SSC CHSL Tier-1 2023: Official Paper (Held On: 17 Aug, 2023 Shift 2) (Previous Year Paper)

SSC Combined Higher Secondary Level (CHSL) • 2023 • 100 questions • 60 minutes • Answer key and solutions

Take this paper as a timed mock test

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

yourmocktest.com/pyq/ssc-chsl/ssc-chsl-tier-1-2023-official-paper-held-on-17-aug-2023-shift-2-…

Scan the QR code or click the link to open it.

YourMockTest.com — Free Study Material

ENGLISH LANGUAGE

Q1. In a certain code language, Shyam studies English in Patna' is coded as 'pi ji ti fi qi', 'Her sister lives in Mumbai' is coded as 'mi hi ji ki ni', 'Rama studies Chemistry' is coded as 'di li pi' and 'sister studies English and Chemistry' is coded as 'bi ki pi di fi'. How is 'and' coded in that language?

(a) fi
(b) bi
(c) di
(d) ki

Q2. Find the correct alternative that when filled in the blanks in the same sequence will make the series logically complete.

_BX_ _X_B_X_X_ _X

(a) XXBXXBXB
(b) XBXBXBXX
(c) BBXXBXXX
(d) BXXXBBBB

Q3. Which of the following letter clusters will replace the question mark (?) in the given series to make it logically complete?

L 17 Z, ?, R 22 V, U 29 T, X 27 R

(a) M 21 Y
(b) N 23 Y
(c) O 24 X
(d) N 21 X

Q4. Which number from among the given options can replace the question mark (?) in the following series?

88, 94, 106, ?, 148, 178

(a) 136
(b) 132
(c) 124
(d) 116

Q5. Select the triad in which the numbers are related in the same way as are the numbers of the following triads.

4 - 5 - 14

7 - 8 - 20

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

(a) 8 - 7 - 45
(b) 11 - 13 - 77
(c) 9 - 12 - 26

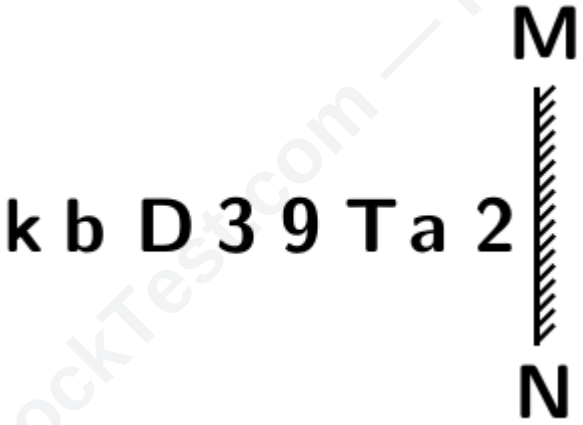
(d) 5 - 9 - 18

Q6. What should come in place of the question mark (?) in the given series?

84, 89, 98, 111, 128,?

(a) 139
(b) 132
(c) 149
(d) 143

Q7. Select the correct mirror image of the given figure when the mirror is placed at MN as shown below.



(a)



(b)



(c)



(d)



Q8. The second number in the given number pairs is obtained by performing certain mathematical operations(s) on the first number. The same operation(s) are followed in all the number pairs except one. Find that odd number pair.

(a) 4 : 36
(b) 2 : 10
(c) 5 : 55
(d) 3 : 23

Q9. Read the given statements and conclusions carefully. You have to take the given statements to be true even if they seem to be at variance from commonly known facts. You have to decide which conclusions logically follow/s from the given statements.

Statements:

All papers are scissors.

Some scissors are books.

All books are animals.

Conclusions:

(I) : Some animals are books

(II): Some scissors are papers.

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

Q10. Which of the following letter clusters will replace the question mark (?) in the given series to make it logically complete?

CMW, MWG, WGQ, GQA, ?

(a) AKQ
(b) KAQ
(c) QAK
(d) QBL

Q11. What will come in the place of the question mark (?) in the following equation if '+' and '-' are interchanged and '×' and '÷' are interchanged?

13 ÷ 145 × 29 - 69 + 27 = ?

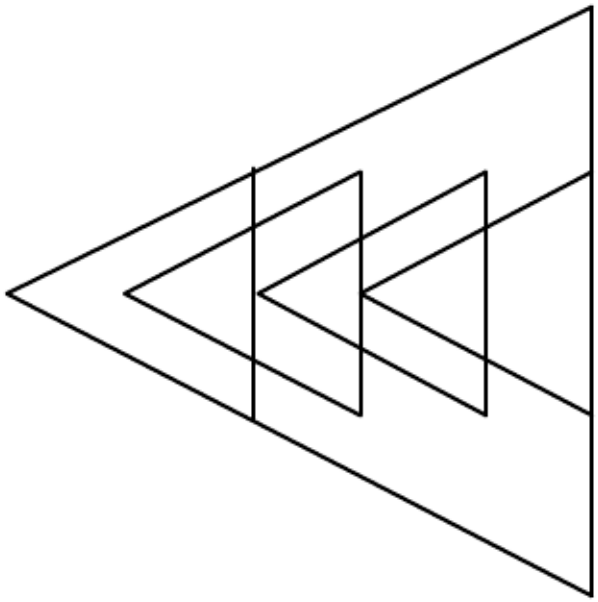
(a) 79
(b) 102
(c) 107
(d) 114

Q12. Select the combination of letters that when sequentially placed in the blanks of the given series will make the series logically complete.

F_HIEH_JDIF_ _JEL

(a) ELFX
(b) GGKC
(c) KGGG
(d) FGEL

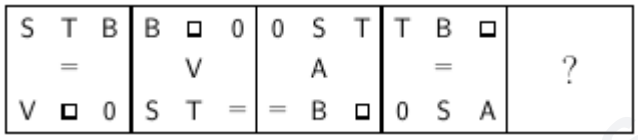
Q13. Identify the number of triangles in the given figure.



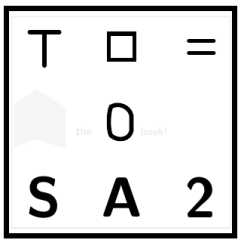
(a) 8
(b) 12
(c) 9
(d) 11

YourMockTest.com — Free Study Material

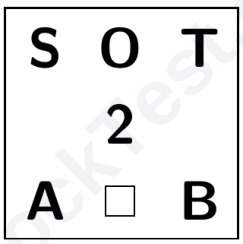
Q14. Identify the figure given in the options that when put in place of the question mark (?) will logically complete the series.



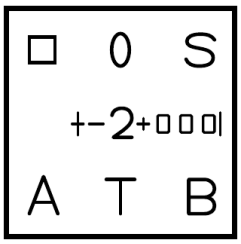
(a)



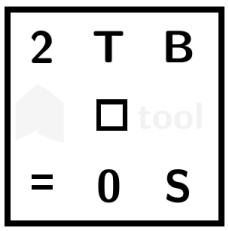
(b)



(c)



(d)



Q15. The second number in the given number pairs is obtained by performing certain mathematical operation(s) on the first number. The same operation(s) are followed in all the number pairs except one. Find that odd number pair.

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

(a) 21 : 100
(b) 19 : 88
(c) 13 : 64
(d) 17 : 80

Q16. In a certain code language, 'how are you' is written as 'mp rc gp' and 'do you follow' is coded as 'hk mp bo'. How is 'you' coded in the given language?

(a) mp
(b) rc
(c) gp

(d) bo

Q17. Based on the alphabetical order, three of the following four options are alike in a certain way and thus form a group. Which is the option that does NOT belong to this group?

(a) TSQ
(b) YWU
(c) FEC
(d) MLJ

Q18. If 'A' stands for '÷' 'B' stands for '×', 'C' stands for '+' and 'D' stands for, '-' what will come in place of the question mark (?) in the following equation?

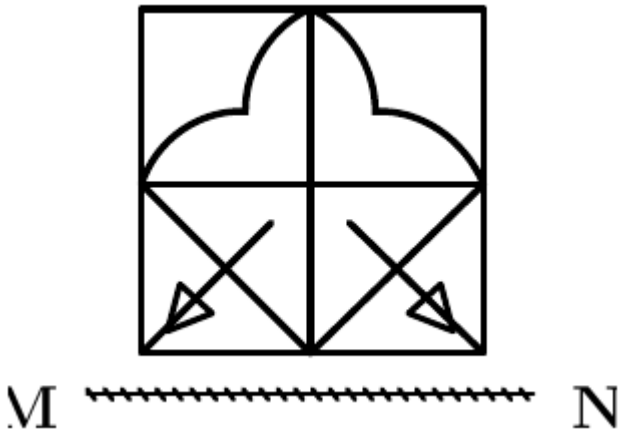
13 B 145 A 29 C 69 D 17 = ?

(a) 119
(b) 121
(c) 115
(d) 117

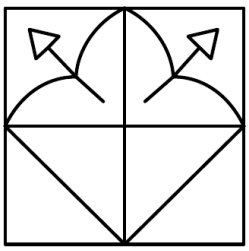
Q19. 23 is related to 34 following a certain logic. Following the same logic. 84 is related to 95. To which of the following is 59 related to, following the same logic ?

(a) 74
(b) 68
(c) 70
(d) 64

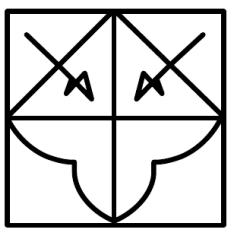
Q20. Select the correct mirror image of the given figure when the mirror is placed at MN as shown.



(a)

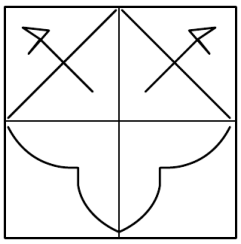


(b)

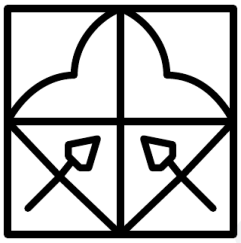


YourMockTest.com — Free Study Material

(c)



(d)



Q21. Read the given statements and conclusions carefully. You have to take the given statements to be true even if they seem to be at variance from commonly known facts. You have to decide which conclusion/s logically and definitely follow/s from the given statements.

Statements :

All Fingers are Hands.

Some Hands are Seconds.

All Seconds are Clocks.

Conclusions:

(I) Some Clocks are Hands.

(II) Some Fingers are Clocks.

(a) Both conclusions (I) and (II) follow.
(b) Both conclusions (I) and (II) do not follow.
(c) Only conclusion (I) follows.
(d) Only conclusion (II) follows.

Q22. If 2 June 1995 is Friday, then what will be the day of the week on 16 June 1996?

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

Q23. DMTS is related to FOVU in a certain way based on the English alphabetical order. In the same way, KGQO is related to MISQ. To which of the following is HCMJ related following the same logic?

(a) JDOK
(b) KFPM
(c) JEOL
(d) IEPN

Q24. Select the word - pair that best represents a similar relationship to the one expressed in the pair of words given below.

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

Bitter : Pungent

(a) Boggle : Wonder
(b) Digitise : Digress
(c) Cider : Cine
(d) Cite : Cirrus

YourMockTest.com — Free Study Material

Q25. The position of how many letters will be changed if each of the letters in the word JOURNEY is arranged in alphabetical order?

(a) Five
(b) Seven
(c) Four
(d) Six

GENERAL INTELLIGENCE

Q26. Which of the following is an example of direct tax ?

(a) Escheat
(b) Income Tax
(c) Custom Duty
(d) Goods and Services Tax

Q27. In India which of the following statements regarding Fundamental Duty is NOT correct ?

(a) Total number of Fundamental Duties are 11
(b) Article 51 - A is related to Fundamental Duties
(c) Inserted by 43rd Constitutional Amendment
(d) Incorporated in Part IV - A of the Constitution

Q28. Which of these conditions enhance the potential of MFIS to attract more resources and expand services to their clients ?

(a) Financially viable and self - sustaining MFIs
(b) Access to foreign aid
(c) Ability to disintegrate from communities they operate in
(d) Ability to lend large amounts of loans

Q29. How many countries are part of SAARC?

(a) 8
(b) 2
(c) 5
(d) 7

Q30. Chaitrual and Phulaich are the festivals of which of the following states?

(a) Himachal Pradesh
(b) Gujarat
(c) Uttarakhand
(d) Haryana

Q31. Which of the following erstwhile Princely states was primarily associated with Kathak ?

(a) Tripura
(b) Avadh
(c) Baroda
(d) Vijaynagar

Q32. Identify the INCORRECT statement/s concerning SHGs.

i. They include voluntary groups of up to 20 socially and economically homogenous people.
ii. There is no need to follow the well-defined rules and bye - laws for SHGs.
iii. In April 1996, RBI declared SHG - BLP as a priority sector lending activity.

(a) ii and iii
(b) Only i
(c) Only iii
(d) Only ii

YourMockTest.com — Free Study Material

Q33. Use of more labour and capital inputs on the given land under cultivation is referred to as _____.

(a) extensive cultivation
(b) intensive cultivation
(c) hybrid cultivation
(d) capitalist cultivation

Q34. When was Kapil Dev awarded with Padma Shri Award?

(a) 1981
(b) 1980
(c) 1982
(d) 1983

Q35. What is the most generally used indicator of overall economic performance?

(a) Per capita Gross National Product
(b) Human Development Index
(c) Physical Quality of Life Index
(d) Standard of living

Q36. The analysis of the interrelationship between the economy and the environment in the economic environmental accounting system was put forward by _____.

(a) Central Statistical Office
(b) National Environmental Engineering Institute
(c) Directorate of Economics and Statistics
(d) United Nations Statistical Office

Q37. Who among the following was the disciple of Ramakrishna Paramahansa?

(a) Swami Dayanand
(b) Swami Sahajnanada
(c) Swami Vivekananda
(d) Swami Shraddhanand

Q38. Which National Waterway runs from Haldia to Prayagraj?

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

Q39. Which of the following components is NOT related to the New India Literacy Programme?

(a) Business and Enhancing skill Development
(b) Foundational Literacy and Numeracy
(c) Critical Life Skills
(d) Basic Education

Q40. Which of the following rivers originates near Sihawa in Raipur district of Chhattisgarh, flows through Odisha, and eventually empties into the Bay of Bengal ?

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

Q41. Which of the following programmes of the Government of India aims to provide connectivity to unconnected habitations as part of a poverty reduction strategy ?

(a) Prime Minister Rural Development Fellows Scheme
(b) Swarnjayanti Gram Swarozgar Yojana
(c) Pradhan Mantri Gram Sadak Yojana

YourMockTest.com — Free Study Material

(d) National Rural Livelihoods Mission

Q42. Who is credited with creating the popular Raga Miya Ki Malhar ?

(a) Tansen
(b) Amir Khusrau
(c) Meera Bai
(d) Zakir Hussain

Q43. Name a unit designed for wet and dry bulb thermometers to protect temperature sensors from being affected by direct or reflected sunlight.

(a) Stevenson screen
(b) Skywarn screen
(c) Clarinet screen
(d) Cardinal screen

Q44. Who among the following sportspersons was NOT awarded the Arjuna Award in 2022?

(a) Lakshya Sen
(b) Sushila Devi
(c) HS Prannoy
(d) Arpinder Singh

Q45. Which article of the Indian Constitution deals with the formation of New States and Alteration of Areas, Boundaries or names of existing States ?

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

Q46. Which of the following compounds having the molecular formula C2H is derived from the hydride of acetylene?

(a) Ethynyl
(b) Propargyl
(c) Vinyl
(d) Allyl

Q47. Who among the following was given the charge of looking after the imperial household during the Mughal administration ?

(a) Mir Saman
(b) Mir-i-Bahar
(c) Mir Bakshi
(d) 'Mir-i-Atish'

Q48. Who among the following won the gold medal at International Weightlifting Federation's youth world championship in June 2022?

(a) Devang Desai
(b) Gurunaidu Sanapathi
(c) Devineni Srikanth
(d) Fajaru Nasik

Q49. Ranjumoni Saikia was awarded the Sangeet Natak Akademi Award 2019 for her contribution to which classical dance?

(a) Kuchipudi
(b) Mohiniyattam
(c) Sattriya
(d) Chhau

YourMockTest.com — Free Study Material

Q50. Name the transuranium element with atomic number 106, created by bombarding californium^(-249) with oxygen^(-18) nuclei.

(a) Seaborgium
(b) Dubnium
(c) Hassium
(d) Copernicium

QUANTITATIVE APTITUDE

Q51. A seller sold a bag at a profit of 12%. If he had sold it for Rs. 900 more, he would have gained 27%. What is the CP of the bag?

(a) Rs. 6,000
(b) Rs. 6,500
(c) Rs. 5,560
(d) Rs. 7,000

Q52. Simplify (3x - 2y) (3x + 2y) ($9x^2 + 4y^2$).

(a) 81x^4 + 16y^4
(b) 81y4 - 16x4
(c) 81y4 + 16x4
(d) 81x4 - 16y4

Q53. A and B are running on a circular track of length 1400 metres. The speed of A is 33 m/sec and the speed of B is 47 m/sec. They start from the same point at the same time in the opposite direction. After how much time will they meet for the second time?

(a) 33 sec
(b) 38 sec
(c) 35 sec
(d) 32 sec

Q54. The average weight of 64 students is 48 kg and the average weight of another class of 32 students is 24 kg. Find the average weight of both classes combined.

(a) 34 kg
(b) 36 kg
(c) 40 kg
(d) 32 kg

Q55. An arc of length 33 π cm subtends an angle of 132° at the centre of the circle. Find the radius of the circle.

(a) 45 cm
(b) 40 cm
(c) 30 cm
(d) 35 cm

Q56. A shopkeeper gives an additional concession of 5% on an item which is already discounted by 15% on the marked price. If the buyer pays Rs. 3,068.5 for the item, then find the marked price.

(a) Rs. 3,500
(b) Rs. 3,700
(c) Rs. 3,800
(d) Rs. 3,780

Q57. Compound interest on a certain sum of money invested for 1.5 years at the rate of 10% per annum, compounded half yearly is Rs. 5,044. What is the sum?

(a) Rs. 32,000
(b) Rs. 37,044
(c) Rs. 33,000

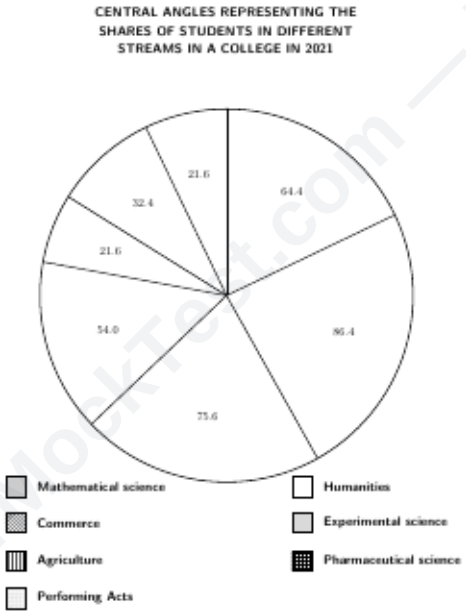
YourMockTest.com — Free Study Material

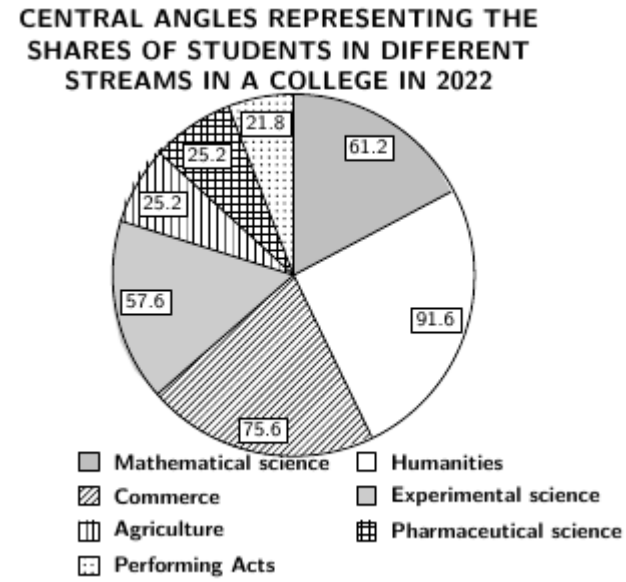
(d) Rs. 22.000

Q58. If a : b = 3 : 7, then (2a + 3b) : (3a + 2b) is:

(a) 27 : 23
(b) 23 : 29
(c) 21 : 29
(d) 21 : 23

Q59. The shares of students studying in different streams of a college in the years 2021 and 2022 are as reflected in the two pie charts given below.





The number of students opting for the pharmaceutical sciences in the college in 2022 was 180 more than the number of students opting for the pharmaceutical sciences in the college in 2021. The number of students opting for agriculture in the college in 2022 was 1380 more than the number of students opting for agriculture in the college in 2021.

What was the positive difference between the total number of students in the college in the years 2021 and 2022 ?

(a) 14000
(b) 13000
(c) 13600
(d) 15000

Q60. The sum of money at simple interest amounts to Rs. 750 in 3 years and to Rs. 825 in 4 years. The sum is:

(a) Rs. 475
(b) Rs. 500
(c) Rs. 550
(d) Rs. 525

Q61. A hemispherical bowl is made of 1 cm thick steel. The inside radius of the bowl is 4 cm. The volume of the steel (in cm^3) used in making the bowl is:

(a) 40 2/3 π
(b) 27 1/3 π
(c) 41 1/3 π
(d) 35 1/3 π

Q62. Three angles of a triangle are (x - 15)°, (x + 45)° and (x + 60)°. Identify the type of triangle.

(a) Obtuse angle triangle
(b) Right angle triangle
(c) Isosceles triangle
(d) Equilateral triangle

Q63. If cosecA + cotA = a √b, then find the value of $((a^2 b-1))/((a^2 b+1))$.

(a) cosA
(b) tanA
(c) 1/sinA
(d) 1/cotA

Q64. The value of ((2+7 × 7 ÷ 9 of 9+6 ÷ 6 × 2)/(4 ÷ 4 of 5+7 × 7 ÷ 7-6+4)) is:

(a) 1734/2407
(b) 1865/2106
(c) 1857/2507
(d) 1664/2305

Q65. If tan A = 3/4, find the value of the following expression.

(6 sin A)/(1-sin A)

(a) 18
(b) 9
(c) 24
(d) 12

Q66. Raju and Akber take 4 hours and 6 hours to type 32 pages and 48 pages, respectively, on a computer. They are given an assignment of typing 256 pages. If they work together, typing on two different computers, starting at the same time, how much time will they take to complete the assignment (in hours) ?

(a) 16
(b) 14
(c) 18
(d) 12

Q67. Triangle ABC is an isosceles triangle with AB = AC. If angle BAC = 50°, then the degree measure of angle ABC is equal to:

(a) 70°
(b) 55°
(c) 60°
(d) 65°

YourMockTest.com — Free Study Material

Q68. By driving the car at an average speed of 40 km per hour, I reach my destination in 7 hours. With what speed I can reach the same destination in 5 hours?

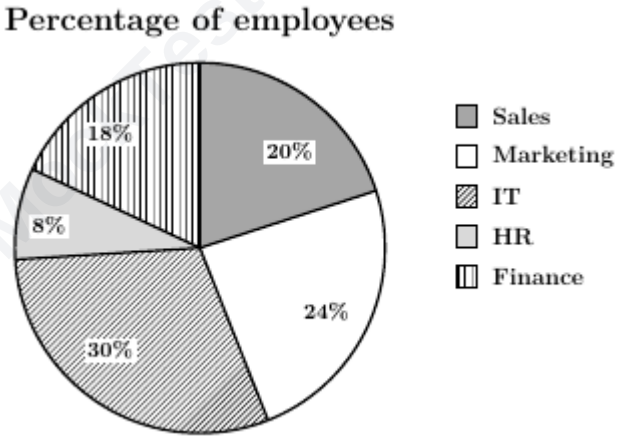
(a) 50 km per hour
(b) 56 km per hour
(c) 55 km per hour
(d) 65 km per hour

Q69. An article is sold for Rs. 864 after two successive equal discounts of 25% each on its marked price. What is the discount (in Rs.)?

(a) 698
(b) 612
(c) 584
(d) 672

Q70. Study the given pie - chart and answer the question that follows.

The pie - chart shows the percentage of employees in various departments of a company having a total workforce of 7,200.



If out of the total salary budget, 30% is used to give salaries to the sales department and the average salary of an employee from the sales department is Rs. 48,000, then find the total salary budget (in crores).

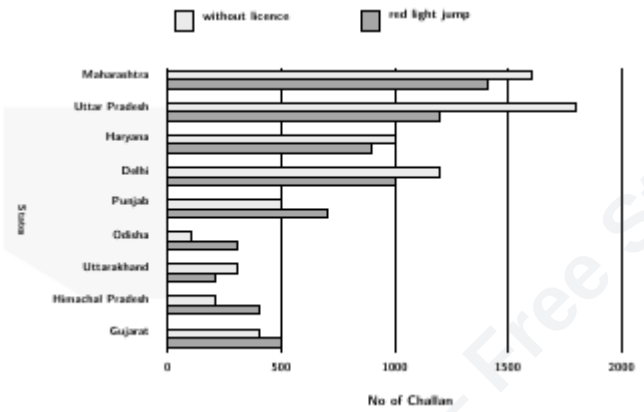
(a) 23.04
(b) 22.95
(c) 23.55
(d) 23.40

Q71. In a right - angled triangle PQR, PQ = 5 cm, QR = 13 cm and angle P = 90°. Find the value of tan Q-tan R.

(a) 5/14
(b) 119/60
(c) 60/119
(d) 14/5

Q72. The bar graph represents the number of challan in 9 states of India.

YourMockTest.com — Free Study Material



What per cent is the number of challans in Maharashtra of the total number of challans with Himachal Pradesh and Odisha?

(a) 280%
(b) 400%
(c) 350%
(d) 300%

Q73. Simply the given expression: (5p + 3q) (5p - 3q)

(a) $25p^2 - 9q^2 + 30pq$
(b) $25p^2 - 9q^2$
(c) $25p^2 + 9q^2$
(d) $25p^2 + 9q^2 - 30pq$

Q74. Suhas, a tree, and an 11.25 m tall building are positioned such that their feet on the ground are collinear and the tree is located between Suhas and the building. The tree is located at a distance of 7.5 m from Suhas and at a distance of 45 m from the building. Further, the eyes of Suhas, the top of the tree, and the top of the building fall in one line, and the eyes of Suhas are at a height of 1.8 m from the ground. Find the height (in m) of the tree.

(a) 3.00
(b) 3.30
(c) 3.15
(d) 3.45

Q75. If $p^2 - 4p - 1 = 0$, then the value of $p^2 + 3p + 1/(p^2) - 3/p$ is:

(a) 40
(b) 50
(c) 65
(d) 30

GENERAL AWARENESS

Q76. Select the most appropriate ANTONYM of the underlined word in the given sentence.

Everyone feels that he is pompous, but I know the underlying truth that he is a man of great understanding and love

(a) Modest
(b) Lofty
(c) Grandiose
(d) Haughty

Q77. Select the INCORRECTLY spelt word.

(a) Souvenir
(b) Symbolise
(c) Suseptible
(d) Sympathetic

Q78. Select the grammatically correct version of the following sentence.

He was youngest than his brother.

(a) He was younger than his brother.
(b) He was youngest to his brother.
(c) He was too young than his brother.
(d) He was young to his brother.

Q79. Select the most appropriate ANTONYM of the underlined word in the given sentence.

We were very much enthusiastic about our tour to Agra.

(a) obsessed
(b) anxious
(c) casual
(d) inclined

Q80. Select the option that correctly expresses the following sentence in active voice.

This was talked about in the meeting by the officers.

(a) The officers were talking about in the meeting.
(b) The officers talked about this in the meeting.
(c) The officers in the meeting had talked about it.
(d) The officers talk about this in the meeting.

Q81. Select the most appropriate option that can substitute the underlined segment in the given sentence.

From a recent research, evident is it that a lot more women have been opting for professional courses.

(a) it is evident that more a lot women
(b) it is evidently that a lot more women
(c) it is evident that a lot more women
(d) it is evidence that a lot more women

Q82. Select the most appropriate synonym of the word ‘Bleak’ from the given sentence.

He looked gloomy, frail, broken and slow after the sudden demise of his brother.

(a) slow
(b) gloomy
(c) frail
(d) sudden

Q83. Select the correct spelling from the given options to fill in the blank.

Mihika was one of the _____ in the Master Chef competition held in our society last year.

(a) contextants
(b) contestents
(c) contestants
(d) kontestants

Q84. Select the most appropriate ANTONYM of the given word.

Elusive

(a) Explosive
(b) Affordable
(c) Definite
(d) Rigid

Q85. Select the option that expresses the given sentence in passive voice.

The students must complete the assignment by Friday.

(a) The assignment must be completed by the students by Friday.
(b) The assignment will be completed by the students by Friday.
(c) The students will have completed the assignment by Friday.

YourMockTest.com — Free Study Material

(d) The assignment must be complete by Friday by the students.

Q86. Select the option that can be used as a one - word substitute for the underlined group of words.

Kidney beans were boiled quickly when Nisha added a substance that speeds up a chemical reaction without being consumed by the reaction itself.

(a) reactant
(b) catalyst
(c) enzyme
(d) solute

Q87. Select the most appropriate option to fill in the blank.

Sarah just gave _____ to a baby boy.

(a) birth
(b) breath
(c) broth
(d) berth

Q88. Select the most appropriate option that can substitute the underlined segment in the given sentence.

My mother asked my father to increase her personal use allowance.

(a) pell mell
(b) rank and file
(c) pins and needles
(d) pin money

Q89. Select the most appropriate ANTONYM of the given word.

Repeal

(a) Approval
(b) Expense
(c) Separation
(d) Adversity

Q90. RPOQParts of a sentence are given below in jumbled order. Arrange the parts in the correct order to form a meaningful sentence.

(O) on a regular basis can improve

(P) engaging in physical activity

(Q) the risk of chronic diseases, and boost mental health

(R) cardiovascular health, reduce

(a) RPOQ
(b) PROQ
(c) PORQ
(d) OQRP

Q91. Parts of a sentence are given below in jumbled order. Select the option that arranges the parts in the correct order to form a meaningful sentence.

A) to his neighbours

B) first name is Adam

C) that no one even

D) he is so rude

E) knows that his

(a) D, A, C, E, B
(b) B, D, A, C, E
(c) A, C, B, D, E
(d) C, E, B, A, D

YourMockTest.com — Free Study Material

Q92. The following sentence has been split into four segments. Identify the segment that contains a grammatical error.

When I was in 5th grade, / I use to / ride on my / red bicycle.

(a) red bicycle
(b) I use to
(c) When I was in 5th grade,
(d) ride on my

Q93. Select the most appropriate idiom for the following statement.

The manager was punished for his negligence in work.

(a) Bid defiance
(b) Burn one's boats
(c) Bolt from the blue
(d) Bring to book

Q94. Select the most appropriate option that can be used as a one - word substitute for the underlined segment in the following sentence.

As I walked through the old town, I couldn't help but feel a sentimental longing for the simpler times of my childhood.

(a) affection
(b) homesickness
(c) inertia
(d) nostalgia

Q95. Select the option that can be used as a one - word substitute for the given group of words.

Collection of written or spoken texts

(a) Data bank
(b) Dictionary
(c) Corpus
(d) Circa

Directions

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

The entertainment (1)_____ built by Walt Disney is sometimes called the 'House of Mouse' in acknowledgment of the leading role played by Disney's most famous creation, Mickey Mouse. Mickey's round mouse ears, either in silhouette or adorning a hat, have become one of the most (2)_____ corporate logos in the world. But if a few business decisions in the 1920s had gone differently, they could have been rabbit ears.

In the mid - 1920s Disney was a young (3)_____ producing a series called the Alice Comedies, short films that combined live-action footage with animated images so that human actors appeared to interact with cartoon characters. But he had grown tired of the series and wanted to move on to making completely animated films. In 1927 he got his wish, (4)___ a deal with Universal to produce a new series based on the adventures of a character called Oswald the Lucky Rabbit. Both the name and the species of the character had been picked by Universal—'Oswald' was (5)_____ picked out of a hat of names, and the character was made a rabbit because there were already too many cartoon cats on the market.

Q96. Select the most appropriate option to fill in blank number 1.

(a) empire
(b) power
(c) province
(d) country

Q97. Select the most appropriate option to fill in blank number 2.

(a) visible
(b) measurable
(c) notifiable
(d) recognisable

YourMockTest.com — Free Study Material

Q98. Select the most appropriate option to fill in blank number 3.

(a) artisan
(b) craftsman
(c) animator
(d) miniaturist

Q99. Select the most appropriate option to fill in blank number 4.

(a) striking
(b) crossing
(c) bewitching
(d) possessing

Q100. Select the most appropriate option to fill in blank number 5.

(a) apparently
(b) anatomically
(c) reasonably
(d) outwardly

ANSWER KEY

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

SOLUTIONS

Q1. Answer: (b) bi

According to the given information,
Thus, 'and' is coded as 'bi'.
Hence, the correct answer is "Option 2".

Q2. Answer: (a) XXBXXBXB

The logic followed here is:
Let's check the options one by one,
Option 1: XXBXXBXB → XBX / XBX / XBX / XBX / XBX
Option 2: XBXBXBXX → XBX / BXX / BBX / XBX / XXX
Option 3: BBXXBXXX → BBX / BXX / XBB / XXX / XXX
Option 4: BXXXBBBB → BBX / XXX / XBB / XBX / BBX
Thus, "Option 1" follows a pattern of "XBX".
Hence, the correct answer is "Option 1".

Q3. Answer: (c) O 24 X

The logic followed here is:
So, 'O 24 X' will replace the question mark in the given series.

YourMockTest.com — Free Study Material

Hence, the correct answer is "Option 3".

Q4. Answer: (c) 124

The logic follows here is:

Thus, '124' is the missing number in the given series.

Hence, the correct answer is "124".

Q5. Answer: (c) 9 - 12 - 26

The logic followed here is:

Logic: (First number + Second number) + 5 = Third number.

Now, for 4 - 5 - 14

=> (4 + 5) + 5

=> 9 + 5 = 14

For, 7 - 8 - 20

=> (7 + 8) + 5

=> 15 + 5 = 20

Similarly, Option 3) 9 - 12 - 26

=> (9 + 12) + 5

=> 21 + 5 = 26.

Hence, the correct answer is "Option 3".

Q6. Answer: (c) 149

The logic follows here is:

Thus, '149' is the missing term in the given series.

Hence, the correct answer is "Option 3".

Q7. Answer: (b) [figure]

The correct mirror image for the given figure is:

Hence, the correct answer is "Option 2".

Q8. Answer: (d) 3 : 23

Let's check the options one by one:

Option 1:

4 : 36 → 4 × 9 = 36

Thus, 36 is the multiple of 4.

Option 2:

2 : 10 → 2 × 5 = 10

Thus, 10 is the multiple of 2.

Option 3:

5 × 11 = 55

Thus, 55 is the multiple of 5.

Option 4:

23 is not a multiple of 3, so option 3 will be the odd one out.

Hence, the correct answer is "Option 4".

Q9. Answer: (c) Both conclusions (I) and (II) follow

Given Statements are:

All papers are scissors.

Some scissors are books.

All books are animals.

The possible venn diagram for the given statements is:

Conclusions:

(I) Some animals are books → True (All books are animals implies that some animals are also books)

(II) Some scissors are papers → True (All papers are scissors implies that some scissors are also papers)

YourMockTest.com — Free Study Material

Thus, both Conclusion I and Conclusion II follows.
Hence, the correct answer is "Option 3".

Q10. Answer: (c) QAK

The positions of the letters according to the English alphabet series:
The pattern follows here is:
Thus, 'QAK' will replace the question mark in the given series.
Hence, the correct answer is "Option 3".

Q11. Answer: (c) 107

BODMAS Table:
Given equation: 13 ÷ 145 × 29 - 69 + 27 = ?
Now, if '+' and '-' and '×' and '÷' are interchanged, then:
=> 13 × 145 ÷ 29 + 69 - 27 = ?
=> 13 × 5 + 69 - 27 = ?
=> 65 + 69 - 27 = ?
=> 134 - 27 = ?
=> ? = 107.
Hence, the correct answer is "Option 3".

Q12. Answer: (b) GGKC

The pattern follows here is:
So, the combination of 'GGKC' will sequentially placed in the blanks of the given series will make the series logically complete.
Hence, the correct answer is "Option 2".

Q13. Answer: (a) 8

There are 8 total number of triangles in the given figure. These are as follows:
Hence, the correct answer is "Option 1".

Q14. Answer: (c) [figure]

The logic followed here is:
Logic: The letters are getting shifted to each alternate boxed.
So, Option 3 will complete the image series.
Hence, the correct answer is "Option 3".

Q15. Answer: (a) 21 : 100

The logic followed here is:
Logic: (First number × 4) + 12 = Second number
Let's check the options one by one,
Option 1 → 21 : 100
=> (21 × 5) = 105
=> 105 - 5 = 100
Option 2 → 19 : 88
=> 19 × 4 = 76
=> 76 + 12 = 88
Option 3 → 13 : 64
=> 13 × 4 = 52
=> 52 + 12 = 64
Option 4 → 17 : 80
=> 17 × 4 = 68
=> 68 + 12 = 80
Thus, "Option 1" is odd one.
Hence, the correct answer is "Option 1".

YourMockTest.com — Free Study Material

Q16. Answer: (a) mp

According to the question:

From the above information, 'you' is coded as 'mp'.

Hence, the correct answer is "Option 1".

Q17. Answer: (b) YWU

Let's check the options one by one,

Option 1:

Option 2:

Option 3:

Option 4:

Thus, all except "YWU" follows a pattern.

Hence, the correct answer is "Option 2".

Q18. Answer: (d) 117

On replacing the letters with the mathematical signs, we get

=> 13 × 145 ÷ 29 + 69 - 17 = ?

Now, by applying the bodmas rule, we have

=> 13 × 145 ÷ 29 + 69 - 17 = ?

=> 13 × 5 + 69 - 17 = ?

=> 65 + 69 - 17 = ?

=> 134 - 17 = ?

=> 117 = ?

Thus, 117 will replace the question mark.

Hence, the correct answer is "Option 4".

Q19. Answer: (c) 70

The logic follows here is:

Logic: First number + 11 = Second number

23 is related to 34 → 23 + 11 = 34

84 is related to 95 → 84 + 11 = 95

Similarly,

59 is related to 70 → 59 + 11 = 70

Hence, the correct answer is "Option 3".

Q20. Answer: (c) [figure]

The mirror image for the given figure, when a mirror is placed at MN, is:

Hence, the correct answer is "Option 3".

Q21. Answer: (c) Only conclusion (I) follows.

The given statements are:

All Fingers are Hands.

Some Hands are Seconds.

All Seconds are Clocks.

The least possible venn diagram for the given statements is:

Conclusions:

(I) Some Clocks are Hands → True (Those parts of hands which are seconds will also be clocks)

(II) Some Fingers are Clocks → False (There is no definite relation given between fingers and clocks so It can be possible only)

Thus, Only Conclusion I follows.

Hence, the correct answer is "Option 3".

Q22. Answer: (b) Sunday

Given: 2 June 1995 is Friday.

Now, 1995 to 1996 = 1 year.

YourMockTest.com — Free Study Material

In 1 year, 1996 is a leap year,
So, 2 June 1996 will be = Friday + 2 = Sunday
Now, from 2 June to 16 June, there are 14 days,
=> 14/7 = 2 weeks + 0 odd days.
So, 16 June 1996 = Sunday + 0 = Sunday
Thus, on 16 June 1996, the day was 'Sunday'
Hence, the correct option is "Option 2".

Q23. Answer: (c) JEOL

The pattern follows here is:
DMTS is related to FOVU
And, KGQO is related to MISQ
Similarly, HCMJ
Thus, 'HCMJ' will be related to 'JEOL'.
Hence, the correct answer is "Option 3".

Q24. Answer: (a) Boggle : Wonder

The logic follows here is:
Bitter : Pungent → Bitter and Pungent are synonyms
Similarly,
Boggle : Wonder → Boggle and Wonder are synonyms
Hence, the correct answer is "Option 1".

Q25. Answer: (d) Six

Given word: 'JOURNEY'
After arranging in alphabetical order:

Alphabets	J	O	U	R	N	E	Y
Alphabetical order	E	J	N	O	R	U	Y

From the above table, the positions of J, O, U, R, N, and E are changed

Alphabets	J	O	U	R	N	E
Alphabetical order	E	J	N	O	R	U

Thus, there are 6 letters in the word whose positions are changed.
Hence, the correct answer is "Option 4".

Q26. Answer: (b) Income Tax

The correct answer is Income Tax.
Key Points
• Direct Tax:
• Taxes that are imposed by the government on individuals or corporations directly.
• The same person is subject to both the incidence and the impact of the direct tax.
• They are progressive in nature.
• For example:
• Income tax
• Corporate tax
• Security transaction tax
• Capital gain tax
• Income Tax:
• It is applied to the net taxable income of an individual or Hindu Undivided Family over the duration of the fiscal year.
• In India, it is progressive in nature.
• All sources of income are put together and taxed according to the individual's income tax bracket for taxation purposes.

YourMockTest.com — Free Study Material

• Agricultural income is not subject to tax.

Additional Information

• Indirect Tax:

• Tax that the government imposes on a single party (goods manufacturers), but which the manufacturers then pass along to the final customer.

• The incidence and impact of the tax fall on different persons.

• They are regressive in nature.

• For Example:

• Customs duty

• Sales tax

• Excise duty

• Goods and Service tax

• Dividend distribution tax

• Custom Duty:

• When products are carried across international boundaries, customs taxes are levied as a levy or charge.

• Its goal is to safeguard the country's economy.

• India calculates import taxes using ad valorem calculations.

• Good and Service Tax:

• In India, various central and state taxes were combined to create a single, unified tax structure.

• The majority of domestic indirect taxes were consolidated into one, including excise, service, and entertainment taxes.

• It is imposed at three different levels: on intrastate supplies of goods and services, the State Government levies and collects State GST (SGST), the Central Government levies and collects Central GST (CGST), and on interstate supplies of goods and services, the Centre Government levies and collects Integrated GST (IGST).

• The 101st Constitution Amendment Act introduced article 246A of the Indian Constitution, which defined GST.

Q27. Answer: (c) Inserted by 43rd Constitutional Amendment

The correct answer is Inserted by 43rd Constitutional Amendment.

Key Points

• The Forty-third Amendment of the Constitution of India, formally titled the Constitution Act of 1977, annulled six articles that were introduced into the Constitution through the 42nd Amendment.

• The 42nd Amendment was enacted during the Emergency under the leadership of Indira Gandhi and the Indian National Congress.

• The Constitution (Forty-third Amendment) Act of 1977 was initially presented in the Lok Sabha on December 16, 1977, under the name Constitution (Forty-fourth Amendment) Bill, 1977.

• Shanti Bhushan, the Minister of Law, Justice, and Company Affairs, introduced the bill.

• It aimed to modify Articles 145, 228, and 366, while also removing Articles 31D, 32A, 131A, 144A, 226A, and 228A from the Constitution.

Important Points

• The 42nd Amendment of the Constitution passed in 1976, introduced the enumeration of Fundamental Duties for citizens.

• Article 51 'A', found in Part IV A of the Constitution, addresses these Fundamental Duties.

• These duties include, among other obligations, upholding the Constitution, embracing and pursuing the noble ideals that fueled India's fight for independence, defending the nation, and contributing to national service when required, as well as fostering harmony and a sense of common brotherhood that surpasses religious, linguistic, regional, or sectional differences.

Additional Information

• List of Fundamental Duties

• Abide by the Constitution and respect the national flag & National Anthem

• Follow the ideals of the freedom struggle

• Protect the sovereignty & integrity of India

• Defend the country and render national services when called upon

• Spirit of common brotherhood

• Preserve composite culture

• Preserve natural environment

• Develop scientific temper

YourMockTest.com — Free Study Material

• Safeguard public property

• Strive for excellence

• Duty for all parents/guardians to send their children in the age group of 6-14 years to school.

Q28. Answer: (a) Financially viable and self - sustaining MFIs

The correct answer is Financially viable and self - sustaining MFIs.

Key Points

• Financial viability and self-sustainability are crucial for MFIs (Microfinance Institutions) to grow and serve more clients effectively.

• Being financially viable allows MFIs to attract more resources, including investments and loans, which can be used to expand their services.

• MFIs that are self-sustaining can reinvest their profits into the business, enhancing their capacity to provide more and larger loans to clients.

• A focus on financial sustainability helps MFIs to reduce their dependence on external funding, such as foreign aid, making them more robust against financial crises.

Additional Information

Microfinance Concept	Description
Microcredit	Small loans provided to individuals or groups in impoverished areas, aimed at spurring entrepreneurship.
Savings Products	Services that allow clients to save money safely, which can be crucial for financial stability and planning.
Insurance Products	Microinsurance products tailored to the needs of low-income populations, offering protection against specific risks.
Payment Services	Facilitation of transactions, including transfers and payments, to improve financial inclusion.
Financial Education	Training and education initiatives aimed at improving financial literacy among clients.

Q29. Answer: (a) 8

The correct answer is 8.

Key Points

• The South Asian Association for Regional Cooperation (SAARC) was founded on December 8, 1985.

• Its Secretariat was established in Kathmandu, Nepal, on January 17, 1987.

• SAARC comprises eight member countries: Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, and Sri Lanka.

• The objectives of SAARC include enhancing the welfare of the people of South Asia, improving their standard of living, fostering economic growth, social advancement, and cultural enrichment in the region.

• SAARC also aims to ensure every individual has the opportunity to lead a dignified life and realize their full potential.

• Additionally, SAARC endeavours to strengthen collaboration with other developing nations and to engage with international and regional organizations sharing similar goals and objectives.

Important Points

• SAARC Heads of State convene at annual Summits, with the most recent one held in Kathmandu in 2014.

• Subsequently, Nepal has been hosting informal meetings of SAARC Foreign Ministers annually. The latest such gathering took place virtually in September 2020 alongside the UNGA.

• To address the challenges posed by the COVID-19 pandemic, SAARC devised and enacted a regional emergency fund totaling approximately 22 million USD.

• This fund aims to enhance cooperation among member states in combatting the pandemic's effects and supporting collective efforts towards recovery and resilience.

Q30. Answer: (a) Himachal Pradesh

The correct answer is Himachal Pradesh.

Key Points

• Chaitrual and Phulaich are the festivals of Himachal Pradesh.

• Chaitrual is a widely celebrated festival in the Sirmaur area, occurring during the Chaitra month's bright fortnight on a specific day.

• During this occasion, households clear and adorn their walls, painting them and embellishing them with depictions of male animals and crops, symbolizing abundance.

• It is also referred to as the "festival of pictures."

• In the Kinnaur district of Himachal Pradesh, the Phulaich Festival, alternatively known as Ookayand Festival or Ukyam Festival, is observed in September.

• The term 'Oo' denotes 'flowers,' while 'Kayang' signifies 'festival,' making Phulaich synonymous with the 'festival of flowers.'

• On the 16th day of the Hindu month of 'Bhadrapada,' ten Rajputs from the village venture to the high hills to gather select flowers from the blooming season of wildflowers in the upper regions of Kinnaur district.

Important Points

• Himachal Pradesh is a state located in the northern region of India.

• Nestled in the Western Himalayas, Himachal Pradesh is one of the thirteen mountain states and boasts a rugged landscape marked by numerous peaks and extensive river systems.

• As the northernmost state in India, it shares borders with the union territories of Jammu and Kashmir and Ladakh to the north.

• To the west lie the states of Punjab, while Haryana borders it to the southwest and Uttarakhand to the southeast.

• Additionally, Himachal Pradesh has a narrow boundary with Uttar Pradesh to the south. Towards the east, the state shares an international border with the Tibet Autonomous Region in China.

Q31. Answer: (b) Avadh

The correct answer is Avadh.

Key Points

• Princely state Avadh was primarily associated with Kathak.

• The National Institute of Kathak Dance, commonly known as Kathak Kendra, is the foremost institution dedicated to the classical dance form of Kathak.

• As a unit of the Sangeet Natak Akademi, India's National Academy of Music, Dance, and Drama, it is located in New Delhi.

• Established in 1964, Kathak Kendra primarily focuses on Kathak training but also offers courses in Hindustani classical music (vocal) and Pakhawaj and Tabla. With the decline of royal patronage after India gained independence in 1947, Kathak exponents and gurus faced challenges. Many began teaching privately.

• Under the patronage of the Awadh state, Lachhu Maharaj relocated to Bombay, while his brother, Shambhu Maharaj, along with his nephew, moved to Delhi in 1955.

Additional Information

• Shambhu Maharaj was honored with the Sangeet Natak Akademi Fellowship, the highest award bestowed by the Sangeet Natak Akademi, in 1967.

• Following Shambhu Maharaj's passing in 1970, his nephew, Birju Maharaj, a renowned Kathak dancer and guru, assumed leadership roles at the institution.

• Birju Maharaj's tenure witnessed a transformation in Kathak performance, adapting it from intimate gatherings to large-scale productions in modern theaters.

• He introduced several acclaimed ballets during this period, gradually transitioning Kathak from a solo dance form to one that embraced group performances.

Q32. Answer: (d) Only ii

The correct answer is Only ii.

Key Points

• Self-help Groups (SHGs) are informal associations formed by people with similar economic and social backgrounds to collectively address their challenges and enhance their quality of life.

• These groups are typically self-managed and operated by their members. Individuals often come together with the assistance of non-governmental organizations (NGOs) or government agencies to address common issues and uplift their living standards.

• The roots of SHGs in India can be traced back to the establishment of the Self-Employed Women’s Association (SEWA) in 1972.

• Even earlier instances of self-organization existed, such as the formation of the women’s wing of the Textile Labour Association (TLA) of Ahmedabad in 1954, aimed at training women from mill worker families in various skills.

Important Points

• To foster the growth of the SHG movement, the government should create an enabling environment and act as a facilitator and promoter. Additionally, expanding the SHG movement to credit-deficient areas like Madhya Pradesh, Rajasthan, and the North-Eastern states is crucial for broader socioeconomic development.

• To bolster financial infrastructure, including that of the National Bank for Agriculture and Rural Development (NABARD), it's imperative to embrace extensive IT-enabled communication and capacity-building initiatives in these states.

• This approach can enhance accessibility and efficiency in financial services delivery, particularly in rural and remote areas.

Q33. Answer: (b) intensive cultivation

The correct answer is intensive cultivation.

Key Points

• Use of more labour and capital inputs on the given land under cultivation is referred to as intensive cultivation.

• Intensive agriculture, also referred to as intensive farming, conventional agriculture, or industrial agriculture, is characterized by the significant utilization of labor and capital in relation to land area.

• It involves higher levels of input and output per unit of agricultural land area compared to extensive farming practices.

• In contrast, extensive farming involves cultivating large farms with relatively smaller inputs, such as cash and labor, and is typically practiced in regions with extensive land and sparse population.

Important Points

• Extensive farming, also known as extensive agriculture, is characterized by the use of minimal inputs of labor, fertilizers, and capital in relation to the land area being farmed.

• Hybrid cultivation involves the cross-breeding of two different varieties of plants to combine desired traits.

• In a Capitalistic farming system, farming activities are directed and managed by individual entrepreneurs who exercise control over the agricultural processes.

Q34. Answer: (c) 1982

The correct answer is 1982.

Key Points

• Kapil Dev, an iconic figure in Indian cricket, was honored with the Padma Shri in 1982 and the Padma Bhushan in 1991, two of India's highest civilian awards.

• He was named the Indian Cricketer of the Century in 2002 and inducted into the International Cricket Council's Hall of Fame in 2010, recognizing his exceptional contributions to the sport.

• Kapil Dev Nikhanj, an esteemed former Indian cricketer, is renowned as one of the finest all-rounders in cricket history, excelling as a fast-medium bowler and a powerful middle-order batsman.

• He holds the unique distinction of being the only player to have amassed over 400 wickets (434 wickets) and scored more than 5,000 runs in Test matches.

• As captain, Dev led the Indian cricket team to victory in the 1983 Cricket World Cup, making history as the first Indian captain to achieve this milestone. Notably, he remains the youngest captain, having achieved this feat at the age of 24.

• Retiring in 1994, he was the first player to claim 200 wickets in One Day Internationals (ODIs) and held the world record for the highest number of wickets in Test cricket until it was surpassed by Courtney Walsh in 2000.

Important Points

• The Padma Shri stands as the fourth-highest civilian award in India, following the Bharat Ratna, the Padma Vibhushan, and the Padma Bhushan.

• Established on January 2, 1954, this accolade is bestowed in acknowledgment of outstanding contributions across a wide array of fields such as arts, education, industry, literature, science, acting, medicine, social service, and public affairs.

• Annually conferred by the Government of India, it is a prestigious honor awarded on India's Republic Day.

Q35. Answer: (a) Per capita Gross National Product

The correct answer is Per capita Gross National Product.

Key Points

• Per capita Gross National Product is the most generally used indicator of overall economic performance.

• Per capita Gross National Product (GNP) is indeed a widely used indicator to gauge the economic performance of a country.

• It measures the average economic output per person in a given country, providing insight into the standard of living and economic well-being of its citizens.

• By dividing the total GNP of a country by its population, policymakers, economists, and analysts can assess trends in economic growth, compare the economic performance of different countries, and make informed decisions regarding economic policies and strategies.

Important Points

• The Human Development Index (HDI) indeed serves as a comprehensive measure of a country's social and economic development, encompassing key factors like education, health, and income. By combining indicators such as mean years of schooling, expected years of schooling, life expectancy at birth, and gross national income (GNI) per capita, the HDI provides a holistic assessment of human well-being and development across different nations.

• The Physical Quality of Life Index (PQLI) offers another perspective on societal well-being by considering various social factors, including life expectancy, infant mortality rate, and literacy rate. It provides a broader understanding of the overall quality of life within a population, highlighting areas for improvement and policy intervention.

YourMockTest.com – Free Study Material

• The standard of living refers to the overall level of prosperity and well-being enjoyed by individuals or communities, typically measured by factors such as income, access to basic needs, and quality of life indicators. It provides insight into the material comforts, services, and opportunities available to people within a given society or location, reflecting their economic and social status.

Q36. Answer: (d) United Nations Statistical Office

The correct answer is United Nations Statistical Office.

Key Points

• The analysis of the interrelationship between the economy and the environment in the economic environmental accounting system was put forward by United Nations Statistical Office.

• The System of Environmental-Economic Accounting (SEEA), endorsed by the United Nations Statistical Commission in 2012, serves as the official international framework for natural capital accounting.

• It offers a standardized approach to organizing and presenting statistics concerning the environment and its interconnectedness with the economy.

• At its core, SEEA comprises two key components: the Central Framework (SEEA-CF) and Ecosystems Accounting (SEEA-EA).

• The SEEA-CF adopts an economic perspective, analyzing how natural resources such as fish, timber, and water are utilized in production and consumption processes.

• Additionally, it examines the resultant pollution, encompassing waste, water, and air emissions. On the other hand, SEEA-EA complements the Central Framework by focusing on ecosystems and their significance in enhancing human well-being through the provision of identifiable ecosystem services.

• This component offers insights into the contribution of ecosystems to various aspects of human life, offering a holistic understanding of environmental sustainability and economic development.

Important Points

• The United Nations Statistics Division (UNSD) is dedicated to advancing the global statistical system, facilitating the harmonization of statistical practices and standards worldwide.

• The Central Statistics Office (CSO) is a governmental agency in India operating under the Ministry of Statistics and Programme Implementation. Its primary responsibilities include coordinating statistical activities across India and developing and upholding statistical standards.

• The National Environmental Engineering Research Institute (NEERI) in Nagpur, originally established in 1958 as the Central Public Health Engineering Research Institute (CPHERI), focuses on research and development in the field of environmental engineering.

• DES serves as the Principal Statistical Organisation of the State Government, overseeing all statistical activities within the state. It is designated as the "Nodal Agency" responsible for coordinating statistical endeavors throughout the state.

Q37. Answer: (c) Swami Vivekananda

The correct answer is Swami Vivekananda.

Key Points

• Narendranath Dutta, renowned as Swami Vivekananda, emerged as one of the most prominent disciples of Ramakrishna Paramahansa.

• Born in 1863, Swami Vivekananda propagated the belief that all religions emphasize the unity of God and the equality of humanity.

• Following Ramakrishna's passing, Swami Vivekananda played a pivotal role in popularizing his teachings and establishing both the Ramakrishna Order and the Ramakrishna Mission.

• The Ramakrishna Order offers spiritual guidance to both householders and monastics, while the Ramakrishna Mission is dedicated to charitable endeavors, education, and social welfare.

• Functioning as a non-profit organization, the Ramakrishna Mission aims to facilitate individuals in their quest for spiritual enlightenment and salvation.

Important Points

• Dayanand Saraswati was an eminent Indian philosopher, social reformer, and the founder of the Arya Samaj, a movement aimed at revitalizing Hinduism. His seminal work, "Satyarth Prakash," remains a cornerstone text, offering profound insights into Vedic philosophy and elucidating various human duties and concepts.

• Swami Sahajananda, a notable Indian politician, served as a Member of the Legislative Assembly of Tamil Nadu. He represented the Chidambaram constituency as an Indian National Congress candidate in both the 1952 and 1957 elections, contributing significantly to the state's legislative proceedings.

• Swami Shraddhanand, also known as Mahatma Munshi Ram Vij, was a revered Arya Samaj sannyasi and a prominent figure in India's struggle for independence. He dedicated his life to promoting the teachings of Dayanand Saraswati and played a pivotal role in advocating social reform and national awakening.

Q38. Answer: (b) National Waterway 1

The correct answer is National Waterway 1.

Key Points

• National Waterway 1 runs from Haldia to Prayagraj.

• The National Waterway 1 (NW-1), also known as the Ganga-Bhagirathi-Hooghly river system, spans from Prayagraj in Uttar Pradesh to Haldia in West Bengal, traversing through Patna and Bhagalpur in Bihar along the Ganges river.

• Stretching over 1,620 km (1,010 mi), NW-1 holds the distinction of being India's longest waterway.

• Renowned for its strategic location, NW-1 passes through several states including West Bengal, Jharkhand, Bihar, and Uttar Pradesh, connecting major cities

• Designated as a national waterway in October 1986, NW-1 facilitates navigation by mechanical boats up to Patna, playing a pivotal role in inland water transportation in India.

Important Points

• National Waterway 2 (NW-2) is a segment of the Brahmaputra River stretching over 891 kilometers. It extends from the Bangladesh border near Dhubri to Sadiya in Assam. Officially designated as NW-2 on September 1, 1988, this waterway plays a crucial role in inland navigation in the northeastern region of India.

• National Waterway 3 (NW-3) spans 205 kilometers and serves as an inland navigational route in Kerala, India. Running from Kollam to Kottapuram, NW-3 was declared a National Waterway in 1993, facilitating transportation and trade within the state of Kerala.

• National Waterway 4 (NW-4) covers a distance of 1,095 kilometers, linking the Indian states of Telangana, Andhra Pradesh, Tamil Nadu, and the union territory of Puducherry. This waterway connects the Krishna and Godavari rivers, serving as a vital transportation route for cargo and passenger movement in the region.

Q39. Answer: (a) Business and Enhancing skill Development

The correct answer is Business and Enhancing skill Development.

Key Points

• Business and Enhancing skill Development component is NOT related to the New India Literacy Programme.

• The government has initiated the "New India Literacy Programme" (NILP), a Centrally Sponsored Scheme, set to run over five years from FYs 2022-23 to 2026-27.

• With a total financial outlay of Rs. 1037.90 crore, comprising a Central share of Rs. 700.00 crore and a State share of Rs. 337.90 crore, the scheme aims to target 5.00 crore non-literates aged 15 years and above.

• NILP comprises five key components: Foundational Literacy and Numeracy, Critical Life Skills, Vocational Skills Development, Basic Education, and Continuing Education.

• Beneficiaries are identified through door-to-door surveys conducted via a Mobile App by designated surveyors in the States/UTs.

• Alternatively, non-literates can register directly from any location via the mobile app to avail scheme benefits. Notably, the scheme hinges on volunteerism for teaching and learning, with volunteers able to register through the mobile app for this purpose.

Important Points

• The scheme is primarily technology-driven and relies heavily on online platforms for implementation.

• Teaching and learning materials and resources are accessible through the DIKSHA platform of NCERT via mobile apps.

• Additionally, alternative dissemination modes such as television, radio, and Samajik Chetna Kendra are also employed to spread Foundational Literacy and Numeracy.

• The scheme is inclusive, targeting all non-literates aged 15 years and above, ensuring widespread access to its benefits.

Q40. Answer: (a) Mahanadi

The correct answer is Mahanadi.

Key Points

• The Mahanadi River begins its journey near Sihawa in the Raipur district of Chhattisgarh, then courses through Odisha before eventually reaching the Bay of Bengal.

• Regarded as one of the major east-flowing peninsular rivers in India, the Mahanadi holds significant importance, particularly in the state of Chhattisgarh.

• Stretching approximately 851 kilometers in length, it originates from the Shrungi mountains in Sihawa Tehsil of Dhamtari district.

• The river is also known by various names such as Kanaknandini, Chitrapalal, and Mahasweta.

• Prior to the construction of the Hirakud Dam, the Mahanadi River was navigable from its mouth all the way up to Arrang, situated approximately 250 kilometers from its source.

Important Points

• The Krishna River, coursing through the Deccan plateau, ranks as India's third-longest river, trailing only the Ganges and

Godavari. It stands as the fourth-largest river in terms of both water inflows and river basin area in the country, following the Ganges, Indus, and Godavari.

• The Godavari River, stretching 1,465 kilometers, claims the title of India's second-longest river, surpassed only by the Ganga. It boasts the largest Peninsular river system and drains the third largest basin in India, encompassing approximately 10% of the nation's total geographical area.

• The Kaveri, also recognized as the Cauvery or its anglicized name, emerges as one of India's major rivers, traversing through the states of Karnataka and Tamil Nadu.

Q41. Answer: (c) Pradhan Mantri Gram Sadak Yojana

The correct answer is Pradhan Mantri Gram Sadak Yojana.

Key Points

• The Pradhan Mantri Gram Sadak Yojana (PMGSY), initiated by the Government of India, aims to enhance connectivity to previously unlinked habitations as a key component of poverty alleviation efforts.

• The government endeavors to establish rigorous technical and managerial standards while facilitating policy development and planning at the state level to ensure the sustainable management of rural road networks.

• As per the latest data provided by state governments through a survey conducted to identify the Core Network under the PMGSY program, approximately 1.67 lakh unconnected habitations are deemed eligible for inclusion in the program.

• This entails the construction of around 3.71 lakh kilometers of new roads for connectivity purposes and the upgrading of 3.68 lakh kilometers of existing roads.

Important Points

• The Prime Minister's Rural Development Fellows (PMRDF) scheme is a collaborative initiative between the Ministry of Rural Development (MoRD) and state governments aimed at diminishing poverty and enhancing the quality of life for individuals residing in rural India.

• The Swarnjayanti Gram Swarozgar Yojana (SGSY) is a governmental scheme established by the Ministry of Rural Development in April 1999 with the objective of assisting economically disadvantaged families in rural areas to achieve self-employment.

• The National Rural Livelihoods Mission (NRLM) is a comprehensive poverty alleviation program implemented in India, focusing on empowering rural communities and fostering sustainable livelihoods.

Q42. Answer: (a) Tansen

The correct answer is Tansen.

Key Points

• Miyan Tansen, a distinguished classical music composer, musician, and vocalist, is credited with creating the popular raga Miyan Ki Malhar during the 16th century.

• He held a prominent position in the court of the Mughal Emperor Akbar and was revered as the "Sangeet Samrat" or the "Monarch of Indian Music".

• Miyan Ki Malhar, a monsoon raga, is often employed to herald the arrival of the monsoon season and to invoke rainfall.

• The melodic patterns of this raga have the ability to emulate the rumbling thunder of clouds and the cascading torrents of rain.

• Malhar, an ancient raga in Indian classical music, is deeply associated with the onset of torrential rains and is renowned for its evocative portrayal of the monsoon season.

Important Points

• Amir Khusrau was a prominent Indo-Persian Sufi singer, musician, poet, and scholar who thrived during the era of the Delhi Sultanate. Revered as an iconic figure in the cultural heritage of South Asia, he was renowned for his mysticism and spiritual devotion as a disciple of Nizamuddin Auliya of Delhi, India.

• Meera, also known as Mirabai, was a revered Hindu mystic poet and devotee of Lord Krishna during the 16th century. Venerated as Sant Meerabai, she remains a celebrated Bhakti saint, especially within the North Indian Hindu tradition.

• Ustad Zakir Hussain, an eminent figure in the realm of Indian classical music, is recognized as a tabla player, composer, percussionist, music producer, and film actor. He is the eldest son of the legendary tabla player Alla Rakha and is widely regarded as one of the greatest tabla players in history.

Q43. Answer: (a) Stevenson screen

The correct answer is Stevenson screen.

Key Points

• A Stevenson screen serves as a protective shelter for meteorological instruments, such as wet and dry bulb thermometers, safeguarding them from direct sunlight and precipitation while facilitating free airflow.

• These screens are typically constructed from wood and painted white to reflect solar radiation effectively.

• Featuring louvered sides, Stevenson screens enable unrestricted air circulation around the thermometers, ensuring accurate temperature measurements.

• Moreover, they are strategically positioned 1.25 meters above the ground to minimize the influence of strong temperature gradients present at ground level.

• Thomas Stevenson, a notable Scottish civil engineer, credited with the design of the Stevenson screen in 1864. He is also recognized as the father of the renowned writer Robert Louis Stevenson.

Additional Information

• Thomas Stevenson was a pioneering Scottish civil engineer, renowned for his contributions to lighthouse design and meteorology. He designed over thirty lighthouses in and around Scotland, as well as the Stevenson screen used in meteorology.

• His innovative designs revolutionized lighthouse construction and set a new standard in the field.

• Stevenson held prestigious positions throughout his career, including serving as president of the Royal Scottish Society of Arts from 1859 to 1860 and as president of the Royal Society of Edinburgh from 1884 to 1886.

• Additionally, he played a key role as a co-founder of the Scottish Meteorological Society.

Q44. Answer: (d) Arpinder Singh

The correct answer is Arpinder Singh.

Key Points

• Arpinder Singh was NOT awarded the Arjuna Award in 2022.

• Arpinder Singh secured a Gold Medal for India in the Men's triple jump event at the Asian Games in Jakarta, marking the end of a 48-year hiatus since India last achieved this feat.

• The previous champion was Mohinder Singh Gill in 1970.

• Prior to his victory in Jakarta, Arpinder's most recent medal was a bronze in the 2014 Commonwealth Games held in Glasgow.

• Lakshya Sen, Sushila Devi and HS Prannoy were awarded the Arjuna Award in 2022.

Important Points

• Lakshya Sen is a prominent Indian badminton player, having previously held the title of world junior no. 1. He achieved gold medals at the 2018 Asian Junior Championships in the boys' singles category and at the Summer Youth Olympics in the mixed team event.

• Shushila Devi Likmabam represents India in judo and earned the silver medal in the women's 48 kg weight class at the judo event during the 2014 Commonwealth Games in Glasgow.

• Prannoy Haseena Sunil Kumar, also known as H. S. Prannoy, is an accomplished Indian badminton player who is currently undergoing training at the Gopichand Badminton Academy in Hyderabad. His notable achievements include winning the bronze medal at the 2023 World Championships.

Q45. Answer: (c) 3

The correct answer is 3.

Key Points

• Article 3 of the Indian Constitution outlines the process for the formation of new States and the alteration of areas, boundaries, or names of existing States.

• In this regard, the Parliament may enact laws to:

• Form a new State by separation of territory from any State or by uniting two or more States or parts of States or by uniting any territory to a part of any State.

• Increase the area of any State.

• Diminish the area of any State.

• Alter the boundaries of any State.

• Alter the name of any State.

• These provisions empower the Parliament to undertake significant changes in the territorial structure and nomenclature of States within the Indian Union.

Important Points

• Article 4 of the Constitution of India enables changes to be made to the names of states in the Union of India and the allocation of seats each state receives in the Rajya Sabha. Additionally, it addresses incidental, supplemental, and consequential matters related to these changes.

• Article 5 of the Constitution of India, 1950, addresses citizenship at the commencement of the Constitution.

• Article 6 of the Constitution deals with the citizenship status of individuals who migrated from Pakistan to India during the partition between India and Pakistan.

Q46. Answer: (a) Ethynyl

The correct answer is Ethynyl.

Key Points

• Ethynyl compounds having the molecular formula C2H is derived from the hydride of acetylene.

• Ethynyl, characterized as a terminal acetylenic compound and an organic radical, serves as a functional group in organic chemistry with the formula −C≡CH.

• The ethynyl radical, with the chemical formula C≡CH, is a straightforward molecule found abundantly in the interstellar medium but is not naturally occurring on Earth.

• Acetylene, a hydrocarbon and the simplest alkyne, exists as a colorless gas extensively employed as both a fuel and a fundamental chemical building block.

Important Points

• Propargyl serves as a functional group in organic chemistry, featuring the structure CH≡C−CH2.

• It is an alkyl group derived from propyne. Vinyl is a chemical compound obtained from ethylene and chlorine. Widely recognized as the world's most versatile plastic, it finds application in various products including food wrap, flooring, siding, wall covering, and auto body parts.

• In organic chemistry, an allyl group is a substituent with the structural formula −CH2−HC=CH2. This name is derived from Allium sativum, the scientific name for garlic.

Q47. Answer: (a) Mir Saman

The correct answer is Mir Saman.

Key Points

• Khan-i-Saman, alternatively known as Mir-i-Saman, held the esteemed position of overseeing the Mughal Empire's imperial household.

• This household, also referred to as the karkhanas, encompassed various factories and stores owned by the central government.

• As the head of the imperial household, Khan-i-Saman had multifaceted responsibilities, which included managing the karkhanas, overseeing stores, maintaining order, managing interactions, and handling internal relations.

• The Mughal imperial household accommodated the emperor, his wives, concubines, and relatives. Female servants and slaves were also part of the household staff, serving the needs of its members.

Important Points

• Mir Bakshi held the esteemed position of leading the Military Administration within the Mughal Empire. His duties encompassed gathering intelligence and providing recommendations regarding military appointments and promotions.

• In the Mughal Administration, the Mir-i-Atish served as the Head of the ordinance department, responsible for overseeing matters related to weaponry and artillery.

• Mir-i-Bahar was tasked with overseeing customs, as well as managing boats, ferry taxes, and port duties in coastal towns within the Mughal Empire.

Q48. Answer: (b) Gurunaidu Sanapathi

The correct answer is Gurunaidu Sanapathi.

Key Points

• Gurunaidu Sanapathi won the gold medal at International Weightlifting Federation's youth world championship in June 2022.

• At the IWF Youth World Championships held in Leon, Mexico, Indian weightlifter Saanapathi Gurunaidu clinched the gold medal in the men’s 55-kilogram category event.

• Additionally, on the opening day of the IWF competition, two other Indian weightlifters, Vijay Prajapati and Akanksha Kishor Vyavhare, secured silver medals.

• Saanapathi achieved a total lift of 230 kilograms, earning him the gold medal in the men’s 55-kilogram event. He secured the silver medal in the Snatch category with a lift of 104 kg and the gold medal in the Clean and Jerk category with a lift of 126 kilograms.

• Vijay, competing in the Men’s 49-kilogram event, lifted a total of 175 kilograms, securing the second position. In the Snatch category, he lifted 78 kilograms, while in the Clean and Jerk category, he lifted 97 kilograms.

• In the Women’s 40-kilogram division, Akanksha claimed the gold medal. She achieved a total lift of 127 kilograms, earning her the silver medal after finishing first in the Snatch section with a lift of 59 kilograms and third in the Clean and Jerk section with a lift of 68 kilograms.

Important Points

• The IWF Youth World Championships is organized by the International Weightlifting Federation (IWF).

• The inaugural competition took place in May 2009, marking the beginning of this prestigious event.

• The upcoming edition of the Youth World Weightlifting Championships is scheduled to be held in Lima, Peru, in 2024.

• Previously, the 2023 Youth World Weightlifting Championships were hosted in Durrës, Albania, from March 25 to April 1, 2023.

• Similarly, the 2022 championships were held in León, Mexico, from June 11 to 18, 2022.

Q49. Answer: (c) Sattriya

The correct answer is Sattriya.

Key Points

• Ranjumoni Saikia was awarded the Sangeet Natak Akademi Award 2019 for her contribution to Sattriya.

• Among the 168 winners from Assam were Sattriya dancer Ranjumoni Saikia, actor Pranjal Saikia, director Abinash Sharma, theatre artist Gunindra Nath Ojha, and folk artist Prashanna Gogoi.

• Sattriya dancer Ranjumoni Saikia, actor Pranjal Saikia, and director Abinash Sharma were specifically recognized as the recipients of the prize in 2019.

• Sattriya Nritya, commonly referred to as Sattriya, is a classical Indian dance form with roots dating back over 500 years in Assam.

• It holds a distinguished status as one of the eight principal classical dance styles of India.

• Introduced in the 15th century by Mahapurusha Sankaradeva, a revered Vaishnava saint and reformer from Assam, Sattriya was initially conceived as an integral component of Bhaona.

• Bhaona encompasses performances of one-act plays known as Ankiya Nat. Sattriya serves as a potent medium for propagating the Vaishnava faith, embodying spiritual themes and expressions.

Important Points

• The Sangeet Natak Akademi Award, also known as the Akademi Puraskar, is a prestigious honor bestowed by the Sangeet Natak Akademi, India's National Academy of Music, Dance & Drama.

• Regarded as the highest recognition in the Indian performing arts realm, this award acknowledges individuals for their outstanding contributions.

• Initially instituted in 2003, the award comprised a cash prize of Rs. 50,000, along with a citation, an angavastram (a shawl), and a tamrapatra (a brass plaque).

• However, since 2009, the cash prize has been enhanced to Rs. 1,00,000.

• These accolades are conferred across various categories including music, dance, theatre, other traditional arts and puppetry, as well as for noteworthy contributions or scholarship in the field of performing arts.

Q50. Answer: (a) Seaborgium

The correct answer is Seaborgium.

Key Points

• Seaborgium, with the atomic number 106, is classified as a transuranium element. It is artificially created by bombarding californium^(-249) with oxygen^(-18) nuclei.

• As a synthetic element, seaborgium is solid at room temperature and belongs to the transition metal group. Its most stable isotope, seaborgium^(-266), has a half-life of 27.3 seconds.

• In 1994, the proposal to name element 106 "seaborgium" was made in tribute to Glenn T. Seaborg, the scientist credited with discovering the transuranium elements.

• Seaborg, an American chemist, was awarded the 1951 Nobel Prize in Chemistry for his pioneering work in the field.

Important Points

• Dubnium (Db) is an artificially generated radioactive transuranium element situated in Group Vb of the periodic table, with an atomic number of 105. The discovery of dubnium, much like that of rutherfordium (element 104), has been the subject of contention between Soviet and American scientists.

• Hassium (Hs) is another artificially produced element belonging to the transuranium group, with an atomic number of 108. It was first synthesized and identified in 1984 by researchers from West Germany at the Institute for Heavy Ion Research (Gesellschaft für Schwerionenforschung [GSI]) in Darmstadt.

• Copernicium is a synthetic chemical element characterized by the symbol Cn and atomic number 112. Its known isotopes are profoundly radioactive and have exclusively been generated within laboratory settings.

Q51. Answer: (a) Rs. 6,000

Given:

A seller sold a bag at a profit of 12%.

Concept used:

CP × (100 + Profit)% = Selling price

Calculation:

Let the CP of the bag be 100x

According to the question,

100x × 1.12 + 900 = 100x × 1.27

=> 112x + 900 = 127x

=> 900 = 15x

=> x = 60

=> 100x = 6000

Therefore The CP of the bag is Rs. 6,000.

Q52. Answer: (d) 81x4 - 16y4

Given:

(3x - 2y) (3x + 2y) (9x2 + 4y2)

Concept used:

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

Calculation:

(3x - 2y) (3x + 2y) (9x2 + 4y2)

=> {$(3x)^2$ - $(2y)^2$} (9x2 + 4y2)

=> {9x2 - 4y2} (9x2 + 4y2)

=> 81x4 - 16y4

Therefore The required answer is 81x4 - 16y4.

Q53. Answer: (c) 35 sec

Given:

A and B are running on a circular track of length 1400 metres.

The speed of A is 33 m/sec and the speed of B is 47 m/sec.

Concept used:

The relative speed of two objects, when they are moving in the opposite, directs = Sum of their speeds

Calculation:

If they are meeting for the second time, then the total distance traveled by them = 2 × 1400 = 2800 metres.

The relative speed of 'A' and 'B' = 33 + 47 = 80 m/sec

Required time taken to meet for the second time = 2800 ÷ 80 = 35 sec

Therefore They will meet for the second time after 35 sec.

Q54. Answer: (c) 40 kg

Given:

The average weight of 48 students is 64 kg

The average weight of 32 students is 24 kg

Concept used:

Average = (The sum of all items)/(The total number of items)

Calculation:

The total weight of 64 students = 64 × 48 = 3072

The total weight of 32 students = 32 × 24 = 768

The combined average weight of the classes = (3072 + 768)/(96) = 40 kg

Therefore The average weight of both classes combined is 40 kg.

Q55. Answer: (a) 45 cm

Given:

An arc of length 33 π cm subtends an angle of 132° at the centre of the circle.

Concept used:

Length of an arc = θ/360°×2πr

Calculation:

Let the radius of the circle be r

(132^o)/(360^o) × 2π r=33π

=> 8r = 360

=> r = 45

So, the radius of the circle = 45 cm

YourMockTest.com — Free Study Material

Therefore The radius of the circle is 45 cm.

Q56. Answer: (c) Rs. 3,800

Given:
Selling price = Rs. 3,068.5
Concept used:
Selling price = Marked price × (100 - Discount)%
Calculation:
Let the Marked price be 100a
According to the question,
100a × 0.95 × 0.85 = 3068.5
=> 80.75a = 3068.5
=> a = 38
=> 100a = 3800
So, the marked price = Rs. 3,800
Therefore The marked price is Rs. 3,800.

Q57. Answer: (a) Rs. 32,000

Given :
Compound Interest = 5,044
Rate = 10% per annum
Time = 1.5 years
Formula Used :
CI = P [(1 + r/100)T - 1]
Where P = Principle, r = Rate, T = Time
Calculation :
Since interest is compounded half-yearly
Hence r = 10% / 2 = 5% per half-year
And T = 1.5 × 2 = 3 half-years
Using formula, $5044 = P [(1 + 5/100)^3 - 1]$
=> $5044 = P [(1 + 1/20)^3 - 1]$
=> $5044 = P [(9261/8000) - 1]$
=> $5044 = P [(9261 - 8000) / 8000]$
=> $5044 = P × 1261 / 8000$
=> $5044 × 8000 / 1261 = P$
=> $32000 = P$
Therefore Total sum is 32,000.

Q58. Answer: (a) 27 : 23

Given:
a : b = 3 : 7
Calculation:
Let a and b be 3k and 7k, respectively
(2a + 3b) : (3a + 2b)
=> (2 × 3k + 3 × 7k) : (3 × 3k + 2 × 7k)
=> (27k) : (23k)
=> 27 : 23
Therefore The required answer is 27 : 23.

Q59. Answer: (a) 14000

Calculation:
Let, Total no. of students in 2021 = x
Total no. of students in 2022 = y

So, number of pharmaceutical sciences in 2022 = 25.2y
Number of pharmaceutical sciences in 2021 = 32.4x
Number of students opting for agriculture in 2022 = 25.2y
Number of students opting for agriculture in 2021 = 21.6x
According to the question,
25.2y = 32.4x + 180 ---(1)
=> y = (32.4x + 180)/25.2 ---(2)
25.2y = 21.4x + 1380 ---(3)
Comparing equations (1) and (3), we get
32.4x + 180 = 21.6x + 1380
=> 32.4x - 21.6x = 1380 - 180
=> 10.8x = 1200
=> x = 1200/10.8 = 111.11°
Putting the value of x in equation (2), we get
So, y = ((32.4 × 1200)/10.8 + 180)/25.2 = 150°
Now, difference between no. of students in 2021 and 2022 = (150 - 111.11) × 360
=> 13996.4 ≈ 14000
Therefore The positive difference between the total number of students in 2021 and 2022 was 14000.

Q60. Answer: (d) Rs. 525

Given:
A sum of money at Simple Interest amounts to Rs. 750 in 3 years.
The same money amounts to Rs. 825 in 4 years.
Formula used:
Simple interest = (Principal × rate × time)/100
Calculation:
Simple interest for 1 year = 825 – 750
=> 75
Simple interest for 3 year = 75 × 3
=> 225
The sum is = 750 – 225
=> Rs. 525
Therefore The sum is Rs. 525.

Q61. Answer: (a) 40 2/3 π

Given :
The inner radius of the bowl r1 = 4 cm
The thickness of the bowl = 1 cm
The outer radius of the bowl r2 = 4 + 1 = 5 cm
Formula Used :
Volume of hemisphere = (2/3) πr3
Calculation :
The volume of steel used in the bowl (V) = Volume of the outer hemisphere - Volume of the inner hemisphere
=> V = (2/3) πr23 - (2/3) πr13
=> V = (2/3) × π × (r23 - r13)
=> V = (2/3) × π × (53 - 43)
=> V = (2/3) × π × (125 - 64)
=> V = (122/3) × π
=> V = 40 2/3 π
Therefore The volume of the steel used in the bowl = 40 2/3 π cm3.

Q62. Answer: (b) Right angle triangle

Given:

Three angles of a triangle are (x - 15)°, (x + 45)° and (x + 60)°

Concept used:

The sum of all angles in the triangle is 180°

Calculation:

x – 15 + x + 45 + x + 60 = 180

=> 3x + 90 = 180

=> 3x = 90

=> x = 30

So, the angles of the triangle = 15°, 75°, 90°

So, the triangle is a Right angle triangle

Therefore The required answer is the Right angle triangle.

Q63. Answer: (a) cosA

Given:

cosecA + cotA = a√b

Concept:

We'll use trigonometric identities to manipulate the given equation and express it in terms of sinA and cosA

Formula Used:

cosecA = 1/sinA,

cotA = cosA/sinA

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

Calculation :

cosecA + cotA = a√b

1/sinA + cosA/sinA = a√b

(1 + cosA)/sinA = a√b

Now, we'll square both sides of the equation

$\{(1 + \cos A)/\sin A\}^2 = (a\sqrt{b})^2$

$((1 + \cos A)^2)/(\sin^2 A) = a^2b$

$(1 + 2\cos A + \cos^2A)/(1 - \cos^2 A) = a^2b$ _____Eqn 1

Subtracting -1 in both sides, we gets

$(1 + 2\cos A + \cos^2A)/(1 - \cos^2 A) - 1 = a^2b - 1$

$(1 + 2\cos A + \cos^2A - 1 + \cos^2A)/(1 - \cos^2 A) = a^2b - 1$

$(2\cos A + 2\cos^2A)/(1 - \cos^2 A) = a^2b - 1$

$= (2\cos A(1 + \cos A))/(1 - \cos^2 A) = a^2b - 1$ _____Eqn 2

Adding +1in both sides to eqn1

$(1 + 2\cos A + \cos^2A)/(1 - \cos^2 A) + 1 = a^2b + 1$

$(1 + 2\cos A + \cos^2A + 1 - \cos^2A)/(1 - \cos^2 A) = a^2b + 1$

$(2 + 2\cos A)/(1 - \cos^2 A) = a^2b + 1$

$= (2(1 + \cos A))/(1 - \cos^2 A) = a^2b + 1$ _____ Eqn3

Now, dividing eqn2 and eqn3

$((2\cos A(1 + \cos A))/(1 - \cos^2 A))/(2(1 + \cos A))/(1 - \cos^2 A) = (a^2b - 1)/(a^2b + 1)$

$\cos A = (a^2b - 1)/(a^2b + 1)$

So, the answer is cosA

Q64. Answer: (b) 1865/2106

Given:

((2+7 × 7 ÷ 9 of 9+6 ÷ 6 × 2)/(4 ÷ 4 of 5+7 × 7 ÷ 7-6+4))

Calculation:

((2+7 × 7 ÷ 9 of 9+6 ÷ 6 × 2)/(4 ÷ 4 of 5+7 × 7 ÷ 7-6+4))

=> ((2+7 × 7 ÷81+6 ÷ 6 × 2)/(4 ÷ 20+7 × 7 ÷ 7-6+4))

YourMockTest.com — Free Study Material

=> ((2+7 × 7/81+1 × 2)/(1/5+7 × 1-6+4))
=> ((2+49/81+2)/(1/5+7-6+4))
=> ((373/81)/(26/5))
=> 1865/2106
Therefore The required answer is 1865/2106.

Q65. Answer: (b) 9

Given:
tan A = 3/4
Concept used:
Hypotenuse² = Perpendicular² + Base²
sinθ = (P/H)
tanθ = (P/B)
Calculation:
tan A = P/B=3/4
So, H = √(3² + 4²)
=> H = √(9 + 16)
=> H = √25 = 5 cm
Now,
(6 sin A)/(1-sin A) = ((6 × 3)/5)/(1-3/5)
=> (6 sin A)/(1-sin A) = (18/5)/((5-3)/5)
=> (6 sin A)/(1-sin A) = 18/2 = 9
Therefore The required answer is 9.

Q66. Answer: (a) 16

Given:
Raju and Akber take 4 hours and 6 hours to type 32 pages and 48 pages, respectively,
Calculation:
Let's first find the typing rates of Raju and Akber in terms of pages per hour:
Raju's typing rate = (32/4) = 8 pages per hour
Akber's typing rate = (48/6) = 8 pages per hour = 8 pages per hour
Now, if they work together, their combined typing rate = 8 + 8 = 16 pages per hour
Required time = 256/16 = 16 hours
Therefore They will take 16 (in hours) to complete the assignment.

Q67. Answer: (d) 65°

Given:
Triangle ABC is an isosceles triangle with AB = AC
angle BAC = 50°
Concept used:
If two angles are congruent in an isosceles triangle, then the sides opposite to them are also congruent.
Calculation:
As AB = AC, then angle ABC = angle ACB
So, angle ABC = (180° - 50°)/2
=> 65°
Therefore The measure of angle ABC is 65°.

Q68. Answer: (b) 56 km per hour

Given:
Average speed = 40 km/h
Time taken = 7 hours
Concept used:
Distance = Time × speed

YourMockTest.com — Free Study Material

Calculation:
Total distance = 40 × 7 = 280 km
Required average speed = 280 ÷ 5 = 56 km/h
Therefore I can reach the same destination in 5 hours at 56 km per hour.

Q69. Answer: (d) 672

Given:
Selling price of the article = Rs. 864
Discount % = 25
Concept used:
Marked price × (100 - Discount)% = Selling price
Calculation:
Let the marked price of the article be 100x
According to the question,
100x × 0.75 × 0.75 = 864
=> 56.25x = 864
=> x = 864 ÷ 56.25 = 15.36
=> 100x = 1536
So, discount = 1536 - 864 = 672
Therefore The discount (in Rs.) is 672.

Q70. Answer: (a) 23.04

Given:
Percentage of total salary budget used for sales department = 30%
Average salary of an employee in the sales department = Rs. 48,000
Total number of employees = 7200
Percentage of workforce in the sales department = 20%
Calculation:
=> Number of employees in sales department = 20% of 7200
=> Number of employees in sales department = 0.20 × 7200
=> Number of employees in sales department = 1440
=> Total salary of sales department = Number of employees in sales department × Average salary
=> Total salary of sales department = 1440 × 48000
=> Total salary of sales department = Rs. 69120000
=> Total salary budget = Rs. 69120000 / 0.30
=> Total salary budget = Rs. 230400000
=> Total salary budget in crores = Rs. 230400000 / 10000000
=> Total salary budget in crores = 23.04
Therefore The total salary budget is Rs. 23.04 crores.

Q71. Answer: (b) 119/60

Given:
In a right - angled triangle PQR, PQ = 5 cm, QR = 13 cm and angle P = 90°.
Concept used:
$\tan\theta = P/B$
Here, P = perpendicular, B = Base
Calculation:
$PR = \sqrt{(13^2 - 5^2)}$
=> $PR = \sqrt{144} = 12$ cm
Now,
tan Q - tan R = 12/5 - 5/12
=> (144-25)/60
=> 119/60

Therefore The required answer is 119/60.

Q72. Answer: (d) 300%

Calculation:

Total number of challans in Maharashtra = 1600 + 1400 = 3000

Total number of challans in Himachal Pradesh = 200 + 400 = 600

Total number of challans in Odisha = 100 + 300 = 400

Required percentage = {3000/(600 + 400)} × 100 = 300

Therefore The required answer is 300%.

Q73. Answer: (b) $25p^2 - 9q^2$

Given:

(5p + 3q) (5p - 3q)

Concept used:

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

Calculation:

(5p + 3q) (5p - 3q)

=> $(5p)^2 - (3q)^2$

=> 25p2 - 9q2

Therefore The required answer is 25p2 - 9q2.

Q74. Answer: (c) 3.15

Given:

Height of the building = 11.25 m

Distance of the tree from Suhas = 7.5 m

Distance of the tree from the building = 45 m

Height of Suhas's eyes from the ground = 1.8 m

Calculation:

Distance of Suhas from the building = 7.5 m + 45 m = 52.5 m

The length of BC = 11.25 - 1.80 = 9.45

Now In the triangle, ABC,

=> tan θ = 9.45/52.5.....(1)

Now In the triangle, AGH.

=> tan θ = x/7.5.....(2)

From 1 and 2

=> x/7.5 = 9.45/52.5.

=> x = 1.35 m

=> Height of the tree = 1.35 m + 1.8 m

=> Height of the tree = 3.15 m

Therefore The height of the tree is 3.15 m.

Q75. Answer: (d) 30

Given:

p2 - 4p − 1 = 0

Concept used:

$(a - 1/a)^2 = a^2 + 1/(a^2)-2$

Calculation:

p2 - 4p − 1 = 0

=> p2 − 1 = 4p

=> p -1/p=4

By squaring both sides we get,

$p^2 +1/(p^2)-2=16$

=> $p^2 +1/(p^2)=18$

YourMockTest.com — Free Study Material

Now,

$p2 + 3p + 1/(p^2)-3/p = 18 + 4 \times 3$

=> 18 + 12

=> 30

Therefore The required answer is 30.

Q76. Answer: (a) Modest

The solution is in Hindi. Read it online.

Q77. Answer: (c) Suseptible

The solution is in Hindi. Read it online.

Q78. Answer: (a) He was younger than his brother.

The correct answer is 'Option 1' i.e. He was younger than his brother is the correct version.

Key Points

• The original sentence "He was youngest than his brother." is incorrect because it improperly uses "youngest" in a comparative context.

• The correct comparative form when comparing two entities is "younger" not "youngest," which is used for superlative comparisons among three or more entities.

• The preposition "than" is correctly used in comparisons, making "younger than" the appropriate phrase to use.

• The correct sentence structure for comparing the age of two people is "Subject + was + younger than + object."

Hence, the correct answer is option 1.

Correct sentence: He was younger than his brother.

Additional Information

• "He was youngest to his brother." - This option is incorrect because "youngest" is a superlative form and "to" is not the correct preposition for comparison in this context.

• "He was too young than his brother." - This option is grammatically incorrect because "too" is not used in standard comparative structures, and "than" is misused here.

• "He was young to his brother." - This option lacks a comparative form and incorrectly uses the preposition "to" for comparison.

Q79. Answer: (c) casual

The solution is in Hindi. Read it online.

Q80. Answer: (b) The officers talked about this in the meeting.

The correct answer is 'Option 2' i.e. 'The officers talked about this in the meeting' is the sentence rewritten in active voice.

Key Points

• The original sentence is in passive voice, indicated by the structure 'was talked about by the officers'.

• To convert to active voice, the subject ('the officers') performs the action of the verb ('talked about').

• The correct active voice construction places the subject at the beginning, followed by the verb and then the object ('this').

• Option 2 correctly rearranges the sentence into active voice without changing its original meaning.

Hence, the correct answer is option 2.

Correct sentence: 'The officers talked about this in the meeting'.

Additional Information

• Option 1 ('The officers were talking about in the meeting') is incorrect because it lacks an object for 'talking about' and does not clearly convert the sentence to active voice.

• Option 3 ('The officers in the meeting had talked about it') changes the tense to past perfect, which is not necessary for converting the given sentence to active voice.

• Option 4 ('The officers talk about this in the meeting') uses the present tense, which changes the meaning of the original sentence that is in the past tense.

Q81. Answer: (c) it is evident that a lot more women

The correct answer is 'Option 3' i.e. it is evident that a lot more women have been opting for professional courses.

Key Points

• The original phrase "From a recent research, evident is it" is awkward and incorrectly structured.

• The correct phrase should start with the subject and follow the natural order of English sentences.

• "It is evident that" is the correct beginning for the sentence, making it clear and concise.

• The phrase "a lot more women" correctly indicates an increase in the number of women choosing professional courses.

Hence, the correct answer is option 3.

Correct sentence: From a recent research, it is evident that a lot more women have been opting for professional courses.

Additional Information

• "it is evidently that" - This option is incorrect because "evidently" is an adverb and cannot be used in this context where an adjective is required.

• "it is evidence that" - This option is incorrect because "evidence" is a noun and the sentence requires the adjective "evident" to describe the clarity of the fact.

• "it is evident that more a lot women" - This option is grammatically incorrect and awkwardly phrased. The correct phrase should be "a lot more women."

Q82. Answer: (b) gloomy

The solution is in Hindi. Read it online.

Q83. Answer: (c) contestants

The solution is in Hindi. Read it online.

Q84. Answer: (c) Definite

The solution is in Hindi. Read it online.

Q85. Answer: (a) The assignment must be completed by the students by Friday.

Key Points

• The original sentence is in the active voice, and to convert it to the passive voice, the object of the active sentence becomes the subject of the passive sentence.

• The modal verb 'must' remains unchanged when transforming the sentence from active to passive voice.

• The phrase 'by the students' is added to indicate who is performing the action in the passive voice.

• The verb 'complete' changes to 'be completed' to form the passive voice structure.

Hence, the correct answer is option 1.

Correct sentence: The assignment must be completed by the students by Friday.

Additional Information

• Option 2 ('The assignment will be completed by the students by Friday.') incorrectly changes the modal verb 'must' to 'will', altering the meaning and sense of obligation present in the original sentence.

• Option 3 ('The students will have completed the assignment by Friday.') remains in active voice and changes the tense, making it an incorrect transformation.

• Option 4 ('The assignment must be complete by Friday by the students.') is a less preferred construction due to awkward phrasing and redundancy in the placement of 'by the students'.

Q86. Answer: (b) catalyst

The solution is in Hindi. Read it online.

Q87. Answer: (a) birth

The correct answer is 'Option 1' i.e. 'birth' is the correct fill for the blank.

Key Points

• The term 'birth' refers to the act of being born or the process of giving birth.

• It is the appropriate word to use when describing the arrival of a new baby.

• The context of the sentence clearly indicates that it is talking about the event of a baby entering the world, which is correctly described by the term 'birth'.

• The use of 'birth' correctly fits the blank to complete the sentence meaningfully and grammatically.

Therefore, the correct answer is- Correct answer.

Additional Information

• 'Breath' refers to the air taken into or expelled from the lungs.

• 'Broth' is a liquid medium in which meat, fish, cereal grains, or vegetables have been cooked.

• 'Berth' is a ship's allotted place at a wharf or dock or a bed on a ship or train.

• None of these options fit the context of the sentence, which is specifically about the event of giving birth.

YourMockTest.com — Free Study Material

Q88. Answer: (d) pin money

The solution is in Hindi. Read it online.

Q89. Answer: (a) Approval

The solution is in Hindi. Read it online.

Q90. Answer: (c) PORQ

Key Points

• The correct sequence to form a meaningful sentence is "Engaging in physical activity (P) on a regular basis (O) can improve (O) cardiovascular health, reduce (R) the risk of chronic diseases, and boost mental health (Q)".

• Option 3 (PORQ) correctly arranges these sentence parts to convey a clear, logical message about the benefits of regular physical activity.

• Beginning the sentence with "Engaging in physical activity" sets the subject and action immediately, making it clear what the focus of the sentence is.

• The use of "on a regular basis" following the subject emphasizes the importance of consistency in activity for health benefits.

Therefore, the correct answer is- option 3.

Additional Information

• Option 1 (RPOQ) does not logically order the sentence, as it incorrectly places the improvement of cardiovascular health before the mention of engaging in physical activity.

• Option 2 (PROQ) disrupts the logical flow by positioning the reduction of risk before explaining what action leads to these health benefits.

• Option 4 (OQRP) also does not make sense as it starts with the effect before mentioning the cause, which is engaging in physical activity.

• Correct sequencing is crucial for clarity and coherence in sentence construction, as demonstrated by the correct answer.

Q91. Answer: (a) D, A, C, E, B

Key Points

• The correct order of the sentence parts starts with "D) he is so rude" as it introduces the subject of the sentence.

• Following "D", "A) to his neighbours" logically continues the sentence, indicating to whom the subject's rudeness is directed.

• Next, "C) that no one even" adds further information about the extent of the subject's rudeness.

• The sequence is logically continued with "E) knows that his", which connects the preceding information to the final detail about the subject.

• Finally, "B) first name is Adam" completes the sentence, revealing the specific detail that was unknown due to the subject's rudeness.

Hence, the correct answer is option 1.

Correct sentence: "He is so rude to his neighbours that no one even knows that his first name is Adam."

Additional Information

• Option 2 ("B, D, A, C, E") incorrectly starts with the subject's name, which does not logically introduce the context of rudeness or the reaction of the neighbours.

• Option 3 ("A, C, B, D, E") creates a disjointed sentence that does not logically flow or make coherent sense.

• Option 4 ("C, E, B, A, D") also fails to create a coherent sentence, starting in the middle of the thought process rather than introducing the subject and his behavior.

Q92. Answer: (b) I use to

The correct answer is 'Option 2' i.e. this part of the sentence has an error.

Key Points

• The error in the sentence is in the phrase "I use to". The correct expression should be "I used to" when referring to habits or repeated actions in the past.

• The phrase "used to" is a modal verb phrase that indicates past habits or states. It is always followed by the base form of a verb.

• The error involves the incorrect use of the verb tense. The past tense "used" is needed to correctly form the expression.

• Correcting "I use to" to "I used to" resolves the grammatical error, making the sentence reflect a past habit accurately.

Hence, the correct answer is option 2.

Correct sentence: "When I was in 5th grade, I used to ride on my red bicycle."

Additional Information

• "When I was in 5th grade," is a time clause that correctly sets the scene in the past with no errors.

YourMockTest.com — Free Study Material

• "ride on my" is correctly used, indicating the action of riding something, in this case, a bicycle.

• "red bicycle" correctly describes the object of the sentence with an adjective-noun combination and contains no grammatical errors.

Q93. Answer: (d) Bring to book

The solution is in Hindi. Read it online.

Q94. Answer: (d) nostalgia

The solution is in Hindi. Read it online.

Q95. Answer: (c) Corpus

The solution is in Hindi. Read it online.

Q96. Answer: (a) empire

The correct answer is 'Option 1' i.e. 'empire' is the most appropriate word to fill in the blank.

Key Points

• The term 'empire' is fitting because it connotes a vast and influential domain, which aligns with the global reach and impact of Walt Disney's entertainment ventures.

• 'Empire' aptly describes the expansive nature of Disney's operations, including theme parks, movies, merchandise, and more.

• The use of 'empire' emphasizes the significance and dominance of Disney in the entertainment industry.

• Referring to Disney's business as an 'empire' also hints at the variety of entertainment sectors it encompasses and its influential role in shaping popular culture globally.

Therefore, the correct answer is- Option 1.

Additional Information

• 'Power' often refers to the ability or capacity to do something or act in a particular way, not directly conveying the scale or diversity of Disney's operations.

• 'Province' typically denotes a principal administrative division of certain countries or territories, which does not accurately describe the entertainment conglomerate that Disney is.

• 'Country' is used to denote a nation with its own government, occupying a particular territory. Using 'country' would not be appropriate to describe a company like Disney.

Q97. Answer: (d) recognisable

The correct answer is 'Option 4' i.e. recognisable as the most appropriate option to fill in blank number 2.

Key Points

• The passage discusses the iconic status of Mickey Mouse's ears as a corporate logo.

• The word 'recognisable' fits the context perfectly, as it describes something that is easily identified or acknowledged by people universally.

• Mickey Mouse's ears are indeed one of the most recognisable symbols worldwide, aligning with the description in the passage.

• The passage emphasizes the universal recognition and iconic status of the Disney logo, making 'recognisable' the most suitable choice.

Hence, the correct answer is option 4.

Additional Information

• 'Visible' means able to be seen, which does not specifically imply the iconic or universally recognised nature of the logo.

• 'Measurable' refers to something that can be quantitatively assessed, which is irrelevant to the context of recognizability.

• 'Notifiable' means requiring to be officially reported or declared, which is unrelated to the context of a logo's recognizability.

Q98. Answer: (c) animator

The correct answer is 'Option 3' i.e. animator is the correct fill for the blank.

Key Points

• The passage discusses Walt Disney's early career in animation, focusing on his work and creative pursuits.

• The term 'animator' accurately reflects Disney's profession and role in producing animated films and cartoons.

• Disney's desire to transition from mixed media to fully animated films highlights his dedication to animation.

• The context of the passage, which revolves around the creation and development of animated characters, supports the use of 'animator' as the most appropriate option.

Hence, the correct answer is option 3.

Additional Information

• Artisan and Craftsman refer to skilled workers who make things by hand, which doesn't precisely fit the context of creating animated films.

• Miniaturist is someone who paints miniature portraits or scenes, which is not related to the process of animation.

Q99. Answer: (a) striking

The correct answer is 'Option 1' i.e. striking a deal.

Key Points

• The phrase "striking a deal" is commonly used to mean reaching an agreement or finalizing a transaction, which fits the context of Walt Disney beginning a new business venture with Universal.

• The word striking in this context refers to the act of making or entering into an agreement, which is exactly what Disney did with Universal regarding Oswald the Lucky Rabbit.

• Using "striking" correctly conveys the initiation of a business relationship or partnership, which is a crucial aspect of the narrative being described.

• The sentence describes a significant turning point in Walt Disney's career, making the word striking appropriate as it emphasizes the impact and importance of this deal.

Hence, the correct answer is option 1.

Additional Information

• The option "crossing" usually refers to the act of going across something but does not fit well in the context of forming a business agreement.

• "Bewitching" means enchanting or delightful, which does not align with the context of a business transaction.

• "Possessing" refers to owning or having something, which is not suitable for describing the action of making a deal.

Q100. Answer: (a) apparently

The correct answer is 'Option 1' i.e. apparently is the correct fill for the blank.

Key Points

• The word "apparently" means "as far as one knows or can see," which fits the context of the sentence, indicating the name was chosen seemingly at random.

• The passage discusses the historical context of Disney's character creation, emphasizing the element of chance in choosing Oswald's name, making "apparently" the most logical choice.

• Using "apparently" suggests that the selection process was not based on specific criteria but rather on the appearance of randomness or chance.

• "Apparently" aligns with the tone and content of the passage, which narrates a significant moment in animation history with a touch of serendipity.

Hence, the correct answer is option 1.

Additional Information

• "Anatomically" refers to something related to the physical structure of a body, which does not fit the context of selecting a name from a hat.

• "Reasonably" suggests a logical or rational process, which contradicts the implied randomness of the selection process described.

• "Outwardly" means something that appears to be the case from the outside but may not reflect the inner reality, which does not accurately describe the process of selecting a name from a hat in this context.

More previous year papers and mock tests: **www.yourmocktest.com/pyq**