthaki Nataraj in 2019?

(a) Padma Vibhushan
(b) Bharat Ratna
(c) Padma Shri
(d) Padma Bhushan

Q91. Who is the newest Chief of Indian Army in December 2019?

(a) Bikram Singh
(b) Devraj Anbu
(c) Manoj Mukund Naravane
(d) Bipin Rawat

Q92. Who has been declared as 'Men's Player of the Year 2019' by the International Hockey Federation?

(a) Manpreet Singh
(b) Arthur van Doren
(c) Aran Zalewski
(d) Lucas Vila

Q93. The Raleigh Commission (1902) was appointed to recommend reforms in:

(a) draught management
(b) the police system
(c) the education system
(d) the judicial system

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Q94. Dachigam National Park is in which state of India?

(a) Himachal Pradesh
(b) West Bengal
(c) Uttarakhand
(d) Jammu and Kashmir

Q95. What is the relative density of silver?

(a) 10.8
(b) 9.5
(c) 10.4
(d) 7.2

Q96. Ustad Alladiya Khan belongs to which gharana of Hindustani music?

(a) Agra gharana
(b) Gwalior gharana
(c) Benaras gharana
(d) Jaipur gharana

Q97. Which of the following types of organisms have an open circulatory system?

(a) Mollusca
(b) Nematoda
(c) Annelida
(d) Birds

Q98. Saga Dawa is the festival of which state?

(a) Tripura
(b) Manipur
(c) Sikkim
(d) Assam

Q99. What is the height of Tehri Dam?

(a) 250.5 m
(b) 270.5 m
(c) 280.5 m
(d) 260.5 m

Q100. How many Indian states share border with Bhutan?

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

ANSWER KEY

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

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81	a	82	b	83	b	84	a	85	d	86	d	87	a	88	b	89	b	90	c
91	c	92	a	93	c	94	d	95	a	96	d	97	a	98	c	99	d	100	d

SOLUTIONS

Q1. Answer: (d) Poverty

The solution is in Hindi. Read it online.

Q2. Answer: (c) location

The correct answer is 'location'.

Key Points

• Let us explore the given options:

• The noun 'whereabouts' is the place where someone or something is.

• The noun 'space' is a continuous area or expanse which is free, available, or unoccupied.

• The noun 'location' is the action of locating someone or something.

• The noun 'meeting' is an assembly of people for a particular purpose.

Complete Sentence: Although they searched for an hour, they were not able to find the location easily.

Hence, the correct answer is option 3.

Q3. Answer: (a) Menifestation

The solution is in Hindi. Read it online.

Q4. Answer: (a) The manager was referring about

The correct answer is 'The manager was referring about'.

Key Points

• In the given sentence, the preposition 'about' is incorrect.

• The preposition 'about' means on the subject of; concerning.

• The preposition 'about' should be replaced by the preposition 'to'.

• The preposition 'to' is used to mention someone or something in speech or in writing.

Hence, the correct answer is option 1.

Correct Sentence: The manager was referring to the previous instances of loss to the employees during his address.

Q5. Answer: (b) creativity

The correct answer is 'creativity'.

Key Points

• Let us explore the given options:-

• The word 'emotion' is a strong feeling deriving from one's circumstances, mood, or relationships with others.

• The word 'creativity' is the use of imagination or original ideas to create something; inventiveness.

• The word 'destruction' is the action or process of causing so much damage to something that it no longer exists or cannot be repaired.

• The word 'intoxication' is the state of being intoxicated.

Hence, the correct answer is option 2*.*

Q6. Answer: (b) comforting

The correct answer is 'comforting'.

Key Points

• Let us explore the given options:-

• The word 'creative' means having good imagination or original ideas.

• The word 'comforting' means serving to improve a person's mood or restore a sense of physical well-being.

• The word 'imaginative' means having or showing creativity or inventiveness.

• The word 'tempting' means appealing to or attracting someone, even if wrong or unwise.

Hence, the correct answer is option 2*.*

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Q7. Answer: (c) dig

The correct answer is 'dig'.

Key Points

• Let us explore the given options:-

• The word 'move' means to go in a specified direction or manner.

• The word 'play' means serving to improve a person's mood or restore a sense of physical well-being.

• The word 'dig' means to bring out or discover something after a search or investigation.

• The word 'look' means to think of or regard in a specified way.

• Reading the given sentence we find understand that: If we think about it a little deeper then we can that any skill can be considered an art.'

• Dig a little deeper means to think about something more intensely in a specified way.

Hence, the correct answer is option 3*.*

Q8. Answer: (d) particularly

The correct answer is 'particularly'.

Key Points

• Let us explore the given options:-

• The word 'commonly' means very often; frequently.

• The word 'at the outset' means If something happens at the outset of an event, process, or period of time, it happens at the beginning of it

• The word 'generally' means in most cases; usually.

• The word 'particularly' means to a higher degree than is usual or average, used to single out a subject to which a statement is especially applicable.

Hence, the correct answer is option 4*.*

Q9. Answer: (a) imagination

The correct answer is 'imagination'.

Key Points

• Let us explore the given options:-

• The word 'imagination' means the action of forming new ideas, or images or concepts of external objects not present to the senses.

• The word 'hope' means a feeling of expectation and desire for a particular thing to happen.

• The word 'desire' means a strong feeling of wanting to have something or wishing for something to happen.

• The word 'dream' means a series of thoughts, images, and sensations occurring in a person's mind during sleep.

Hence, the correct answer is option 1*.*

Q10. Answer: (d) bang

The correct answer is 'bang'.

Key Points

• Let us explore the given options:

• The noun 'hiss' is a sharp sibilant sound.

• The noun 'murmur' is low continuous background noise.

• The noun 'screech' is a loud, harsh, piercing cry.

• The noun 'bang' is a sudden loud, sharp noise.

Complete Sentence: The wall fell down with a big bang.

Hence, the correct answer is option 4.

Q11. Answer: (d) Amateur

The correct answer is 'Amateur'.

Key Points

• The word 'Maestro' means a person with a high level of knowledge or skill in a field.

• The antonyms of the word 'Maestro' are "amateur, beginner, inexpert".

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

• The word 'Amateur' means a person who is incompetent or inept at a particular activity.

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

WORDS	MEANING
Connoisseur	an expert judge in matters of taste
Enthusiast	a person who is very interested in a particular activity or subject
Teacher	a person who teaches, especially in a school

Additional Information

• The synonyms of the word 'Maestro' are "master, professional, authority".

• Example of 'Maestro' in a sentence:

• The winning goal was scored by the maestro himself.

Q12. Answer: (d) Hibernation

The correct answer is 'Hibernation'.

Key Points

• Let us explore the given options:-

• 'Somnambulism' is sleepwalking.

• 'Dehydration' is the loss or removal of water from something.

• 'Constipation' is a condition in which there is difficulty in emptying the bowels.

• 'Hibernation' is the state of being asleep for the winter.

Hence, the correct answer is option 4*.*

Q13. Answer: (a) Deserving

The correct answer is 'Deserving'.

Key Points

• The word 'Unworthy' means not deserving respect or attention.

• The antonyms of the word 'Unworthy' are "deserving, worthy, laudable".

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

• The word 'Deserving' means worthy of being treated in a particular way.

Hence, the correct answer is option 1. Let's see the meaning of other given options-

WORDS	MEANING
Helpful	giving or ready to give help
Trustworthy	able to be relied on as honest or truthful
Unskilled	not having or requiring special skill or training

Additional Information

• The synonyms of the word 'Unworthy' are "meritless, worthless, dishonorable".

• Example of 'Unworthy' in a sentence:

• Unworthy buildings should be demolished to make room for modern construction.

Q14. Answer: (a) The lion asked the lioness where she would hide herself, until he returned.

The correct answer is The lion asked the lioness where she would hide herself, until he returned.

• The given sentence is a direct speech.

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

• The commas and inverted commas are removed and the 'question mark' is replaced by 'full stop'.

• The second-person pronoun 'you' should be replaced by the third-person pronoun 'she'.

• The first-person pronoun 'I' should be replaced by the third-person pronoun 'he'.

• The present simple tense format 'Subject + V1 (will) + Object' will be changed into the past simple tense format 'Subject + V2 (would) + Object'.

• The present simple tense format 'Subject + V_(1) (return) + Object' will be changed into the past simple tense format 'Subject + V2 (returned) + Object'.

Hence, the correct answer is option 1.

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

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Direct Speech	Indirect Speech
Present simple (Subject +V1st + Object)	Past simple (Subject +V2 + Object)
Present continuous (Subject +is/am/are+V1 +ing+ Object)	Past Continuous (Subject +was/were+V1 +ing+ Object)
Present perfect (Subject + has/have+V3+Object)	Past perfect (Subject+had+V3+Object)
Past simple (Subject+V2+Object)	Past perfect (Subject+had+V3+Object)
Past Continuous (Subject +was/were+V1 +ing+ Object)	Past perfect continuous (Subject +had been+V1 +ing+ Object)
Future simple (Subject+ will/shall+V1+object)	Present Conditional (Subject+ would+V1+object)
Future Continuous (Subject +will/shall+be+V1 +ing+ Object)	Conditional Continuous (Subject +would+be+V1 +ing+ Object)

Q15. Answer: (d) The case had already been proved by the Inspector before the investigation team took charge of it.

The correct answer is 'The case had already been proved by the Inspector before the investigation team took charge of it'.

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

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

• The given sentence is in the active voice and 'The Inspector' is the subject and 'the case' is the object.

• When we convert this sentence into passive voice, the subject 'The Inspector' of the active voice becomes the object, the object 'the case' becomes the subject.

• The passive format "'had + been + V3 (proved)" should be used.

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

Hence, the correct answer is option 4*.*

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

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

Q16. Answer: (a) DBAC

The correct answer is 'DBAC'.

Key Points

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

• The pronoun "she" mentioned in the sentence 'B' refers back to the noun 'Shweta' mentioned in the sentence 'D'. Hence, 'B' follows 'D'.

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• The "boat" mentioned in the sentence 'A' refers back to the "boat" mentioned in the sentence 'B'. Hence, 'A' follows 'B'.

• The sentence 'C' is the concluding sentence. Hence, 'C' is the last sentence.

Paragraph after rearranging the sentences: Smelling a flower given by the magician, Shweta fell down unconscious. Thinking that she was dead, her friends secretly took her and abandoned her in a boat. The boat floated down the river and reached the other bank. The people on the bank took her to a hospital and saved her.

Hint

• Important Rules to Solve the Para Jumbles:

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

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

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

Q17. Answer: (b) as much as

The correct answer is 'as much as'.

Key Points

• Let us explore the given options:

• The phrase "so long as" means during the whole time that.

• The phrase "as much as" is used to say that two things are equal in amount or degree.

• The phrase "as long as" means provided that.

• The phrase "as many as" is used to show surprise at how large a number of people or things is.

Hence, the correct answer is option 2.

Correct Sentence: Prithvi likes baseball as much as she likes cricket.

Q18. Answer: (d) One of the reason

The correct answer is 'One of the reason'.

Key Points

• In the given sentence, the use of the singular noun 'reason' is incorrect.

• The general rule for the usage of the phrase "One of the" is One of the + Plural Noun + that/who etc. + Singular/Plural Verb.

• So, the noun following the phrase "one of the" is always a plural noun.

• Therefore, the plural noun 'reasons' should be used in place of the singular noun 'reason'.

Hence, the correct answer is option 4.

Correct Sentence: One of the reasons behind malnutrition is the improper way of food intake.

Q19. Answer: (d) Geologist

The correct answer is 'Geologist'.

Key Points

• Let us explore the given options:-

• 'Gynaecologist' is a doctor who specializes in women's reproductive health.

• 'Geographer' is a scientist whose area of study is geography.

• 'Gemologist' is a specialist in gems and stones.

• 'Geologist' is a person who studies the structure of the earth.

Hence, the correct answer is option 4*.*

Q20. Answer: (d) Lucretive

The correct answer is 'Lucretive'.

Key Points

• Let us explore the options:-

• 'Productive' means producing or giving rise to.

• 'Representative' means serving as a portrayal or symbol of something.

• 'Palliative' means relieving pain without dealing with the cause of the condition.

• 'Lucretive': There is no such word in English or we can say that there is some spelling mistake in this word.

• The correct spelling is 'Lucrative' which means producing a great deal of profit.

Hence, the correct answer is option 4.

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Q21. Answer: (c) Confused and dazed

The correct answer is 'Confused and dazed'.

Key Points

• Given Idiom: In a fog means in great confusion.

• Example: He went through the day with his mind in a fog.

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

Hence, the correct answer is option 3.

Mistake Points

• We may think from the phrase "In a fog" that it is all about trapped in foggy weather, but the correct answer is option 3. So be careful while dealing with such questions.

Additional Information

• Although the origin of this idiom is not available. Contextually, "in a fog" is used in situations where we are not attentive to what is happening and seem to be like in the actual fog whose literal meaning is smoky like surroundings. Although these expressions “in a fog” and “in a haze” allude to obscuring one's view. The term ‘fog’ usage dates from about the 1600s, ‘haze’ from the mid-1800s.

Q22. Answer: (c) CDAB

The correct answer is 'CDAB'.

Key Points

• The sentence 'C' is independent of any other sentences as it is giving general information about the noun "Poonam". Hence, 'C' is the first part.

• The pronoun "them" mentioned in the sentence 'D' refers back to the noun 'students' mentioned in the sentence 'C'. Hence, 'D' follows 'C'.

• The pronoun "their" mentioned in the sentence 'A' refers back to the phrase "Three of them" mentioned in the sentence 'D'. Hence, 'A' follows 'D'.

• The sentence 'B' is the concluding sentence. Hence, 'B' is the last sentence.

Paragraph after rearranging the sentences: Poonam, the class teacher, was very much loved and respected by her students. Three of them were very intelligent and spent most of their time studying with Poonam. Their classmate, Koushal, hardly studied and spent much of his time-wasting on prattles. He made himself busy by collecting old pens and used papers in order to avoid studies.

Hint

• Important Rules to Solve the Para Jumbles:

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

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

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

Q23. Answer: (c) Something which can neither be categorized easily nor be accepted befittingly

The correct answer is 'Something which can neither be categorized easily nor be accepted befittingly'.

Key Points

• Given Idiom: Neither fish nor fowl means something or someone which is not easily categorized; something or someone that does not rightly belong or fit well in a given group or situation.

• Example: Graduate teaching assistants are neither fish nor fowl, neither completely students nor teachers.

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

Hence, the correct answer is option 3.

Mistake Points

• We may think from the phrase "Neither fish nor fowl" that it is all about a fish or fowl, but the correct answer is option 3. So be careful while dealing with such questions.

Additional Information

• According to the Oxford Dictionary of English Idioms, this idiom derives from dietary laws of the church, having to do with abstaining from certain foods or fasting. The original meaning of the idiom referred to something that was not fit for any class of people, or not fit for one thing or the other.

Q24. Answer: (c) Celebration

The correct answer is 'Celebration'.

Key Points

• The word 'Festivity' means the celebration of something in a joyful and exuberant way.

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• The synonyms of the word 'Festivity' are "celebration, cheerfulness, merriness".
• From the synonym of the given word, we can say that the word 'Celebration' is the same in meaning.
• The word 'Celebration' means a social gathering or enjoyable activity held to celebrate something.
Hence, the correct answer is option 3. Let's see the meaning of other given options:-

WORDS	MEANING
Calibration	the action or process of calibrating something
Botheration	the effort, worry, or difficulty; bother
Foundation	an underlying basis or principle

Additional Information
• The antonyms of the word 'Festivity' are "joylessness, mournfulness, misery".
• Example of 'Festivity' in a sentence:
• The wedding was an occasion of great festivity.

Q25. Answer: (d) So long as

The correct answer is 'So long as'.
Key Points
• In the underlined segment, the phrase 'So much as' is incorrect.
• The phrase 'As long to' means relatively great in the extent to something else.
• The phrase 'As high as' means to behave in a silly or exciting way.
• The phrase 'In as much as' means since, because, or to the extent that.
• The phrase 'So long as' means provided that or on condition that.
Hence, the correct answer is option 4.
Correct Sentence: So long as funding is not made available, our construction dreams have been deferred.

Q26. Answer: (d) 2

The number that depicts the area which represents 'Graduates Players who are not Managers' is shown below:
Hence, '2' is the correct answer.

Q27. Answer: (d) [figure]

The paper when unfolded will appear as shown below:
Hence, 'option 4' is the correct answer.

Q28. Answer: (a) [figure]

The pattern follows here is:
1. Star shape is moving 90° clockwise in corner to corner in each figure.
2. Small circle is moving 90° anticlockwise in corner to corner in each figure.
3. Middle square shape rotates 180° in each step.
Hence, 'option 1' is the correct answer.

Q29. Answer: (a) (12, 17, 493)

The logic followed here is:
$(11, 15, 400) \rightarrow (11+1)^2 + (15+1)^2$
$= 144 + 256 = 400$
Similarly,
$(12, 17, 493) \rightarrow (12+1)^2 + (17+1)^2$
$= 169 + 324 = 493$
Hence, (12, 17, 493) is the correct answer.

Q30. Answer: (a) Q

Faces opposite to each other is shown below:
Q will be the letter on the opposite side of 'L'.
Hence, 'Q' is the correct answer.

Q31. Answer: (a) 80

The pattern followed here is:

Logic: Sum of the position value of the opposite letters.

Similarly,

Hence, '80' is the correct answer.

Q32. Answer: (b) 192

The logic is:

$19 + 1^3 = 20$

$20 + 2^2 = 24$

$24 + 3^3 = 51$

$51 + 4^2 = 67$

$67 + 5^3 = 192$

Hence, '192' is the correct answer.

Q33. Answer: (d) Ticket : Train Journey

The logic is:

Admission Card: Examination → Admission card is necessary to appear in an examination.

Similarly,

Ticket: Train Journey → Ticket is necessary to travel on a train.

Hence, 'Ticket : Train Journey' is the correct answer.

Q34. Answer: (c) ×, +, ÷, -, =

1) +, ×, -, +, =

Given expression: 15 * 4 * 26 * 2 * 7 * 66

After replacing the * by signs given, we get:

15 + 4 × 26 - 2 + 7 = 66

=> 14 + 104 – 2 + 7 = 66

=> 125 – 2 = 66

=> 123 ≠ 66

2) +, ×, ÷, -, =

Given expression: 15 * 4 * 26 * 2 * 7 * 66

After replacing the * by signs given, we get:

15 + 4 × 26 ÷ 2 - 7 = 66

=> 15 + 52 – 7 = 66

=> 67 – 7 = 66

=> 60 ≠ 66

3) ×, +, ÷, -, =

Given expression: 15 * 4 * 26 * 2 * 7 * 66

After replacing the * by signs given, we get:

15 × 4 + 26 ÷ 2 - 7 = 66

=> 60 + 13 – 7 = 66

=> 73 – 7 = 66

=> 66 = 66

4) ×, +, -, ÷, =

Given expression: 15 * 4 * 26 * 2 * 7 * 66

After replacing the * by signs given, we get:

15 × 4 + 26 - 2 ÷ 7 = 66

=> 60 + 26 – 0.29 = 66

=> 86 – 0.29 = 66

=> 85.71 ≠ 66

Hence, '×, +, ÷, -, =' is the correct answer.

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Q35. Answer: (d) 8

The number of triangles in the given figure is shown below:

Hence, '8' is the correct answer.

Q36. Answer: (b) Only conclusion 1 follows.

The least possible Venn diagram is:

1. Some wires are equipment. → True (As, All speakers are equipment and All equipment are wires → Some wires are equipment)

2. No speaker is wire. → False (As, All speakers are equipment and All equipment are wires → All speaker is wire)

3. Some speakers are not wires. → False (As, All speakers are equipment and All equipment are wires → All speaker is wire)

Hence, only conclusion 1 follows.

Q37. Answer: (d) PMDUP

1) UMDUD

U U D M / U P D M / U P D M / U D D M

No pattern of letters is repeated.

2) MPUDU

U M D P / U P U M / D P D M / U U D M

No pattern of letters is repeated.

3) PMUPD

U P D M / U P U M / P P D M / U D D M

No pattern of letters is repeated.

4) PMDUP

U P D M / U P D M / U P D M / U P D M

The pattern of letters 'UPDM' repeats itself in the series.

Hence, 'PMDUP' is the correct answer.

Q38. Answer: (d) 4

The logic is:

$27 : 6 \rightarrow (6 \div 2)^3 : 6$

$64 : 8 \rightarrow (8 \div 2)^3 : 8$

Similarly,

$8 : ? \rightarrow (4 \div 2)^3 : 4$

$\Rightarrow ? = 4$

Hence, 4' is the correct answer.

Q39. Answer: (d) JHNKKT

The pattern followed here is:

According to the alphabetical positions of the letters,

Similarly,

Hence, 'JHNKKT' is the correct answer.

Q40. Answer: (c) [figure]

The correct mirror image of the given figure when a vertical mirror is placed on the right of the figure is shown below:

Hence, 'option 3' is the correct answer.

Q41. Answer: (d) (18, 30, 135)

The logic is:

$(14, 24, 84) \rightarrow (14 \times 24) \div 4 = 84$

Similarly,

$(18, 30, 135) \rightarrow (18 \times 30) \div 4 = 135$

Hence, '(18, 30, 135)' is the correct answer.

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Q42. Answer: (a) 5, 2, 3, 4, 1

The logical and meaningful sequence of the words is shown below:

5. Participants

2. Competition

3. Marking by Judges

4. Winner

1. Prize

Participants participate in a competition, after which their performance is marked by judges on the basis of which winner is chosen and finally prize is given to the winner.

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

Q43. Answer: (b) YACF

The pattern followed here is:

According to the alphabetical positions of the letters,

1) SUWY → S + 2 = U; U + 2 = W; W + 2 = Y

2) YACF → Y + 2 = A; A + 2 = C; C + 2 = E ≠ F

3) LNPR → L + 2 = N; N + 2 = P; P + 2 = R

4) ZBDF → Z + 2 = B; B + 2 = D; D + 2 = F

Hence, 'YACF' is the odd one out.

Q44. Answer: (b) Ink

The logic is:

Painting : Colour → Colour is used for painting.

Similarly,

Homework : ? → Ink is used to do homework.

Hence, 'Ink' is the correct answer.

Q45. Answer: (c) Time

All options except 'time' are units used to measure/express time.

Hence, 'time' is the odd one out,

Q46. Answer: (d) 58.5%

Let the number of students be '100'.

22% of the total students participated in folk song.

22% of 100 is 22.

So 22 students participated in folk song.

Remaining students = 100 - 22

= 78

25% of the remaining students participated in kathak.

Number of Students who participated in Kathak = (25/100) × 78

= 19.5

The remaining students participated in the quiz.

The number of students who participated in the quiz = 78 - 19.5

= 58.5

So, the percentage of students who participated in the quiz = (58.5/100) × 100

= 58.5%

Hence, '58.5%' is the correct answer.

Q47. Answer: (b) 13 : 175

The logic is:

1) 5 : 26 → 5 : 5^2 + 1

2) 13 : 175 → 13 : 13^2 + 1 ≠ 175

3) 4 : 17 → 4 : 4^2 + 1

4) 11 : 122 → 11 : 11^2 + 1

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Hence, '13 : 175' is the odd one out.

Q48. Answer: (b) Father-in-law

According to given conditions,

So, Ravi is father-in-law of Himmat.

Hence, 'father-in-law' is the correct answer.

Q49. Answer: (d) [figure]

The option in which the given figure X is embedded when rotation is not allowed is shown below:

Hence, 'option 4' is the correct answer.

Q50. Answer: (a) QNH

The pattern followed here is:

According to the alphabetical positions of the letters,

Similarly,

Hence, 'QNH' is the correct answer.

Q51. Answer: (c) 75%

Given:

Subject	Maths	Physics	Biology	Physical Education	English	Chemistry
Mark obtain	80°	70°	55°	50°	60°	45°

The total marks = 720

Concept used:

In pie chart,

360° → 100%

=> 1% → 360°/100

Percentage = (X/Y) × 100

X → Marks in English

Y → Marks in Maths

Calculation:

360° = 720

1° = 2

Mark obtain in English = 60° × 2 = 120

Marks obtain in Maths = 80° × 2 = 160

Percentage = (marks in English/maks in Maths) × 100

=> (120/160) × 100

=> 75%

Therefore The marks obtained in English is 75% of the marks obtain in Maths.

Percentage = (60/80) × 100 = 75%

Q52. Answer: (d) Rs. 20

Given:

Principal amount = Rs. 8,000

Rate of interest = 10%

Formula used:

Total amount (A) = Principal amount × $[1 + (\text{rate of interest}/100)]^n$

Compound interest (C.I.) = Total amount – Principal amount

Calculation:

Case – 1 (yearly interest)

Rate of interest (R) = 10%

Principal amount (P) = 8000

Total amount (A) = $P \times [1 + (R/100)]^n$

A = 8000 × [1 + (10/100)]
=> A = 8000 × (11/10)
=> A = 8800
C.I. = A – P = 8800 – 8000 = 800
Case – 2 (Half yearly)
Rate of interest = R/2 = 10/2 = 5%
Principal (P) = 8000
Time period (n) = 2
Total amount (A) = P × [1 + (R/100)]^n
=> A = 8000 × [1 + (5/100)]^2
=> A = 8000 × (21/20)^2
=> A = 8000 × (21/20) × (21/20)
=> A = 8820
C.I. = A – P = 8820 – 8000 = 820
So, difference between compound interest is
=> 820 – 800
=> 20
Therefore Difference between compound interest is Rs. 20.
Using tree method:
Difference = 820 – 800 = 20

Q53. Answer: (d) sec x - tan x

Given:
√(cosecx – 1)/√(cosecx + 1)
Trigonometry identities used:
$\sin^2x + \cos^2x = 1$
Formula used:
$a^2 – b^2 = (a + b)(a – b)$
Calculation:
=> √(cosecx – 1)/√(cosecx + 1)
(Here cosecx = 1/sinx
=> √[(1/sinx) – 1]/√[(1/sinx) + 1]
=> √(1 – sinx)/√(1 + sinx)
Rationalization
=> [√(1 – sinx)/√(1 + sinx)] × [√(1 – sinx)/√(1 – sinx)]
=> √(1 – sinx)^2/√(1 + sinx) (1 – sinx)
Here $a^2 – b^2 = (a + b)(a – b)$
=> (1 – sinx)/√(1 – $\sin^2x$)
Here $1 – \sin^2x = \cos^2x$
=> (1 – sinx)/√$\cos^2x$
=> (1 – sinx)/cosx
=> (1/cosx) – (sinx/cosx)
Here 1/cosx = secx, sinx/cosx = tanx
=> secx – tanx
Therefore The required answer is secx - tanx

Q54. Answer: (a) 2

Trigonometry value used:
Calculation:
x sin30° cos60° = sin45° cos45°
=> x (1/2) (1/2) = (1/√2) (1/√2)
=> x/4 = 1/2

=> x = 4/2

=> x = 2

Therefore Value of x is 2.

Q55. Answer: (c) Rs, 700 and Rs. 560

Given:

Sum = 1,260

Ratio of Ravi and Mohan = 5 : 4

Concept used:

Ratio method used

Calculation:

Ratio of Ravi and Mohan = 5 : 4

Ravi shares = 5K

Mohan shares = 4K

Sum of distributed between Ravi and Mohan = 1260

=> 5K + 4K = 1260

=> 9K = 1260

=> K = 140

Shares of Ravi = 5K = 5 × 140 = 700

Shares of Mohan = 4K = 4 × 140 = 560

Therefore Shares of Ravi and Mohan are respectively 700 and 560.

9 unit = 1260

1 unit = 140

Ravi shares = 5 unit = 5 × 140 = 700

Mohan shares = 4 unit = 4 × 140 = 560

Q56. Answer: (a) 50%

Given:

Subject	Maths	Physics	Biology	Physical Education	English	Chemistry
Mark obtain	80°	70°	55°	50°	60°	45°

The total marks = 720

Concept used:

In pie chart,

360° → 100%

=> 1% → 360°/100

Percentage = (X/Y) × 100

X → Marks in Chemistry, Biology and Maths in together

Y → Total marks

Calculation:

360° = 720

1° = 2

Marks in Chemistry, Biology and Maths = 45° + 55° + 80° = 180°

Marks in Chemistry, Biology and Maths = 180° × 2 = 360

Percentage = (marks in Chemistry, Biology and Maths/Total marks) × 100

=> (360/720) × 100

=> 50%

Therefore The percentage marks in Chemistry, Biology and Maths together is 50% of total marks.

Percentage = [(45° + 55° + 80°)/360°] × 100 = (180°/360°) × 100 = 50%

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Q57. Answer: (d) 10%

Given:

Marked Price (M.P.) of toy = 450

Selling Price (S.P.) of toy = 405

Formula used:

Discount percentage = [(Marked price – Selling price)/Marked price] × 100

Calculation:

M.P. = 450

S.P. = 405

Discount % = [(450 – 405)/450] × 100

=> (45/450) × 100

=> 10%

Therefore The rate of discount is 10%.

Q58. Answer: (a) 33/5 days

Given:

Ravi can complete the task in 6 days

Mohan can complete the task in 9 days

Formula used:

Total work = Efficiency × Time

Calculation:

Taking L.C.M of 6 and 9

=> L.C.M of 6 and 9 = 18

=> Efficiency of Ravi = (18/6) = 3

=> Efficiency of Mohan = (18/9) = 2

Time taken by Ravi and Mohan together to complete the work = 18/(3 + 2) = 18/5

=> 18/5 = 33/5 days

Therefore Ravi and Mohan together can complete the task in 33/5 days.

Shortcut Trick

Ravi and Mohan together can complete the task in

= (R × M)/(R+M) = (6 × 9)/(6 + 9) = 54/15 = 18/5

Q59. Answer: (a) 10,098

Calculation:

Divisibility rule of 9:

A number is divisible by 9 only when the sum of its digits is divisible by 9.

10098 → 1 + 0 + 0 + 9 + 8 = 18

10108 → 1 + 0 + 1 + 0 + 8 = 10

10089 → 1 + 0 + 0 + 8 + 9 = 18

10087 → 1 + 0 + 0 + 8 + 7 = 16

10098 and 10089 are the numbers that satisfy the condition

Divisibility rule of 11:

A number is divisible by 11 if the difference between the sum of its digits at odd places and the sum of its digits at even places is either 0 or a number divisible by 11

In case of 10098

=> (1 + 0 + 8) – (0 + 9) = 9 – 9 = 0 (Satisfying the condition)

Checking second term 10089

=> (1 + 0 + 9) – (0 + 8) = 9 – 8 = 1 (Not satisfying the condition)

Therefore The number which is divisible by both 9 and 11 is 10098.

Q60. Answer: (c) 30 km/h

Given:

A car covers 15 km, 20 km, 30 km and 12 km at speeds of 20 km/h, 30 km/h, 40 km/h and 30 km/h respectively.

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Formula Used:

Average Speed = Total distance/Total time taken

Time taken = Distance/Speed

Calculation:

Time taken to cover 15 km at speed of 20 km/hr = 15/20 = 3/4 hours

Time taken to cover 20 km at speed of 30 km/hr = 20/30 = 2/3 hours

Time taken to cover 30 km at speed of 40 km/hr = 30/40 = 3/4 hours

Time taken to cover 12 km at speed of 30 km/hr = 12/30 = 2/5 hours

Total time taken = 3/4 + 2/3 + 3/4 + 2/5 = (45 + 40 +45 + 24)/60 = 154/60 = 77/30

The total Distance = 15 + 20 + 30 + 12 = 77

The average speed = 77/77 × 30 = 30 km/hr

Therefore The average speed of the car for total journey is 30km/hr.

Q61. Answer: (c) Rs. 25,000

Given:

The selling price of the scooter is Rs.28000.

The profit% is 12%.

Formula Used:

CP = 100/(100 + profit%) × SP

Calculation:

The selling price of the scooter is Rs.28000.

The profit% is 12%.

The CP = 100/(100 + 12) × 28000

=> CP = 100/112 × 28000 = 25000

Therefore The Cost price of the scooter is Rs.25000.

Q62. Answer: (d) (- 4x)/(x² - 1)

Given:

A = (x - 1)/(x + 1)

Formula used:

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

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

Calculation:

A - 1/A

Put the value of A = (x - 1)/(x + 1) in the question

=> (x - 1)/ (x + 1) - (x + 1)/(x - 1)

=> ((x - 1) × (x - 1) - (x + 1) × (x + 1))/(x² - 1)

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

=> (- 4x)/(x² - 1)

Therefore Correct answer is (- 4x)/(x² - 1)

Short trick:

Put the value of x = 2

So,

=> A = 1/3

According to the question,

A - 1/A

=> 1/3 - 3

=> - 8/3

Then check the option you get the answer

Put the value in option (4)

=> (- 4x)/(x² - 1)

=> (- 4 × 2)/(4 - 1)

=> - 8/3

Correct answer is (- 4x)/(x² - 1)

Q63. Answer: (a) 50º

Given:

The angle between two radii = 130°

Concept used:

The tangent is Perpendicular to the radius at the point of contact

Sum of four angle of quadrilateral = 360°

Calculation:

OA and OB are radius of the circle

AP and BP are tangent of circle.

angle OAP = angle OBP = 90°

And angle AOB = 130° (Given)

Let angle APB be X

In quadrilateral sum of angle = 360°

=> angle AOB + angle OAP + angle OBP + angle APB = 360°

=> 130° + 90° + 90° + X = 360°

=> 310° + X = 360°

=> X = 50°

Therefore The angle between the tangent is 50°.

Sum of opposite angle in quadrilateral is 180°

angle AOB + angle APB = 180°

=> 130° + X = 180°

=> X = 50°

Therefore The angle between the tangent is 50°.

Q64. Answer: (b) 65º and 65º

Given:

In Δ ABC, AB = AC

angle BAC = 50º

Concept used:

Calculation:

As AB = AC so, angle ABC = angle BCA

=> angle ABC + angle BCA + angle BAC = 180°

=> angle ABC + angle BCA = 180° – 50°

=> angle ABC + angle BCA = 130°

=> angle ABC + angle ABC = 130°

=> 2angle ABC = 130°

=> angle ABC = 65° = angle BCA

Therefore angle ABC and angle BCA both are 65°

Q65. Answer: (b) 160

Given:

Total marks = 720

Concept used:

Complete angle of a circle is 360°

Calculation:

According to the pie chart

Maths = 80° out of 360°

Here, 720 = 360°

=> 2 = 1°

=> 160 = 80°

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=> Marks obtained in Maths = 160

Therefore Marks obtained in Maths are 160

Q66. Answer: (b) 171

Given:

x - 1/x = 13

Formula used:

If x – 1/x = K

Then on squaring both side we get

x2 + 1/x2 = k2 + 2

Calculation:

Apply the above formula

=> $(x - 1/x)^2 = 13^2$

=> $x^2 + 1/x^2 = 169 + 2$

=> x2 + 1/x2 = 171

Therefore The value of x2 + 1/x2 is 171.

Q67. Answer: (c) 10 cm

Given:

AB is a chord and C is any point on AB, such that OC is perpendicular to AB

AB = 16 cm

OC = 6 cm

Concept used:

The point on a chord which is perpendicular from centre bisects the chord.

Calculation:

AC = AB/2

=> AC = 8 cm

In ΔAOC

=> $OA^2 = OC^2 + AC^2$

=> $OA^2 = 6^2 + 8^2$

=> $OA^2 = 36 + 64$

=> OA2 = 100

=> OA = 10 cm

Therefore The radius of the circle is 10 cm.

Q68. Answer: (a) 7 cm

Given:

The volume of a cube 343 cm3

Formula used:

The volume of a cube = $(a)^3$

Where 'a' is the edge of cube.

Calculation:

According to the question:

The volume of a cube = (a)3

=> 343 cm3 = (a)3

=> (7 × 7 × 7)cm3 = (a)3

=> $(7 \text{ cm})^3 = (a)^3$

=> a = 7 cm

Therefore The edge of cube is 7 cm.

Q69. Answer: (a) 44

Given:

7 + [44 ÷ 4 + {9 × 2 – 14 ÷ 7} + 5 × 2]

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Concept used:

We have to follow the BODMAS rule,

Calculation:

7 + [44 ÷ 4 + {9 × 2 – 14 ÷ 7} + 5 × 2]

=> 7 + [44 ÷ 4 + (9 × 2 – 2) + 5 × 2]

=> 7 + [44 ÷ 4 + (18 – 2) + 5 × 2]

=> 7 + [44 ÷ 4 + 16 + 5 × 2]

=> 7 + [11 + 16 + 5 × 2]

=> 7 + [11 + 16 + 10]

=> 7 + 37 = 44

Therefore The answer is 44.

Q70. Answer: (b) 1

Given:

(cos 29° cos ec 61° tan 45° + 2sin 35° sec 55°)/(3sin² 42° + 3sin² 48°)

Trigonometry properties:

cosecθ = 1/sinθ

sin(90 – θ) = cosθ

secθ = 1/cosθ

cos(90 – θ) = sinθ

sin²θ + cos²θ = 1

tan 45^o = 1

Calculation:

(cos 29° cos ec 61° tan 45° + 2sin 35° sec 55°)/(3sin² 42° + 3sin² 48°)

According to the trigonometry properties

=> {cos 29^o (1/sin 61^o) tan 45^o + 2 sin 35^o (1/cos 55^o)}/ 3sin²42^o + 3sin²(90^o – 48^o)

=> {(cos 29^o/cos61^o)tan 45^o + 2 sin 35^o/cos 55^o}/3(sin 42^o + cos42^o)

=> {(cos29^o/sin(90 ^o – 61^o))× 1 + 2 sin 35^o/cos(90^o – 55^o)}/3 × 1

=> {cos 29²/cos 29² + 2 sin 35^o/sin 35^o}/3

=> (1 + 2)/3

=> 1

Therefore The value of (cos 29° cos ec 61° tan 45° + 2sin 35° sec 55°)/(3sin² 42° + 3sin² 48°) is 1.

Q71. Answer: (b) 120 km

Given:

Mohan finishes a journey by scooter in 5 hours. He travels the first half of the journey at 30 km/h and the second half of the journey at 20 km/h.

Formula used:

Speed = distance/time

Distance = speed × time

Calculation:

Mohan finishes a journey by scooter in 5 hours.

Let the distance covered by mohan with scooter be x.

Time = 5 hours, First half distance speed = 30 km/hr, Second half distance speed = 20 km/hr

According to the question,

Time = First half distance/speed + second half distance/speed

=> 5 = (x/2)/30 + (x/2)/20

=> 5 = x/60 + x/40

=> 5 = 100x/2400

=> x = 5 × 24

=> x = 120 km

Therefore The distance covered by him is 120 km.

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If distance is equal then,
Distance = {2 × S1 × S2/(S1 + S2)}× time
S1 = speed of the first half distance, S2 = speed of the second half distance.
=> Distance = {2 × 30 × 20/(30 + 20)}× 5
=> Distance = 120 km.
Therefore The distance covered by him is 120 km.

Q72. Answer: (a) 21%

Given:
Each side of a rectangular field is increased by 10%
Formula used:
Area of rectangle = Length × Breadth
Calculation:
Let the length and breadth of the rectangular field be 'L' and 'B' respectively
Area of rectangular field = LB
Increased length = L + 10L/100
=> Increased length = 110L/100 = 1.1L
Increased breadth = B + 10B/100
=> Increased breadth = 110B/100 = 1.1B
=> Increased Area of rectangular field = 1.1L × 1.1B
=> Increased Area of rectangular field = 1.21LB
Net increment in Area = 1.21LB – LB
=> Net increment in Area = 0.21LB
=> Percentage increase in the area = 0.21LB/LB × 100
=> Percentage increase in the area = 21%
Therefore Percentage increase in the area of the field is 21%
Shortcut Trick
When length and breadth of rectangle is increased by a%, then percent increase in the area of rectangle is given b
% increase in area = [a + a + (a^2/100)]
=> Percentage increase in the area = 10 + 10 + 100/100
=> Percentage increase in the area = 20 + 1 = 21%
Therefore Percentage increase in the area of the field is 21%

Q73. Answer: (c) 80

Given:

Subjects	Angle
Maths	80°
Physics	70°
Chemistry	45°
Biology	55°
English	60°
Physical Education	50°

Total marks = 720
Calculation:
Marks scored by the student in Maths = 80/360 × 720 = 160
Marks scored by the student in Physics = 70/360 × 720 = 140
Marks scored by the student in Chemistry = 45/360 × 720 = 90
Marks scored by the student in Biology = 55/360 × 720 = 110
Marks scored by the student in English = 60/360 × 720 = 120
Marks scored by the student in Physical Education = 50/360 × 720 = 100

Total marks obtained in Physics, Maths and Physical education = 160 + 140 + 100 = 400

Total marks obtained in Chemistry, Biology and English = 90 + 110 + 120 = 320

Difference = 400 – 320 = 80

Therefore The difference between the total marks obtained in Physics, Maths and Physical education and the total marks in Chemistry, Biology and English out of the total marks is 80 marks.

Q74. Answer: (c) a= 11 and b = -6

Given:

Dividend = x3 - 6x2 + ax + b

Divisor = x2 - 3x + 2

Concept used:

Remainder theorem: It says if a polynomial is divided by (x – a), then remainder will be after substituting the value of [(x - a) = 0 => x = a] in given polynomial.

If a polynomial is dived by (x + a), then remainder will be after substituting the value of (x + a = 0 => x = - a) in given polynomial.

If a polynomial is divided by (ax + b), then remainder will be after substituting the value of [ax + b = 0 => ax = - b => x = (-b/a)] in given polynomial.

If a polynomial is divided by (ax - b), then remainder will be after substituting the value of [ax - b = 0 => ax = b => x = (b/a)] in given polynomial.

Calculation:

Divisor = x2 - 3x + 2

Now we calculate the factor of x2 - 3x + 2

Then, x2 - 3x + 2 = 0

=> x2 - 2x - x + 2 = 0

=> x(x - 2) - 1(x - 2) = 0

=> (x - 2)(x - 1) = 0

Then value of x will be (x - 2) = 0

=> x = 2

And the value of x will be also (x - 1) = 0

=> x = 1

Now the value of x is 2 and 1.

After putting of the value of x = 2 in the given dividend we get,

x3 - 6x2 + ax + b = 0

=> 2^3 - 6 × 2^2 + a × 2 + b = 0

=> 8 - 24 + 2a + b = 0

=> 2a + b = 16 ----(i)

After putting of the value of x = 1 in the given dividend we get,

x3 - 6x2 + ax + b = 0

=> 13 - 6 × 12 + a × 1 + b = 0

=> 1 - 6 + a + b = 0

=> a + b = 5 ----(ii)

After subtracting of equation (ii) from equation (i), we get

2a - a = 16 - 5

=> a = 11

Using the value of a = 11 in equation (ii) we get,

11 + b = 5

=> b = 5 - 11

=> b = - 6

Therefore The value of a and b are 11 and - 6 respectively.

Q75. Answer: (a) equilateral triangle

Given:

The measure of one of the exterior angles = 2 × one of the interior opposite angles

The measure of other interior opposite angles = 60°

Concept used:

Equilateral triangle: the measure of each interior angle is 60°

Right-angle triangle: the measure of one of the interior angle should be 90°

Scalene triangle: the measure of each angle is different.

Isosceles triangle: the measure of one of the two interior angles are equal.

The measure of one of the exterior angle = the sum of its opposite interior angles.

The sum of all interior angles in a triangle = 180°

Calculation:

Let one of the interior opposites angles be x

The measure of one of the exterior angle = x + 60°

=> 2 × one of the interior opposite angles = x + 60°

=> 2x = x + 60°

=> 2x - x = 60°

=> x = 60°

Now the third interior angle = 180° - x - 60°

=> 180° - 60° - 60°

=> 180° - 120°

=> 60°

Then we can see that each interior angle = 60° and this is possible when triangle will be an equilateral triangle.

Therefore The triangle is an Equilateral triangle.

Q76. Answer: (b) Chess

The correct answer is Chess.

• Magnus Carlsen is associated with the Chess game.

Additional Information

• Polish grandmaster Jan-Krzysztof Duda brought an end to Magnus Carlsen's 125 games unbeaten streak.

World chess champion Magnus Carlsen has suffered his first defeat in more than two years and a record 125 games while playing a tournament in his native Norway.

• World Chess Champion, Carlsen, is the youngest player to ever be ranked number one.

• He was personally coached by chess icon Garry Kasparov until 2010.

• He won 7 chess Oscars and has been regarded as "the genius who'll only get better."

• Magnus Carlsen, the Norwegian chess player at age 22, became the second youngest world chess champion.

Q77. Answer: (d) 20

The correct answer is 20.

• Proteins are assembled from 20 amino acids.

Additional Information

• The linear sequence of amino acids within a protein is considered the primary structure of the protein.

Proteins are built from a set of only twenty amino acids, each of which has a unique side chain.

• The side chains of amino acids have different chemistries.

• The largest group of amino acids have nonpolar side chains.

• Proteins are one of the most abundant organic molecules in living systems and have an incredibly diverse range of functions.

• Each cell in a living system may contain thousands of different proteins, each with a unique function.

• Their structures, like their functions, vary greatly. They are all, however, polymers of amino acids, arranged in a linear sequence.

• The functions of proteins are very diverse because they are made up of are 20 different chemically distinct amino acids that form long chains, and the amino acids can be in any order.

• The function of the protein is dependent on the protein’s shape.

• The shape of a protein is determined by the order of the amino acids.

• Proteins are often hundreds of amino acids long and they can have very complex shapes because there are so many different possible orders for the 20 amino acids.

Q78. Answer: (a) 1809

The correct answer is 1809.

• The Treaty of Amritsar was signed in 1809.

Additional Information

• It was an agreement between the British East India Company and Maharaja Ranjit Singh, the Sikh leader who founded the Sikh empire.

• Treaty of Amritsar, (April 25, 1809), pact concluded between Charles T. Metcalfe, representing the British East India Company, and Ranjit Singh, head of the Sikh kingdom of Punjab.

• The Treaty of Amritsar marked the beginning of Dogra rule in Kashmir.

• During First Anglo-Sikh War, Maharaja Gulab Singh Jamwal (Dogra) helped the British Empire against the Sikhs.

• After the defeat of the Sikh Empire, The Treaty of Lahore (9 March 1846) and the Treaty of Amritsar (16 March 1846) was signed.

Q79. Answer: (b) 2003

The correct answer is 2003.

• Apple introduced Safari 1.0, on January 7, 2003.

Key Points

• It is a wildly successful beta program that had nearly five million downloads.

• Safari is Apple's proprietary web browser, its iCloud syncing works exclusively with Apple products.

• Safari is a web browser that is owned and operated by Apple.

Additional Information

• Google is a search engine that is powered by Google under the parent company Alphabet and can be used within the Safari web browser.

• Google Chrome is also a web browser like Safari but differs in that it is owned and operated by Google.

Q80. Answer: (d) Deepa Malik

The correct answer is Deepa Malik.

• Deepa Malik was one of the recipients of the Rajiv Gandhi Khel Ratna Award 2019.

• Selection Committee for Sports Awards 2019 nominated names of Bajrang Punia (wrestling) and Deepa Malik (para-athletics) for the prestigious Rajiv Gandhi Khel Ratna and 19 payers including cricketer Ravindra Jadeja and athlete Mohammed Anas Yahiya for the Arjuna Award.

Additional Information

• Deepa Malik became the first Indian woman to win a medal at the Paralympics when she bagged a silver in the shot put F53 category (for para-athletes who make seated throws and have full muscle power at their shoulder, elbow and wrist in the throwing arm) at 2016 Rio Paralympic Games.

• Deepa Malik, who won a silver in the shot put F53 category in the 2016 Rio Paralympics, was added for the Rajiv Gandhi Khel Ratna award by a 12-member selection committee.

Q81. Answer: (a) Fakhruddin Ali Ahmed

The correct answer is Fakhruddin Ali Ahmed.

• Fakhruddin Ali Ahmed was the President of India during the emergency of 1975-1977.

Key Points

• Prime Minister Indira Gandhi, President of India Fakhruddin Ali Ahmed proclaim a state of national emergency on 25 June 1975.

• Shah Commission was a commission of inquiry appointed by the Government of India in 1977 to inquire into all the excesses committed in the Indian Emergency (1975 - 77).

Additional Information

• It was headed by Justice J.C. Shah, a former Chief Justice of India.

• In the history of independent India, a state of emergency has been declared thrice.

• The first instance was between 26 October 1962 to 10 January 1968 during the India-China war, when "the security of India" was declared as being "threatened by external aggression".

• The final decision to impose an emergency was proposed by Indira Gandhi, agreed upon by the president of India, and thereafter ratified by the cabinet and the parliament (from July to August 1975), based on the rationale that there were imminent internal and external threats to the Indian state.

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Q82. Answer: (b) 1864

The correct answer is 1864.

• Designed in 1841, the stadium was established in 1864 and gets its name from the Eden Gardens, one of the oldest parks in Kolkata.

Key Points

• Eden Gardens is called the “Mecca of Indian cricket”, due to it being the first officially built ground for the game of cricket in India.

• The ground was named after the Eden sisters of Lord Auckland, the then Governor-General of India.

• Eden Gardens has hosted matches in major international competitions including the World Cup, World Twenty 20, and Asia Cup.

• It was established in the year 1864 and was laid by Governor-General Auckland, who named the gardens and the cricket ground after his sisters Emily and Fanny Eden.

Q83. Answer: (b) Arundhati Roy

The correct answer is Arundhati Roy.

• The God of Small Things is the debut novel of Indian writer Arundhati Roy.

Key Points

• The God of Small Things was Roy's first book.

• She began writing the manuscript for The God of Small Things in 1992 and finished four years later, in 1996.

• Arundhati Roy is the author of The God of Small Things, which won the Booker Prize in 1997.

• In the novel The God of Small Things, Arundhati Roy is aiming to

• Portray the differences that the Indian society casts upon its people because of being born under different circumstances; the rights you are supposed to have as a human no matter, the gender or class you are from, and for the sole reason of being a human.

Additional Information

• Two volumes of her non-fiction writing:-

• The Algebra of Infinite Justice and An Ordinary Person's Guide to Empire were published in 2001 and 2005 respectively.

Q84. Answer: (a) 1084

The correct answer is 1084.

• As per this, the sex ratio of Kerala is 1,084 in Census 2011. The sex ratio has risen by 26 points during 2001.

Key Points

• According to the provisional population totals arrived at by Census 2011, out of a total population of 33.4 million persons in Kerala, 16 million are males and 17.4 million are females.

• As per details from Census 2011, Kerala has a population of 3.34 Crores, an increase from a figure of 3.18 Crore in the 2001 census.

• The total population of Kerala as per the 2011 census is 33,406,061 of which male and female are 16,027,412 and 17,378,649 respectively.

• In 2001, total population was 31,841,374 in which males were 15,468,614 while females were 16,372,760.

• The total population growth in this decade was 4.91 percent while in the previous decade it was 9.42 percent.

• The population of Kerala forms 2.76 percent of India in 2011. In 2001, the figure was 3.10 percent.

Q85. Answer: (d) 1978

The correct answer is 1978.

• 44th Amendment Act, 1978 was introduced to provide adequate safeguards against the recurrence of the tendency to take over the fundamental rights by the transient majority in the future and to ensure to the people an effective voice in determining the form of government under which they are to live.

Key Points

• The 44th Amendment altered Article 359 and one can now approach the Supreme Court and the High Courts to issue writs in the nature of Habeas Corpus, which was not possible at the time of the 1975 Emergency.

• Under Article 352 of the Indian constitution, the president can declare such an emergency only on the basis of a written request by the cabinet of ministers headed by the prime minister.

• Such a proclamation must be approved by the parliament with an at least two-thirds majority within one month.

• This act also nullified various provisions that were brought into the Indian Constitution as new articles or as amendments by the 42nd Amendment Act.

Q86. Answer: (d) Kerala

The correct answer is Kerala.

• NITI Aayog also launched Dashboard 2019-20. Sustainable Development Goals Index and dashboard reflect the progress of the States and Union Territories.

• Kerala tops the list followed by Himachal, Tamil Nadu, Andhra Pradesh, Karnataka, and Goa.

Key Points

• The SDG Index, launched last year, ranked states based on 16 goals across 54 targets spread among 100 indicators based on national identified indicators. Kerala, Himachal Pradesh, Andhra Pradesh, Tamil Nadu, and Telangana have topped the list of states on the sustainable development goals index 2019-20.

• In September 2015, the General Assembly adopted the 2030 Agenda for Sustainable Development that includes 17 Sustainable Development Goals (SDGs).

• Even as it combats poverty, India remains committed to protecting the environment.

• Under its Nationally Determined Contributions, India has ambitiously committed to reducing the emissions intensity per unit of GDP by 33% -35% by 2030 relative to its 2005 levels.

Additional Information

• Odisha appeared in the second position with an improvement of seven points.

Q87. Answer: (a) Video Graphics Array

The correct answer is Video Graphics Array.

• A Video Graphics Array (VGA) connector is a standard connector used for computer video output.

Key Points

• Originating with the 1987 IBM PS/2 and its VGA graphics system, the 15-pin connector went on to become ubiquitous on PCs, as well as many monitors, projectors, and high definition television sets.

• It is the standard monitor or display interface used in most PCs. Therefore, if a monitor is VGA-compatible, it should work with most new computers.

• The VGA standard was originally developed by IBM in 1987 and allowed for a display resolution of 640x480 pixels.

• Since then, many revisions of the standard have been introduced.

• The most common is Super VGA (SVGA), which allows for resolutions greater than 640x480, such as 800x600 or 1024x768. A standard VGA connection has 15 pins and is shaped like a trapezoid.

• It explains in computing terminology what VGA means and is one of many hardware terms in the TechTerms dictionary

Q88. Answer: (b) 1987

The correct answer is 1987.

• The Secretariat of the Association was set up in Kathmandu on 16 January 1987.

Key Points

• SAARC Secretariat was established in Kathmandu on 16 January 1987 by Bangladeshi diplomat Abul Ahsan, who was it's first Secretary-General, and was inaugurated by King Birendra Bir Bikram Shah of Nepal.

• Esala Ruwan Weerakoon of Sri Lanka assumed the office of the Secretary-General of the South Asian Association for Regional Cooperation (SAARC) on 01 March 2020.

• Prior to assuming the post of Secretary-General, Weerakoon served as Senior Additional Secretary to the President of Sri Lanka.

Additional Information

• Fathimath Dhiyana Saeed is a Maldivian diplomat and was the Secretary-General of the South Asian Association for Regional Cooperation (SAARC).

• She was the first woman to hold this post since the organization's inception in 1985.

Q89. Answer: (b) Disguised unemployment

The correct answer is Disguised unemployment.

• Disguised unemployment is found in the agricultural sector of India.

Key Points

• Disguised unemployment is also known as hidden unemployment.

• In this type of unemployment, some people seem employed but they are actually not.

Additional Information

• Voluntary unemployment

• It is a situation when a person is unemployed because of not being able to find employment of his/her own choice.

• Frictional unemployment

• It is the result of voluntary employment transitions within an economy.

• Workers choosing to leave their jobs in search of new ones and workers entering the workforce for the first time constitute frictional unemployment.

• Structural unemployment

• Farmers in emerging market economies are another example of structural unemployment.

• Free trade allowed global food corporations access to their markets.

• That put small-scale farmers out of business. They couldn't compete with the lower prices of global firms.

Q90. Answer: (c) Padma Shri

The correct answer is Padma Shri.

• Narthaki Nataraj is a Bharatanatyam dancer.

• In 2019, she was awarded the Padma Shri, making her the first transgender woman to be awarded the Padma Shri.

Key Points

• Narthaki Nataraj, a renowned dancer from Tamil Nadu has become the first person from the transgender community to be honored with one of the top civilian awards in India.

• She is the first transgender conferred with the prestigious Padma Shri award.

• The 2019 year's list comprises 4 Padma Vibhushan, 14 Padma Bhushan, and 94 Padma Shri awardees.

Additional Information

• Dancer Narthaki Natraj is the first trans person to receive a Padma award.

Q91. Answer: (c) Manoj Mukund Naravane

The correct answer is Manoj Mukund Naravane.

• The current COAS is General Manoj Mukund Naravane, who took office on 31 December 2019.

Key Points

• General is a four-star general officer rank in the Indian Army.

• It is the highest active rank in the Indian Army.

• General ranks above the three-star rank of lieutenant general and below the five-star rank of field marshal, which is largely a war-time or ceremonial rank.

Additional Information

• The highest rank attainable in the Indian Army is Field Marshal.

• Ranked as a Five Star General Officer, a Field Marshal is ranked above a General.

• A Field Marshal's insignia comprises the national emblem over a crossed baton and saber in a wreath of lotus flowers.

Q92. Answer: (a) Manpreet Singh

The correct answer is Manpreet Singh.

• Manpreet Singh, the Indian men's hockey team captain was named the Player of the Year 2019 by the International Hockey Federation (FIH).

Key Points

• The Indian men's hockey team captain Manpreet Singh was named Player of the Year for 2019 by the International Hockey Federation (FIH).

• The midfielder is the first Indian to win the accolade since the award was introduced in 1999 in Dhyan Chand, India.

• He was nicknamed The Wizard or The Magician for his superb ball control and goal-scoring skills.

Additional Information

• The Fédération Internationale de Hockey (English: International Hockey Federation), commonly known by the acronym FIH, is the international governing body of field hockey and indoor field hockey.

• Its headquarters are in Lausanne, Switzerland and the president is Dr. Narinder Dhruv Batra.

Q93. Answer: (c) the education system

The correct answer is the education system.

• The Indian Universities Commission was a body appointed in 1902 on the instructions of Lord Curzon which was intended to make recommendations for reforms in University education in India.

Key Points

• The Viceroy filled with the imperialistic design was not in favor of giving any power to the Indians.

• He concluded the Indian Universities and the colleges were slowly becoming the cradle of Propaganda against the Government.

• So, with an idea to bring the Universities under control, Lord Curzon appointed Raleigh Commission under Sir Thomas Raleigh.

• The Raleigh Commission had only one Indian member, Syed Hussain Belgrami.

• This commission submitted its report in 1902 and this followed the introduction of a Bill called the Raleigh Bill. The Raleigh Bill when became an act, it was called Indian Universities Act 1904.

Q94. Answer: (d) Jammu and Kashmir

The correct answer is Jammu and Kashmir.

• Dachigam National Park has located 22 km (kilometer) from Srinagar in Jammu and Kashmir.

Key Points

• It covers an area of 141 sq km (square kilometers).

The name literally stands for 'ten villages', which could be in memory of the ten villages that were relocated in order to create the park.

• Dachigam was initially established to ensure the supply of clean drinking water to Srinagar city.

• It was declared a wildlife sanctuary in the year of 1951.

• In 1981, the Dachigam wildlife sanctuary declared as a National Park.

Additional Information

• The park is best known as the home of the hangul, or Kashmir stag.

Q95. Answer: (a) 10.8

The correct answer is 10.8.

• Relative density of silver is 10.8. The density of water is 10^3kg m^3.

Key Points

• Silver weighs 10.8 grams per cubic centimeter or 10,800 kilogram per cubic meter, i.e. density of silver is equal to 10 800 kg/m^3; at 15°C (59°F or 288.15K) at standard atmospheric pressure.

Additional Information

• Relative density can be calculated directly by measuring the density of a sample and dividing it by the (known) density of the reference substance.

• The density of the sample is simply its mass divided by its volume.

• The volume of the object is the new volume minus the initial volume.

• Once the mass and volume of the silver is determined, the density of the silver can be calculated by dividing the mass by the volume.

Q96. Answer: (d) Jaipur gharana

The correct answer is Jaipur Gharana.

Key Points

• Alladiya Khan (10 August 1855 – 16 March 1946) was an Indian Hindustani classical singer who founded the Jaipur-Atrauli Ghara.

• Alladiya Khan-saheb moved to Kolhapur in Maharashtra as the Raj-Gayak (court musician) to the Maratha King Shahu Maharaj.

• This step augured very well for him and his gayaki, as well.

• In this musically fertile land, he spread Jaipur gayaki far and wide and also trained many disciples. The lineage of his disciples is quite impressive.

• Two of his three sons became well-known singers and revered gurus, following in the footsteps of their illustrious father.

• It is said that Ust. Badruddin ‘Manji’ Khan—‘Manji’ from ‘manjhale’ because he was the ‘middle’ of the three siblings—was a spitting image of his father, musically, and was the ‘chosen inheritor’ of the Gharana mantle.

Q97. Answer: (a) Mollusca

The correct answer is Mollusca.

• Mollusca has an open circulatory system.

Key Points

• Open circulatory systems (evolved in insects, mollusks, and other invertebrates) pump blood into a hemocoel with the blood

diffusing back to the circulatory system between cells.

Blood is pumped by a heart into the body cavities, where tissues are surrounded by the blood.

Additional Information

• Multicellular animals do not have most of their cells in contact with the external environment and so have developed circulatory systems to transport nutrients, oxygen, carbon dioxide, and metabolic wastes.

• Components of the circulatory system include

• blood: connective tissue of liquid plasma and cells

heart: a muscular pump to move the blood

blood vessels: arteries, capillaries, and veins that deliver blood to all tissues.

• The vertebrate cardiovascular system includes a heart, which is a muscular pump that contracts to propel blood out to the body through arteries, and a series of blood vessels.

• The upper chamber of the heart, the atrium (pl. atria), is where the blood enters the heart.

• Passing through a valve, blood enters the lower chamber, the ventricle.

• Contraction of the ventricle forces blood from the heart through an artery.

• The heart muscle is composed of cardiac muscle cells.

Q98. Answer: (c) Sikkim

The correct answer is Sikkim.

• One of the biggest festivals in Sikkim, Saga Dawa brings the culture of the Sikkimese to the fore.

Key Points

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

• The festivities mostly happen across Gangtok in the form of processions, prayers, and extending alms to the needy.

• It is believed that on this day the Buddha was born, attained Enlightenment, and achieved nirvana.

• Saga Dawa Festival is the most significant religious festival in Tibet.

Important Points

• The Saga Dawa Festival is celebrated on April 15 in the Tibetan calendar.

• The Saga Dawa Festival will be celebrated on 26 May 2021 in the solar calendar.

Q99. Answer: (d) 260.5 m

The correct answer is 260.5 m.

• Tehri Dam is a 260.5 m (855 ft) high rock and earth-fill embankment dam.

Key Points

• Its length is 1886 ft, crest width is 66 ft and base width is 3701 ft and generates 2400 MW of power.

• There is a viewpoint near the Bhagirathipuram bus stop from where you can have a majestic view of the entire dam.

• The Tehri Dam withholds a reservoir for irrigation, municipal water supply, and the generation of 1,000 megawatts (1,300,000 hp) of hydroelectricity.

Additional Information

• The Bhakra Nangal Dam is located in the state of Himachal Pradesh and Punjab.

• It is the largest dam in India having a height of 225 meters and also in the second position in the largest dams all over Asia.

• The largest Earth Dam of Asia - Hirakud Dam.

• The highest dam in the world is the Jinping-I Dam in Sichuan, China. Sitting across the Yalong River, the dam uses a double curvature thin arch and reaches 305 m (1,000 ft) high – 5 m (16 ft 4.8 in) taller than the Eiffel Tower in Paris.

• The dam wall has a crest length of 568.5 m (1,865 ft).

Q100. Answer: (d) 4

The correct answer is 4.

• 4 Indian states share a border with Bhutan.

Key Points

• Bhutan shares borders with the Indian states of

• Arunachal Pradesh in its east,

• Sikkim in the west and

• Assam, West Bengal in the south.

• The Himalayan kingdom also shares a border with China.

- This Bhutan-India Border is the international boundary between the Kingdom of Bhutan and the Republic of India.
- This border is 699 km long.

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