# SSC CHSL Tier-1 2023: Official Paper (Held On: 08 Aug, 2023 Shift 4) (Previous Year Paper)

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

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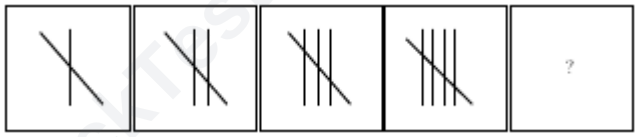
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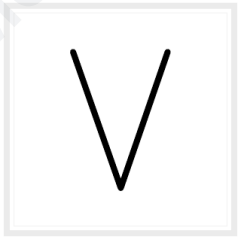
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## ENGLISH LANGUAGE

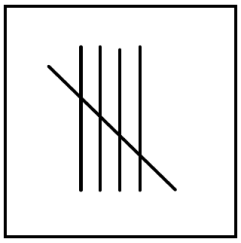
**Q1.** Identify the figure given in the options which when put in place of the question mark (?) will logically complete the series.



**(a)**



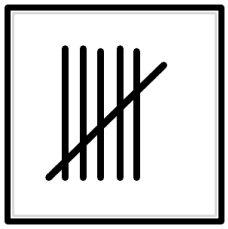
**(b)**



**(c)**



**(d)**



**Q2.** 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 Shoes are Feet. Some Shoes are Boxes. All Boxes are Houses.

Conclusions:

(I) Some Houses are Shoes.

(II) Some Feet are Boxes.

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

**Q3.** In a certain code language, ‘DRAWN’ is coded as '25761' and 'WARNE' is coded as '57264'. What is the code for ‘E' in the given code language?

**(a)** 2
**(b)** 1
**(c)** 4
**(d)** 5

**Q4.** What will come in the place of the question mark (?) in the following equation if ‘+’ and '-' are interchanged and ‘x’ and '÷' are interchanged?

42 × 7 ÷ 12 - 77 + 13 = ?

**(a)** 140
**(b)** 131
**(c)** 136
**(d)** 134

**Q5.** Four number-pairs have been given, out of which three are alike in some manner and one is different. Select the one that is different.

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

19 : 370

17 : 298

11 : 130

15 : 244

**(a)** 19 : 370
**(b)** 11 : 130
**(c)** 17 : 298
**(d)** 15 : 244

**Q6.** What should come in place of ? in the given series?

16 19 25 34 46 ?

**(a)** 69
**(b)** 61
**(c)** 63
**(d)** 65

**Q7.** If 11 August 1918 is Sunday, then what will be the day of the week on 4 December 1925?

**(a)** Saturday
**(b)** Tuesday
**(c)** Monday
**(d)** Friday

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**Q8.** In a certain code language,

L + B means L is the father of B,

L - B means L is the mother of B,

L × B means L is the son of B,

L ÷ B means L is the daughter of B.

Based on the above, if Z ÷ Y + S × V - U, then how is Z related to V?

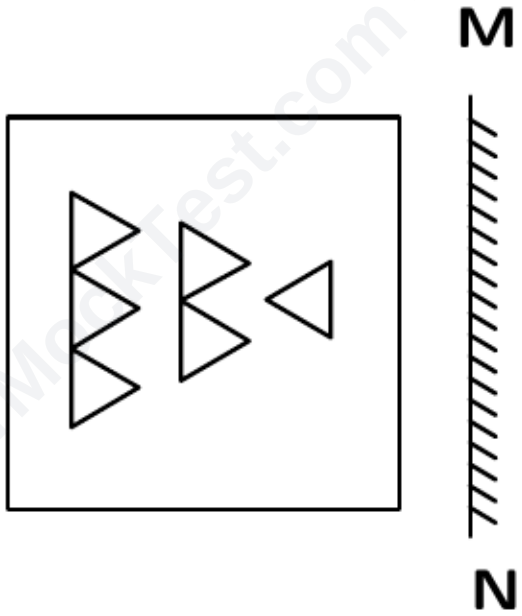
**(a)** Wife

**(b)** Mother

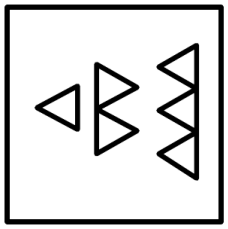
**(c)** Husband

**(d)** Daughter

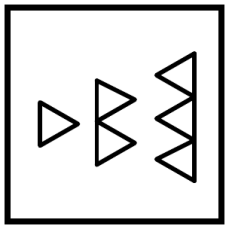
**Q9.** Select the correct mirror image of the given figure when the mirror is placed at MN as shown.




**(a)**

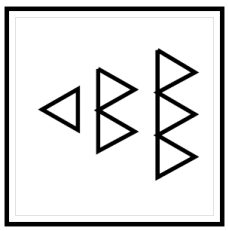


**(b)**

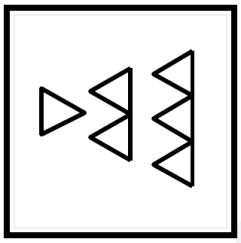


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**(c)**



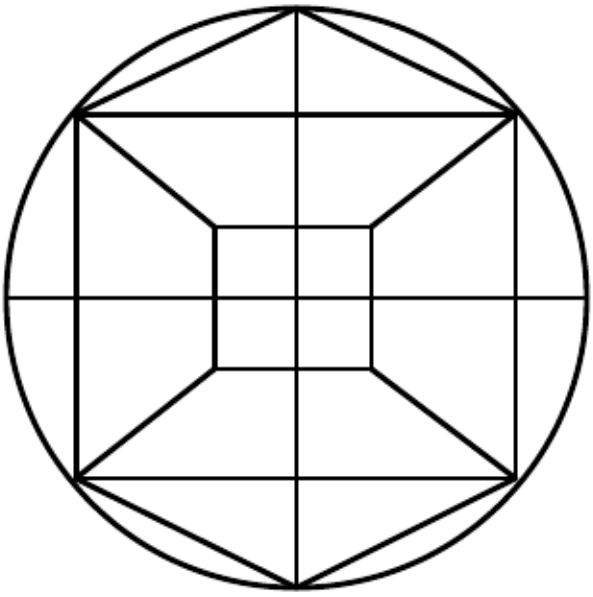
**(d)**



**Q10.** Three of the following four letter-clusters are alike in a certain way and thus form a group. Which is the one that does NOT belong to that group?

**(a)** WYZ
**(b)** EGH
**(c)** CEF
**(d)** TVX

**Q11.** How many squares are there in the given figure?



**(a)** 11
**(b)** 12
**(c)** 10
**(d)** 9

**Q12.** 75 is related to 25 in a certain way. Following the same logic, 69 is related to 23. To which of the following is 93 related, following the same logic?

**(a)** 31
**(b)** 39
**(c)** 30
**(d)** 38

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**Q13.** Select the correct combination of letters to sequentially replace the blanks and to make the given series logically complete.

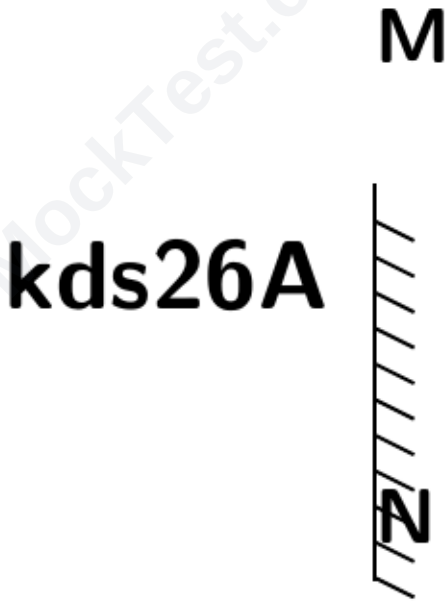
D _ D _ E _ D _ _ D E _

**(a)** DEDDED
**(b)** EDEDED
**(c)** EDDEDD
**(d)** DEEDEE

**Q14.** DFCB is related to LNKJ in a certain way based on the English alphabetical order. In the same way, OQNM is related to WYVU. To which of the following is JLIH related to, following the same logic?

**(a)** RTSQ
**(b)** RTQP
**(c)** RQPT
**(d)** PRON

**Q15.** Select the correct mirror image of the given figure when the mirror is placed at MN as shown below.




**(a)**




**(b)**




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**(c)**



**(d)**



**Q16.** EGDH is related to KMJN in a certain way based on the English alphabetical order. In the same way, QSPT is related to WYVZ. To which of the following is CEBF related to, following the same logic?

**(a)** IKHL
**(b)** HKIL
**(c)** KMJN
**(d)** HGJK

**Q17.** Which term from among the given options can replace the question mark (?) in the following series to make it logically complete?

QX 10, ?, WD 30, ZG 26, CJ 130

**(a)** SB 15
**(b)** TA 6
**(c)** SC 12
**(d)** TB 18

**Q18.** What should come in place of the question mark (?) in the given series?

717, 738, 757, ?, 789

**(a)** 784
**(b)** 787
**(c)** 774
**(d)** 772

**Q19.** Select the triad in which the numbers are related in the same way as are the numbers of the following triads.

4 - 200 - 5

6 - 420 - 7

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

**(a)** 3 - 660 - 9
**(b)** 7 - 780 - 8
**(c)** 8 - 720 - 9
**(d)** 4 - 400 - 7

**Q20.** In a certain code language,

'W + V' means 'W is the sister of V',

'W # V' means 'W is the husband of V',

'W $ V' means 'W is the daughter of V',

'W % V' means 'W is the mother of V',

'W @ V' means 'W is the brother of V'.

Based on the above, which of the following expressions denotes that 'Y is the wife of Z'?

**(a)** Z @ R + K + P % Y
**(b)** P $ Y % R + K % Z
**(c)** Y % P # K + R % Z
**(d)** Y % P + K @ R $ Z

**Q21.** Three of the following four are alike in a certain way and thus form a group. Which is the one that does NOT belong to that group?

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

**(a)** 17 - 14 - 15
**(b)** 33 - 26 - 25
**(c)** 39 - 33 - 30
**(d)** 22 - 18 - 20

**Q22.** Select the option that represents the letters that, when sequentially placed from left to right in the blanks below, will complete the letter series.

h _ jh _ ijhhi _ hh _ jh

**(a)** ihji
**(b)** jjhi
**(c)** hiji
**(d)** ihhi

**Q23.** What will come in the place of the question mark (?) in the following equation if '+' and '-' are interchanged and '×' and '÷' are interchanged?

104 - 7 ÷ 65 × 13 + 38 = ?

**(a)** 101
**(b)** 114
**(c)** 129
**(d)** 97

**Q24.** In a certain code language, 'Earth and Sun' is coded as '2% J4 9&' and 'Sun and Stars' is coded as '9& 6# 2%'. What is the code for 'Stars' in the given cade language?

**(a)** 2%
**(b)** 9&
**(c)** J4
**(d)** 6#

**Q25.** If 1 September 2002 is Sunday, then what will be the day of the week on 14 February 2003?

**(a)** Sunday
**(b)** Saturday
**(c)** Friday
**(d)** Wednesday

## GENERAL INTELLIGENCE

**Q26.** The general target of the monetary policy is to ensure _____.

A) price stability in the economy

B) greater tax collections for the government

C) employment generation in the rural areas

**(a)** Both B and C

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**(b)** Only C
**(c)** Both A and B
**(d)** Only A

**Q27.** Which cytologist demonstrated the role of the endoplasmic reticulum (ER) in protein processing and sorting in a variety of cells in the 1960s?
**(a)** Ralph M Steinman
**(b)** George E Palade
**(c)** Nettie Stevens
**(d)** Cyril Darlington

**Q28.** As per the responsibilities defined in National Food Security Act, 2013, which of the following is a responsibility of the state/UT government?
**(a)** Transportation of foodgrains up to designated depots in each state/UT
**(b)** Allocation of required foodgrains to states/UTs
**(c)** Delivery of foodgrains from designated FCI godowns
**(d)** Identification of eligible households

**Q29.** At the Asian Wrestling Championships 2023 in Astana, Kazakhstan, who won silver in the 53 kg weight category?
**(a)** Reetika Hooda
**(b)** Anshu Malik
**(c)** Antim Panghal
**(d)** Sonam Malik

**Q30.** On which day was it announced that the Khel Ratna award will be declared as the Major Dhyan Chand Khel Ratna award?
**(a)** 29 August 2020
**(b)** 6 August 2021
**(c)** 29 August 2021
**(d)** 6 August 2020

**Q31.** In which year did the Government of India bring FRBM (Fiscal Responsibility and Budget Management) Act into effect?
**(a)** 2015-16
**(b)** 2012-13
**(c)** 2004-05
**(d)** 2008-09

**Q32.** Pushkar Mela is a popular cultural festival of which state?
**(a)** Assam
**(b)** Bihar
**(c)** Rajasthan
**(d)** Sikkim

**Q33.** The number of significant figures in 0.05800 are:
**(a)** two
**(b)** four
**(c)** six
**(d)** five

**Q34.** Which of these is NOT a characteristic of durable goods?
**(a)** They are capable of repetitive use.
**(b)** They are not extinguished by immediate consumption.
**(c)** They are meant for repetitive purchases.
**(d)** They have a relatively long life.

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**Q35.** As per In the year 2022, which Indian airport had the most passengers and aircraft movements?

**(a)** Chhatrapati Shivaji Maharaj International Airport (Mumbai)
**(b)** Rajiv Gandhi International Airport (Hyderabad)
**(c)** Indira Gandhi International Airport (Delhi)
**(d)** Kempegowda International Airport (Bengaluru)

**Q36.** In the Union Budget 2023-24, the Government of India has adopted Seven Priorities, which are termed as _____.

**(a)** Spatasiddanth
**(b)** Saptarishi
**(c)** Saptanga
**(d)** Spatasutra

**Q37.** According to Census of India 2011, which of the following States/Union Territories are in correct descending order of literacy rate?

**(a)** Kerala, Goa, Maharashtra
**(b)** Kerala, Lakshadweep, Mizoram
**(c)** Kerala, Puducherry, Goa
**(d)** Kerala, Uttarakhand, Tamil Nadu

**Q38.** Which of the following ancient texts is a source to study Bharatanatyam?

**(a)** Abhinaya Darpana
**(b)** Abhigyan Shakuntalam
**(c)** Ashtadhyayi
**(d)** Arthashastra

**Q39.** Which of the following items is NOT a part of the non-plan revenue expenditure of the government budget?

**(a)** Salaries and pensions
**(b)** Subsidies
**(c)** Defence services
**(d)** Central assistance for states and union territories

**Q40.** What did the term 'bhoga' refer to during the medieval period?

**(a)** Revenue assignments
**(b)** Donations to temples
**(c)** A festival
**(d)** Religious function

**Q41.** The Koya movement in Malkangiri, during 1880, (now in Odisha) was led by:

**(a)** Ratna Naik
**(b)** Tama Dora
**(c)** Rindo Majhi
**(d)** Dayanidhi Dharua

**Q42.** Which of the following awards was presented to Guru Bipin Singh, a popular Manipuri dancer?

**(a)** Saraswati Samman
**(b)** Kalamandal Puraskar
**(c)** Sangeet Natak Akademi Award
**(d)** Padma Shri

**Q43.** Zakir Hussain is associated with which musical instrument?

**(a)** Santoor
**(b)** Sitar
**(c)** Tabla
**(d)** Piano

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**Q44.** The radius of curvature of a charged particle's passage in a homogeneous magnetic field is proportional to:

**(a)** energy of particle
**(b)** charge of particle
**(c)** momentum of particle
**(d)** strength of the field

**Q45.** At the 2023 Khelo India Youth Games, how many silver medals were won by Maharashtra?

**(a)** 50
**(b)** 55
**(c)** 56
**(d)** 60

**Q46.** Which of these is NOT among the reforms related to agriculture undertaken under the five year plans?

**(a)** Introduction of the policy of 'land to the tiller'
**(b)** Introduction of the Land Ceiling Act
**(c)** Launch of the high yielding variety seed technology
**(d)** Formation of Rent Authority Department

**Q47.** Which of the following is the primary factor contributing to the dryness of old wells?

**(a)** Wells have been covered.
**(b)** People have stopped utilising wells.
**(c)** A lot of boring pumps have been set up in the adjacent areas.
**(d)** The ground surrounding the wells has been covered with a layer of vegetation,

**Q48.** Which of the following Articles of the Indian Constitution is related to the Right to Freedom?

**(a)** Article 17
**(b)** Article 19
**(c)** Article 18
**(d)** Article 16

**Q49.** What is the direction of the southeast trade winds in India during the southwest monsoon season?

**(a)** South-easterly
**(b)** North-westerly
**(c)** South-westerly
**(d)** North-easterly

**Q50.** The Fundamental Rights have been guaranteed to protect the public from repressive state actions; judicial decisions tend to expand the scope of the word 'State' as defined by _____ of the Indian Constitution.

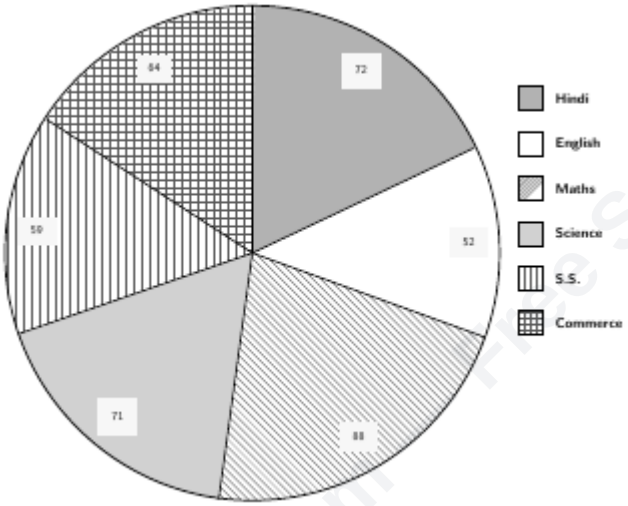
**(a)** Article 12
**(b)** Article 14
**(c)** Article 15
**(d)** Article 13

## QUANTITATIVE APTITUDE

**Q51.** Study the given pie chart and answer the question that follows.

The pie chart represents the marks (out of 100) obtained by Shweta in different subjects - Hindi, English, Maths, Science, Social Science (S.S.), and Commerce in her class-X examination.

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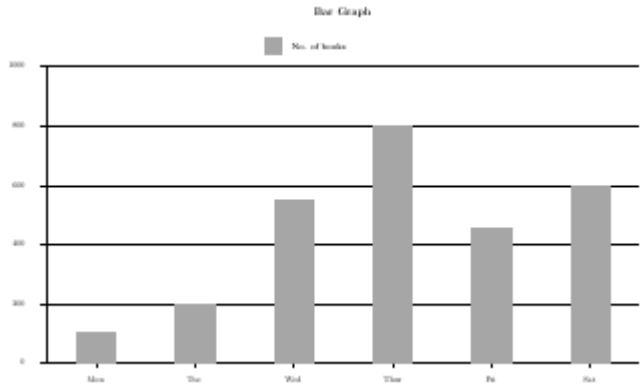

The marks obtained in English and S.S. are what per cent less than the marks obtained in Hindi and Maths?

**(a)** 301/8%
**(b)** 315/8%
**(c)** 305/8%
**(d)** 311/8%

**Q52.** The arc length of a sector of a circle that subtends a 22.5° angle at the centre is given as 16.5 cm. What will be the radius (in cm) of the circle? [Use π = 22/7]

**(a)** 35
**(b)** 49
**(c)** 42
**(d)** 48

**Q53.** The table shows the sales of books from a school cooperative store in week days.



In how many days are the sales of books below the average sale?

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

**Q54.** A sells a cycle to B at a profit of 33% and B sells it to C at a loss of 25%. If C bought the cycle for Rs. 3,059. then the cost price of it for A was:

**(a)** Rs. 3,0662/3
**(b)** Rs. 2,0441/3
**(c)** Rs. 4,0541/3
**(d)** Rs. 5,0142/3

**Q55.** If (4y-4/y)=11, find the value of ($y^2$+1/($y^2$)).

**(a)** 79/16
**(b)** 59/16
**(c)** 911/16
**(d)** 99/16

**Q56.** If (y-1/y)=-9, what will be the value of (y^5-1/(y^5)).

**(a)** -62757
**(b)** -62748
**(c)** -62739
**(d)** -59049

**Q57.** A mobile is marked at a price 25% above its cost price. At what discount percentage it should be sold to make a 5% profit?

**(a)** 16%
**(b)** 15%
**(c)** 18%
**(d)** 17%

**Q58.** Basanthi deposited Rs. 50,000 in a co-operative bank which is giving compound interest at the rate of 10% per annum. What will be her interest in the 3rd year?

**(a)** Rs. 66,550
**(b)** Rs. 6,050
**(c)** Rs. 5,050
**(d)** Rs. 10,050

**Q59.** If the simple interest on Rs. 2,500 is more than the interest on Rs. 1,500 by Rs. 360 in 3 years. then find the rate of interest per annum.

**(a)** 11%
**(b)** 9%
**(c)** 10%
**(d)** 12%

**Q60.** What is the area of a triangular flower bed of a garden whose perimeter is 20 metres and two sides are 5 metres and 6 metres.

**(a)** 10√2 $m^2$
**(b)** 2√10 $m^2$
**(c)** 5√2 $m^2$
**(d)** 4√5 $m^2$

**Q61.** Find the radius of the circle $x^2 + y^2 = 25$.

**(a)** 25 units
**(b)** 5 units
**(c)** 2 units
**(d)** 12 units

**Q62.** Raman spends 75% of his income, If his income increases by 20% and expenditure also increases by 10%, then by what per cent will Raman's savings increase?

**(a)** 35%
**(b)** 40%
**(c)** 50%
**(d)** 45%

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**Q63.** A is twice a good worker as B and together they finish the work in 20 days. In how many days can A alone do it?

**(a)** 25 days
**(b)** 36 days
**(c)** 20 days
**(d)** 30 days

**Q64.** If the two interior opposite angles of an exterior angle of a triangle are 35°and 65°, then the measurement of the exterior angle is:

**(a)** 135°
**(b)** 125°
**(c)** 100°
**(d)** 90°

**Q65.** A car covers the first 210 km at a speed of 70 km/h. It covered the next 170 km at a speed of 85 km/h. What is its average speed?

**(a)** 72 km/h
**(b)** 76 km/h
**(c)** 74 km/h
**(d)** 68 km/h

**Q66.** The value of (3+8× 8÷8 of 8+7÷ 7× 2)/(5÷ 5 of 4+3× 3÷3-3+2) is:

**(a)** 13/5
**(b)** 22/3
**(c)** 14/7
**(d)** 23/7

**Q67.** The value of sec 54°/(cosec 36°)+tan 70°/cot 20°-2tan 45° is equal to:

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

**Q68.** If a : b = 5 : 7, then $(6a^2 - 2b^2) : (b^2 - a^2)$ will be:

**(a)** 12 : 5
**(b)** 21 : 5
**(c)** 13 : 6
**(d)** 17 : 8

**Q69.** Evaluate (√3+√2)/(√3-√2), given that √6 = 2.45.

**(a)** 7.7
**(b)** 9.9
**(c)** 8.8
**(d)** 6.6

**Q70.** The marked price of an item is 25% more than that of its cost price. If a discount of 10% is given on the marked price, then the gain percentage is:

**(a)** 101/2%
**(b)** 91/2%
**(c)** 131/2%
**(d)** 121/2%

**Q71.** In a triangle ABC, AP the bisector of angle A, is perpendicular to BC at point P The measures of BP and PC are x and 3y, respectively: The measures of AB and AC are 4x and (5y + 21), what is the value of (x + y)?

**(a)** 21
**(b)** 15

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**(c)** 12
**(d)** 18

**Q72.** If sec A=17/15, then what is the value of cot A?

**(a)** 15/21
**(b)** 15/7
**(c)** 8/15
**(d)** 15/8

**Q73.** A train travelling at 80 km/h crosses another train travelling in the same direction at 26 km/h in 30 seconds. What is the combined length of both the trains?

**(a)** 400 m
**(b)** 450 m
**(c)** 550 m
**(d)** 350 m

**Q74.** Study the given table and answer the question that follows.

Marks obtained (out of 100) by four students P, Q, R, and S in four subjects in an examination are given in the table.

| **MM. 100** | **Students** | | | |
|---|---|---|---|---|
| Subjects | P | Q | R | S |
| Mathematics | 80 | 56 | 45 | 78 |
| Statistics | 78 | 60 | 54 | 70 |
| Physics | 70 | 50 | 40 | 60 |
| Geology | 65 | 52 | 49 | 57 |

Which student has scored the marks in the ratio of 10 : 13 in Physics and Mathematics?

**(a)** S
**(b)** Q
**(c)** P
**(d)** R

**Q75.** If sec θ - tan θ = 1/√3, then the positive value of cot θ + cos θ is:

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

## GENERAL AWARENESS

**Q76.** Select the INCORRECTLY spelt word.

**(a)** Interrogation
**(b)** Magistrate
**(c)** Preliminary
**(d)** Diciplinary

**Q77.** Identify the correct spelling of the underlined word.

Those friends meet occassionaly

**(a)** accationally
**(b)** occasionally
**(c)** ocassionaly
**(d)** occationally

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**Q78.** Parts of the following sentence have been given as options. One of them may contain an error. Select the option that contains the error. If you don't find any error, mark 'No error' as your answer.

In this world of competitions, every one of us is required to plan our course careful.

**(a)** every one of us is required
**(b)** No error
**(c)** In this world of competitions
**(d)** to plan our course careful

**Q79.** Select the most appropriate option that can substitute the underlined segment in the given sentence.

She makes sure that all the newly realised books are available in her personal library

**(a)** the newly released books
**(b)** the newly regaled books
**(c)** the newly relieved books
**(d)** the newly reverberated books

**Q80.** Sentences of a paragraph are given below in jumbled order. Arrange the sentences in the correct order to form a meaningful and coherent paragraph.

A. The museum exhibit showcased an impressive collection of ancient artifacts.

B. Visitors from around the world came to marvel at the intricate carvings and delicate pottery, each piece telling a story of the people who had created it.

C. The museum's director was proud of the exhibit and the efforts his team had made to curate it.

D. However, one day, a visitor claimed to recognise a piece that had been stolen from his family's home many years ago.

E. The director was shocked and vowed to investigate the matter thoroughly

**(a)** CABDE
**(b)** BCEDA
**(c)** CDEAB
**(d)** ABCDE

**Q81.** Select the option that expresses the given sentence in active voice.

She is given proper guidance by her boss.

**(a)** Her boss will give her proper guidance.
**(b)** Her boss has given her proper guidance.
**(c)** Her boss gave her proper guidance.
**(d)** Her boss gives her proper guidance.

**Q82.** Select the most appropriate ANTONYM of the given word.

Witty

**(a)** Serious
**(b)** Cynical
**(c)** Callous
**(d)** Giddy

**Q83.** Directions: Each item in this section consists of a sentence with an underlined word followed by four words/group of words. Select the option that is nearest in meaning to the underlined word and mark your response on the answer sheet accordingly.

The children did not like the abominable table manners of old aunt.

**(a)** delectable
**(b)** stringent
**(c)** obnoxious
**(d)** inflexible

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**Q84.** Select the option that can be used as a one-word substitute for the given group of words.

A person who believes that all events are predetermined or subject to fate

**(a)** Fatalist
**(b)** Credulous
**(c)** Egotist
**(d)** Aristocrat

**Q85.** The following sentence has been divided into parts. One of them may contain an error. Select the part that contains the error from the given options.

The investigation conducting by the research team / yielded statistically significant results / providing substantial evidence / to support the hypothesis.

**(a)** to support the hypothesis.
**(b)** yielded statistically significant results
**(c)** providing substantial evidence
**(d)** The investigation conducting by the research team

**Q86.** Select the most appropriate meaning of the given idiom.

A hard nut to crack

**(a)** Any subject which several folks are talking about
**(b)** Something that people believe or accept as true without questioning it
**(c)** An excessive enthusiasm or rage about a minor matter
**(d)** A problem that is difficult to solve

**Q87.** Select the most appropriate ANTONYM to replace the underlined word in the following sentence.

Darwin drew our attention to the gradual accumulation of unfavourable traits and its direct relationship with the survival of those presumed lucky species, which then serve as breeding grounds for more desirable traits.

**(a)** advantageous
**(b)** fulfilling
**(c)** steady
**(d)** negative

**Q88.** Parts of a sentence are given below in jumbled order. Arrange the parts in the correct order to form a meaningful sentence.

P. Crane was the fourteenth child of a methodist minister

Q. born in Newark, New Jersey

R. who had signed the declaration of independence

S. who named him after an ancestor

**(a)** PQSR
**(b)** PQRS
**(c)** QPSR
**(d)** QPRS

**Q89.** Select the appropriate ANTONYM of the underlined word to fill in the blank.

Our administration uses _____ techniques to get their work done. They do not rely on overt tactics.

**(a)** covert
**(b)** apparent
**(c)** clear
**(d)** patent

**Q90.** Select the most appropriate option that can substitute the underlined segment in the given sentence. If there is no need to substitute it, select ‘No substitution required’.

If I was you, I would not have appeared for the entrance exam.

**(a)** would
**(b)** would have been

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**(c)** No substitution required
**(d)** were

**Q91.** Select the most appropriate ANTONYM of the underlined word in the following sentence.

Conducting in-depth research and analysis of a startup as part of creating an investment memo is an important step for potential investors to evaluate the viability and potential of the startup.

**(a)** Liability
**(b)** Incredibility
**(c)** Feasibility
**(d)** Extempore

**Q92.** Select the option that expresses the given sentence in passive voice.

Mr. Hamel teaches the boys.

**(a)** The boy's are taught by Mr. Hamel.
**(b)** The boys are being taught by Mr. Hamel.
**(c)** The boys are taught by Mr. Hamel.
**(d)** The boys were taught by Mr. Hamel.

**Q93.** Select the most appropriate idiom for the following sentence.

Her visits to her family are very rare because she lives out of the country.

**(a)** Few and far between
**(b)** Egg on
**(c)** Beck and call
**(d)** All in all

**Q94.** Select the most appropriate ANTONYM of the underlined word.

My friend believes in supernatural elements in the universe.

**(a)** Magical
**(b)** Usual
**(c)** Unkind
**(d)** Unnatural

**Q95.** The following sentence has been divided into parts. One of them may contain an error. Select the part that contains the error from the given options. If you don't find any error, mark 'No error' as your answer.

It was Ravi, not his friends, / who were shouting / at late hours last night.

**(a)** It was Ravi, not his friends,
**(b)** No error
**(c)** who were shouting
**(d)** at late hours last night.

**Directions**

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

Unemployment is a major issue in India that (1)_____millions of people across the country. Despite being one of the fastest-growing economies in the world, India has struggled to create (2)____jobs to keep up with its rapidly expanding population. The unemployment rate in India varies widely (3)____ different states and regions. Young people, in particular, face significant challenges in finding employment. Many are highly educated but lack the skills and experience needed to (4)____ in a highly competitive job market. There are many factors contributing to the high levels of unemployment in India. Some of these include a lack of investment in infrastructure, a mismatch between the skills of workers and the needs of employers, and a lack of access to finance for small and mediumsized businesses. The Indian government has launched several initiatives to address the issue of unemployment in the country. These include programs to support small businesses, increase investment in infrastructure and provide vocational training to young people. However, much more needs to be done to create sustainable, long-term employment opportunities for all Indians. Unemployment can have serious social and economic consequences, including poverty, crime and social (5)_____

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**Q96.** Select the most appropriate option to fill in blank no. 1.

**(a)** compromises
**(b)** effects
**(c)** controls
**(d)** affects

**Q97.** Select the most appropriate option to fill in blank no. 2.

**(a)** enough
**(b)** few
**(c)** many
**(d)** little

**Q98.** Select the most appropriate option to fill in blank no. 3.

**(a)** from
**(b)** between
**(c)** across
**(d)** amongst

**Q99.** Select the most appropriate option to fill in blank no. 4.

**(a)** expel
**(b)** exaggerate
**(c)** expand
**(d)** compete

**Q100.** Select the most appropriate option to fill in blank no. 5.

**(a)** cohesion
**(b)** stigma
**(c)** unrest
**(d)** solidarity

## ANSWER KEY

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

## SOLUTIONS

**Q1. Answer: (c) [figure]**

The figure that will replace the question mark (?) in the following figure series is shown below:

1) For '

' element → Number of '

' element is increasing subsequently.

Final series is

Hence, ‘option - (3)’ is the correct answer.

**Q2. Answer: (c) Both conclusions (I) and (II) follow.**

The least possible Venn diagram for the given statement is:

Conclusions:

I. Some Houses are Shoes → Follow (As, some Shoes are Boxes and all Boxes are Houses, So, all boxes comes in houses and has some part common with shoes therefore it is definitely true.)

II. Some Feet are Boxes → Follow (As, all Shoes are Feet and some Shoes are Boxes. So, all shoes comes in feet and has some part common with boxes therefore it is definitely true.)

Here, Both conclusions (I) and (II) follow.

Hence, the correct answer is "Both conclusions (I) and (II) follow".

**Q3. Answer: (c) 4**

Logic : No specific pattern is followed here, random codes are assigned to each letter.

So,

• ‘DRAWN’ is coded as '25761'

• 'WARNE' is coded as '57264'

As some letters are common, so the codes will be :

| Letters | R / A / W / N | D | E |
|---|---|---|---|
| Codes | 2 / 5 / 7 / 6 | 1 | 4 |

Therefore,

• 'E' will be coded as:

'E' is coded as '4'.

Hence, "4" is the correct answer.

**Q4. Answer: (c) 136**

Given : 42 × 7 ÷ 12 - 77 + 13 = ?

According to the question, after replacing the signs :

• ‘+’ and ‘-’ are interchanged

• ‘×’ and ‘÷’ are interchanged

So,

42 ÷ 7 × 12 + 77 - 13 = ?

6 × 12 + 77 - 13 = ?

72 + 77 - 13 = ?

149 - 13 = ?

136 = ?

Hence, "136" is the correct answer.

**Q5. Answer: (d) 15 : 244**

Logic : (Square of 1st number + 9) = 2nd number

So,

• Option - (1) : 19 : 370

$(19)^2 + 9 = 370$

361 + 9 = 370

370 = 370 (LHS = RHS)

• Option - (2) : 11 : 130

$(11)^2 + 9 = 130$

121 + 9 = 130

130 = 130 (LHS = RHS)

• Option - (3) : 17 : 298

$(17)^2 + 9 = 298$

289 + 9 = 298

298 = 298 (LHS = RHS)

• Option - (4) : 15 : 244

$(15)^2 + 9 = 244$

225 + 9 = 244

234 ≠ 244 (LHS ≠ RHS)

Hence, "Option - (4)" is the correct answer.

**Q6. Answer: (b) 61**

The logic followed here is

Hence, The correct answer is 61

**Q7. Answer: (d) Friday**

Given : 11 August 1918 was Sunday

Explanation :

The number of odd days from 11 August 1918 to 4 December 1925 :

| Year | Period | Calculation | Odd days |
|---|---|---|---|
| 1918 | 11 August 1918 - 31 December 1918 | 20 August + 30 September + 31 October + 30 November + 31 December = 142 days | 142 ÷ 7 = 2 |
| 1919 - 1924 | Full years (4 Ordinary years + 2 Leap years) | (1 odd day × 4 Ordinary years) + (2 odd days × 2 Leap years) = 8 odd days | 8 ÷ 7 = 1 |
| 1925 | 1st January 1925 - 4 December 1925 | 365 days - 27 days = 338 days | 338 ÷ 7 = 2 |
| Total odd days | 5 | | |

Therefore The number of odd days from 11 August 1918 to 4 December 1925 => 5

=>So, Five odd day get added to Sunday because day asked in future.

Therefore Friday was the day of the week on the 4 December 1925.

Hence, "Friday" is the correct answer.

Additional Information

• Number of odd days for the days of week.

| Days | Odd days |
|---|---|
| Sunday | 0 |
| Monday | 1 |
| Tuesday | 2 |
| Wednesday | 3 |
| Thursday | 4 |
| Friday | 5 |
| Saturday | 6 |

• Number of odd days for the days of months.

| Months having number of days | Odd days |
|---|---|
| 28 days | 0 |
| 29 days | 1 |
| 30 days | 2 |
| 31 days | 3 |

• Number of odd days for the years.

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| Years | Odd days |
|---|---|
| Ordinary year | 1 |
| Leap year | 2 |

**Q8. Answer: (d) Daughter**

Given :

| L is | | | | |
|---|---|---|---|---|
| Symbol | • | • | × | ÷ |
| Meaning | Father | Mother | Son | Daughter |
| to B | | | | |

Statement given : Z ÷ Y + S × V - U

So,

• Z ÷ Y → Z is the daughter of Y.

• Y + S → Y is the father of S.

• S × V → S is the son of V.

• V - U → V is the mother of U.

Thus, according to the final family tree Z is the daughter of V.

Hence, "Option - (4)" is the correct answer.

**Q9. Answer: (d) [figure]**

The correct mirror image of the given combination when mirror is placed at MN is as shown below:

Hence, the correct answer is "Option - (4)".

**Q10. Answer: (d) TVX**

Logic :

1. First and second letter → Difference between the position value according to the English alphabetic series is 2.
2. Second and third letter → Difference between the position value according to the English alphabetic series is 1.

So,

• Option - (1) : WYZ

• Option - (2) : EGH

• Option - (3) : CEF

• Option - (4) : TVX

Here, out of all options only 'TVX' doesn't follow the same logic as given.

Hence, "TVX" is the correct answer.

**Q11. Answer: (c) 10**

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

Thus, there are total 10 squares in the given figure.

Hence, "10" is the correct answer.

**Q12. Answer: (a) 31**

Logic : (1st number ÷ 3) = 2nd number

So,

• 75 is related to 25

75 ÷ 3 = 25

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25 = 25 (LHS = RHS)
And,
• 69 is related to 23
69 ÷ 3 = 23
23 = 23 (LHS = RHS)
Similarly,
• 93 is related to ?
93 ÷ 3 = ?
31 = ?
Hence, "31" is the correct answer.

**Q13. Answer: (c) EDDEDD**

Given : D _ D _ E _ D _ _ D E _
By checking options :
1. DEDDED → D D D E E D D D E D E D → (It doesn't Follows the pattern)
2. EDEDED → D E D D E E D D E D E D → (It doesn't Follows the pattern)
3. EDDEDD → D E D D E D D E D D E D → (It follows the pattern of : DED - DED - DED - DED)
4. DEEDEE → D D D E E E D D E D E E → (It doesn't Follows the pattern)
=>Option - (3) gives the pattern of " D E D - D E D - D E D - D E D "
Hence, "EDDEDD" is the correct answer.

**Q14. Answer: (b) RTQP**

The logic followed here is :- (8) is added to the position value according to English alphabetic series.
So,
• 'DFCB' is written as 'LNKJ'

And,
• 'OQNM' is written as 'WYVU'

Similarly,
• 'JLIH' is written as

Hence, "RTQP" is the correct answer.

**Q15. Answer: (b) [figure]**

The correct mirror image of the given combination when mirror is placed at MN is as shown below:
Detailed Explanation:
• The line MN is the mirror
• The word "kds26A" the third letter is "s". So, the mirror image should be "
" => Option 1 is eliminated.
• The word "kds26A" the second letter is "d". So, the mirror image should be "
" => Option 3 is eliminated.
• The word "kds26A" the second letter is "d". So, the mirror image should be "
" => Option 4 is eliminated.
Hence, the correct answer is "Option - (2)".

**Q16. Answer: (a) IKHL**

The logic followed here is :- (6) is added to the position value according to English alphabetic series.
So,
• 'EGDH' is written as 'KMJN'

And,
• 'QSPT' is written as 'WYVZ'

Similarly,
• 'CEBF' is written as

Hence, "IKHL" is the correct answer.

**Q17. Answer: (b) TA 6**

Logic :
• First and second letter → (3) is added to the position value according to English alphabetic series.
• Number → Alternately (4) is subtracted and multiplied by (5) to each number subsequently.
So,
Hence, "TA 6" is the correct answer.

**Q18. Answer: (c) 774**

Logic : Decreasing odd number series is subtracted from each number subsequently.
Hence, "774" is the correct answer.

**Q19. Answer: (c) 8 - 720 - 9**

Logic : (1st number × 3rd number × 10) = 2nd number
Given :
• 4 - 200 - 5
4 × 5 × 10 = 200
200 = 200 (LHS = RHS)
• 6 - 420 - 7
6 × 7 × 10 = 420
420 = 420 (LHS = RHS)
So,
• Option - (1) : 3 - 660 - 9
3 × 9 × 10 = 660
180 ≠ 660 (LHS ≠ RHS)
• Option - (2) : 7 - 780 - 8
7 × 8 × 10 = 780
560 ≠ 780 (LHS ≠ RHS)
• Option - (3) : 8 - 720 - 9
8 × 9 × 10 = 720
720 = 720 (LHS = RHS)
• Option - (4) : 4 - 400 - 7
4 × 7 × 10 = 400
280 ≠ 400 (LHS ≠ RHS)
Hence, "Option - (3)" is the correct answer.

**Q20. Answer: (d) Y % P + K @ R $ Z**

Given :

| **W is** | | | | | |
|---|---|---|---|---|---|
| Symbol | • | # | $ | % | @ |
| Meaning | Sister | Husband | Daughter | Mother | Brother |
| to V | | | | | |

So,
• Option - (1) : Z @ R + K + P % Y → Z is the brother of R who is the sister of K who is sister of P who is the mother of Y.

Here, Y is either nephew or niece of Z.

• Option - (2) : P $ Y % R + K % Z → P is the daughter of Y who is the mother of R who is the sister of K who is the mother of Z.

Here, Y is the grandmother of Z.

• Option - (3) : Y % P # K + R % Z → Y is the mother of P who is the husband of K who is the sister of R who is the mother of Z.

Here, Y is the mother-in-law of Z's maternal aunt.

• Option - (4) : Y % P + K @ R $ Z → Y is the mother of P who is the sister of K who is the brother R who is the daughter of Z.

Here, Y is the wife of Z.

Thus, only option - (4), 'Y % P + K @ R $ Z' shows that Y is the wife of Z.

Hence, "Option - (4)" is the correct answer.

**Q21. Answer: (b) 33 - 26 - 25**

Logic : (1st number - 2nd number) × 5 = 3rd number

So,

• Option - (1) : 17 - 14 - 15

(17 - 14) × 5 = 15

3 × 5 = 15

15 = 15 (LHS = RHS)

• Option - (2) : 33 - 26 - 25

(33 - 26) × 5 = 25

7 × 5 = 25

35 ≠ 25 (LHS ≠ RHS)

• Option - (3) : 39 - 33 - 30

(39 - 33) × 5 = 30

6 × 5 = 30

30 = 30 (LHS = RHS)

• Option - (4) : 22 - 18 - 20

(22 - 18) × 5 = 20

4 × 5 = 20

20 = 20 (LHS = RHS)

Hence, "Option - (2)" is the correct answer.

**Q22. Answer: (a) ihji**

Given : h _ jh _ ijhhi _ hh _ jh

By checking options :

1. ihji → h i jh h ijhhi j hh i jh → (It follows the pattern of : hijh - hijh - hijh - hijh)

2. jjhi → h j jh j ijhhi h hh i jh → (It doesn't Follows the pattern)

3. hiji → h h jh i ijhhi j hh i jh → (It doesn't Follows the pattern)

4. ihhi → h i jh h ijhhi h hh i jh → (It doesn't Follows the pattern)

=>Option - (1) gives the pattern of "hijh - hijh - hijh - hijh"

Hence, "ihji" is the correct answer.

**Q23. Answer: (a) 101**

Given : 104 - 7 ÷ 65 × 13 + 38 = ?

According to the question, after replacing the signs :

• '+' and '-' are interchanged

• '×' and '÷' are interchanged

So,

104 + 7 × 65 ÷ 13 - 38 = ?

104 + 7 × 5 - 38 = ?

104 + 35 - 38 = ?

139 - 38 = ?

101 = ?

Hence, "101" is the correct answer.

**Q24. Answer: (d) 6#**

According to the given information,

Thus, according to the given codes '6#' is the code for the word 'Stars'.

Hence, the correct answer is "6#".

**Q25. Answer: (c) Friday**

Given : 1 September 2002 was Sunday

Explanation :

The number of odd days from 1 September 2002 to 14 February 2003 :

| Year | Period | Calculation | Odd days |
|---|---|---|---|
| 2002 | 1st September 2002 - 31 December 2002 | 29 September + 31 October + 30 November + 31 December = 121 days | 121 ÷ 7 = 2 |
| 2003 | 1st January 2003 - 14 February 2003 | 31 January + 14 February = 45 days | 45 ÷ 7 = 3 |
| Total odd days | 5 | | |

Therefore The number of odd days from 1 September 2002 to 14 February 2003 => 5

=>So, Five odd day get added to Sunday because day asked in future.

Therefore Friday was the day of the week on the 14 February 2003.

Hence, "Friday" is the correct answer.

Additional Information

• Number of odd days for the days of week.

| Days | Odd days |
|---|---|
| Sunday | 0 |
| Monday | 1 |
| Tuesday | 2 |
| Wednesday | 3 |
| Thursday | 4 |
| Friday | 5 |
| Saturday | 6 |

• Number of odd days for the days of months.

| Months having number of days | Odd days |
|---|---|
| 28 days | 0 |
| 29 days | 1 |
| 30 days | 2 |
| 31 days | 3 |

• Number of odd days for the years.

| Years | Odd days |
|---|---|
| Ordinary year | 1 |
| Leap year | 2 |

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**Q26. Answer: (d) Only A**

The correct answer is Only A.

Key Points

• Monetary policy:-

• It refers to the measures taken by the central bank of a country to regulate the supply of money and credit in the economy.

• The general target of the monetary policy is to ensure price stability in the economy.

• This means that the central bank aims to keep inflation low and stable, so that prices of goods and services do not fluctuate too much.

• Inflation:-

• It is a key concern for any economy, as it erodes the purchasing power of money and makes it difficult for people to plan their finances.

• The central bank uses various tools such as interest rates, reserve requirements, and open market operations to influence the supply of money and credit in the economy and keep inflation in check.

Additional Information

• Price stability:

• Price stability means keeping inflation low and stable.

**Q27. Answer: (b) George E Palade**

The correct answer is George E Palade.

Key Points

• George E Palade:-

• He was a Romanian-American cell biologist who demonstrated the role of the endoplasmic reticulum (ER) in protein processing and sorting in the 1960s.

• Palade's discovery led to the understanding of how proteins are made, modified, and transported within cells.

• He was awarded the Nobel Prize in Physiology or Medicine in 1974 for his work on the structure and function of cells.

• Palade's research also paved the way for further studies on the mechanisms of protein synthesis and secretion, as well as the development of treatments for diseases related to protein misfolding and trafficking.

**Q28. Answer: (d) Identification of eligible households**

The correct answer is the Identification of eligible households.

Key Points

• National Food Security Act, 2013:-

• The National Food Security Act, 2013 is a legislation enacted by the Indian parliament to provide food and nutritional security to the people of India.

• The Act mandates the state/UT governments to identify eligible households for receiving foodgrains at subsidized rates under the Public Distribution System (PDS).

• Eligible households are identified based on certain criteria such as income, social status, and occupation.

• Once the eligible households are identified, the state/UT government is responsible for issuing ration cards to them and ensuring that they receive their entitled quantity of foodgrains.

• As per the responsibilities defined in National Food Security Act, 2013, the responsibility of the state/UT government is to identify eligible households.

**Q29. Answer: (c) Antim Panghal**

The correct answer is Antim Panghal.

Key Points

• Antim Panghal:-

• She won silver in the 53 kg weight category at the Asian Wrestling Championships 2023 in Astana, Kazakhstan.

• Antim Panghal is an Indian wrestler who has competed in various international wrestling tournaments and has won several medals.

Additional Information

• Reetika Hooda:-

• She is also an Indian wrestler who competes in the 53 kg weight category, but she did not participate in the Asian Wrestling Championships 2023.

• Anshu Malik:-

• She is an Indian wrestler who competes in the 57 kg weight category, so she did not win silver in the 53 kg weight category at

the Asian Wrestling Championships 2023.

• Sonam Malik:-

• She is an Indian wrestler who competes in the 62 kg weight category, so she also did not win silver in the 53 kg weight category at the Asian Wrestling Championships 2023.

**Q30. Answer: (b) 6 August 2021**

The correct answer is 6 August 2021.

Key Points

• Khel Ratna award:-

• It is the highest sporting honour in India, given by the Ministry of Youth Affairs and Sports.

• Major Dhyan Chand was a legendary Indian hockey player who won three Olympic gold medals for India in 1928, 1932, and 1936.

• On Friday August 06 2021 the Sports Ministry announced that the Khel Ratna award will be renamed as the Major Dhyan Chand Khel Ratna award.

**Q31. Answer: (c) 2004-05**

The correct answer is 2004-05.

Key Points

• Fiscal Responsibility and Budget Management Act:-

• The FRBM Act is a law passed by the Government of India to ensure fiscal discipline and reduce fiscal deficits.

• The Act was introduced in 2003 and came into effect on May 1, 2004.

• The Act aims to bring down the fiscal deficit to 3% of the GDP and the revenue deficit to zero by March 31, 2008.

• The Act also provides for the setting up of a Fiscal Responsibility and Budget Management Committee to review the implementation of the Act and suggest measures for its improvement.

**Q32. Answer: (c) Rajasthan**

The correct answer is Rajasthan.

Key Points

• Pushkar Mela:-

• It is a popular cultural festival in Rajasthan.

• It is held annually in the town of Pushkar in Ajmer district of Rajasthan.

• The festival is primarily a livestock fair where thousands of camels, horses, and cattle are traded.

• Apart from the livestock fair, Pushkar Mela also features various cultural and religious activities such as music and dance performances, camel races, and a holy dip in the Pushkar Lake.

• Pushkar Mela attracts a large number of tourists from all over the world who come to witness the unique cultural extravaganza.

Additional Information

• Assam:-

• It is known for its Bihu festival which is a celebration of the harvest season.

• Bihar:-

• It is famous for the Chhath Puja which is a festival dedicated to the Sun God.

• Sikkim:-

• It is known for the Losoong festival which is a celebration of the Tibetan New Year.

**Q33. Answer: (b) four**

The correct answer is four.

Key Points

• Significant figures:-

• These are the digits in a number that carry meaning contributing to its precision and accuracy.

• The number of significant figures in 0.05800 is four because all non-zero digits are significant, and the trailing zeros after the decimal point are also significant.

Alternate Method

=> The given number is 0.05800.

=> Leading zeros are not significant.

=> The digits 5, 8, 0, and 0 are significant.

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=> Total significant figures = 4

Therefore The number of significant figures in 0.05800 is four.

**Q34. Answer: (c) They are meant for repetitive purchases.**

The correct answer is They are meant for repetitive purchases.

Key Points

• Durable goods:-

• These are products that have a long lifespan and are intended for multiple uses.

• Examples of durable goods include cars, appliances, furniture, and electronics.

• Non-durable goods, on the other hand, are products that are quickly consumed or used up, such as food, toiletries, and cleaning supplies.

**Q35. Answer: (c) Indira Gandhi International Airport (Delhi)**

The correct answer is Indira Gandhi International Airport (Delhi).

Key Points

• Indira Gandhi International Airport (Delhi):-

• In the year 2022, Indira Gandhi International Airport (Delhi) had the most passengers and aircraft movements.

• Indira Gandhi International Airport has undergone significant expansion and modernization in recent years, which has helped it handle more passengers and aircraft movements.

• The airport has also implemented various measures to improve the passenger experience, such as self-check-in kiosks, automated baggage handling, and a wide range of dining and shopping options.

• Delhi is home to several major airlines, including Air India and IndiGo, which operate numerous flights from the airport.

Additional Information

• Chhatrapati Shivaji Maharaj International Airport (Mumbai):-

• It is located in a different region of the country.

• Mumbai is known as the financial capital of India and is also a popular tourist destination.

• Rajiv Gandhi International Airport (Hyderabad):-

• It is located in the southern part of India and serves as a major hub for both domestic and international travel. It is also the sixth-busiest airport in India.

• Kempegowda International Airport (Bengaluru):-

• It is located in the southern city of Bengaluru and serves as a major hub for both domestic and international travel.

• It is also the third-busiest airport in India.

**Q36. Answer: (b) Saptarishi**

The correct answer is Saptarishi.

Key Points

• Saptarishi:-

• It refers to the seven priorities that the Government of India has adopted in the Union Budget 2023-24.

• These priorities are aimed at promoting economic growth, social development, and environmental sustainability.

• The seven priorities are: Health and Well-being, Physical and Financial Capital and Infrastructure, Inclusive Development for Aspirational India, Reinvigorating Human Capital, Innovation and RundefinedD, Minimum Government and Maximum Governance, and Environmental Sustainability.

Additional Information

• Spatasutra:-

• It is a term used in Ayurveda and refers to the seven basic principles of healing.

• Saptanga:-

• It is a term used in Indian classical dance and music, and refers to the seven components of a performance. These components are: Nritta (pure dance), Nritya (expressive dance), Natya (dramatic representation), Geet (vocal music), Vadya (instrumental music), Aaharya (makeup and costume), and Sattvika (emotional state).

**Q37. Answer: (b) Kerala, Lakshadweep, Mizoram**

The correct answer is Kerala, Lakshadweep, Mizoram.

Key Points

• Kerala:-

• Kerala has consistently been at the top of the literacy rate rankings in India for several decades.

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• It has the highest literacy rate in India at 94.0%.
• Lakshadweep:-
• It has a literacy rate of 91.85%.
• Lakshadweep is a Union Territory of India with a small population of around 65,000 people.
• Mizoram:-
• It is a state in Northeast India with a predominantly Christian population.
• Mizoram has a literacy rate of 91.33%.

Additional Information

• Goa has a literacy rate of 87.4%.
• Maharashtra has a literacy rate of 82.9%.
• Puducherry has a literacy rate of 86.55%.
• Uttarakhand has a literacy rate of 79.6%.
• Tamil Nadu has a literacy rate of 80.09%.

**Q38. Answer: (a) Abhinaya Darpana**

The correct answer is Abhinaya Darpana.

Key Points

• Abhinaya Darpana:-
• Abhinaya Darpana is an ancient text that is considered to be a primary source for studying Bharatanatyam.
• Abhinaya Darpana was written by Nandikeshvara, a sage who is believed to have lived during the 1st or 2nd century CE.
• Bharatanatyam:-
• It is a classical dance form that originated in Tamil Nadu, India.

Additional Information

• Abhigyan Shakuntalam:-
• It is a play written by Kalidasa, a famous Sanskrit poet and playwright. It is not a source for studying Bharatanatyam.
• Ashtadhyayi:-
• It is a treatise on Sanskrit grammar written by Panini.
• Arthashastra:-
• It is an ancient Indian treatise on statecraft, economic policy and military strategy. It is not related to the study of Bharatanatyam.

**Q39. Answer: (d) Central assistance for states and union territories**

The correct answer is Central assistance for states and union territories.

Key Points

• Non-plan revenue expenditure:-
• It refers to the regular expenses incurred by the government in running its day-to-day operations and does not include any capital expenditures.
• Salaries and pensions of government employees, subsidies to various sectors, and defense services are some of the major components of non-plan revenue expenditure.
• Central assistance:-
• Central assistance for states and union territories, on the other hand, is a part of the plan expenditure, which refers to the government's spending on development and welfare schemes.
• Central assistance is provided to the states and union territories for specific purposes such as infrastructure development, poverty alleviation, and education.

Additional Information

• Salaries and pensions:
• This includes the salaries and pensions of government employees such as civil servants, police officers, and teachers.
• Subsidies:
• This refers to the financial assistance provided by the government to various sectors such as agriculture, industry, and exports, to promote their growth and development.
• Defence services:
• This includes the expenses incurred on the maintenance and modernization of the armed forces, as well as on border security and defense-related research and development.

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**Q40. Answer: (a) Revenue assignments**

The correct answer is revenue assignments.

Key Points

• Bhoga:-

• It was a term used in medieval India to refer to the revenue assignments made by the state to its officials and other beneficiaries.

• These assignments were usually in the form of land or other resources, which could be used for agricultural or other purposes.

• The term bhoga was also used to refer to the income generated from such assignments, which could be in the form of taxes, rents, or other forms of payment.

• Revenue assignments:-

• These were a crucial part of the feudal system that existed in medieval India, where the state granted land and other resources to its officials and other beneficiaries in exchange for their loyalty and service.

• These assignments were often hereditary and could be passed down from generation to generation.

Additional Information

• Donations to temples:-

• These were also common during the medieval period, but they were usually made by individuals or groups rather than the state. These donations could take the form of money, land, or other resources, and were often made as a way of earning religious merit or gaining social status.

• Festival:-

• Festivals and religious functions were important parts of medieval Indian society, but they were not directly related to the system of revenue assignments.

• It could also be referred to as bhoga in some contexts, but these were not the primary meanings of the term during the medieval period.

**Q41. Answer: (b) Tama Dora**

The correct answer is Tama Dora.

Key Points

• Tama Dora:-

• He led the Koya movement in Malkangiri in 1880.

• Koya movement:-

• The Koya movement was a tribal revolt against British colonial rule and the oppressive zamindari system.

Additional Information

• Koya people:-

• The Koya people are an indigenous tribe in India, primarily found in the states of Odisha, Andhra Pradesh, and Chhattisgarh.

• The Koya language is part of the Dravidian language family and is spoken by approximately 300,000 people.

**Q42. Answer: (c) Sangeet Natak Akademi Award**

The correct answer is Sangeet Natak Akademi Award.

Key Points

• Guru Bipin Singh:-

• Guru Bipin Singh was a renowned Manipuri dancer and choreographer who was instrumental in popularizing the dance form across the country.

• The award was given to him in the year 1984 for his contribution to the field of Manipuri dance.

• He was presented with the Sangeet Natak Akademi Award, which is a national-level award given for performing arts in India.

• He was also the founder of the Manipuri Nartanalaya, a dance academy in Imphal, which has produced many talented Manipuri dancers over the years.

Additional Information

• Saraswati Samman:-

• It is a prestigious literary award given in India, which recognizes outstanding contributions to literature in any of the 22 Indian languages.

• Kalamandal Puraskar:-

• It is a cultural award given by the Kalamandalam Deemed University of Art and Culture in Kerala, which honors artists and scholars in the field of Indian classical arts.

• Padma Shri:-

• It is a civilian award given by the Government of India, which recognizes distinguished service in various fields such as arts,

literature, science, social work, etc.

**Q43. Answer: (c) Tabla**

The correct answer is Tabla.

Key Points

• Zakir Hussain:-

• He is associated with the musical instrument Tabla.

• Zakir Hussain is a renowned Indian musician and composer who is considered a master of the tabla. He has won several awards and accolades for his contribution to Indian classical music.

Additional Information

• Santoor:-

• It is a stringed musical instrument that originated in Persia and is now popular in India.

• It is played with a pair of wooden mallets and has a unique sound that is soothing and melodic.

• Sitar:-

• It is an Indian stringed instrument that has been used in classical music for centuries.

• It has a long neck and a pear-shaped body, and is played with a plectrum and finger techniques.

• Piano:-

• It is a Western classical instrument that has keys and hammers that strike strings to produce sound.

• It is not typically associated with Indian classical music, although some musicians have experimented with incorporating it into their compositions.

**Q44. Answer: (c) momentum of particle**

The correct answer is momentum of particle.

Key Points

• Radius of curvature of a charged particle's passage:-

• The radius of curvature of a charged particle's passage in a homogeneous magnetic field is directly proportional to the momentum of the particle.

• This is because the magnetic force acting on the charged particle is perpendicular to both the direction of the magnetic field and the direction of the particle's velocity. This force causes the particle to move in a circular path with a radius proportional to its momentum.

Additional Information

• The energy of the particle and the charge of the particle do not affect the radius of curvature in a homogeneous magnetic field.

• The strength of the magnetic field does affect the radius of curvature, but it is indirectly proportional rather than directly proportional. This means that as the magnetic field strength increases, the radius of curvature decreases.

• It is important to note that this relationship only holds true for a homogeneous magnetic field, where the field strength is constant throughout the region of interest.

**Q45. Answer: (b) 55**

The correct answer is 55.

Key Points

• Khelo India Youth Games:-

• It is a national-level multi-sport event for young athletes in India.

• Maharashtra is one of the states in India that participates in the games.

• Maharashtra is one of the top-performing states in the Khelo India Youth Games.

• In the 2023 games, Maharashtra won a total of 158 medals (including gold, silver, and bronze). 55 were silver out of those.

• Maharashtra's performance was boosted by strong showings in sports such as athletics, swimming, and wrestling.

• The state has consistently performed well in the Khelo India Youth Games, with a total of 307 medals won across all editions of the event so far.

**Q46. Answer: (d) Formation of Rent Authority Department**

The correct answer is Formation of Rent Authority Department.

Key Points

• Policy of 'land to the tiller':-

• The policy of 'land to the tiller' was introduced under the first five year plan, which aimed at redistributing land from big landowners to landless farmers.

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• The policy of 'land to the tiller' was aimed at reducing land inequality and improving the economic conditions of small and marginal farmers.

Additional Information

• Land Ceiling Act:-

• The Land Ceiling Act was aimed at preventing the concentration of land in the hands of a few individuals and promoting equitable distribution of land.

• The Land Ceiling Act was also introduced under the first five year plan, which put a limit on the maximum amount of land that an individual could own.

• High yielding variety seed:-

• The high yielding variety seed technology was introduced under the third five year plan, which aimed at increasing agricultural productivity by introducing new and improved seed varieties.

• The high yielding variety seed technology was a major breakthrough in agricultural productivity, which helped India achieve self-sufficiency in food production.

• Rent Authority Department:-

• The Rent Authority Department was formed under the Rent Control Act, which aimed at regulating the rent charged by landlords and protecting the interests of tenants. However, it was not directly related to agricultural reforms.

• The Rent Authority Department was not among the reforms related to agriculture undertaken under the five year plans.

**Q47. Answer: (c) A lot of boring pumps have been set up in the adjacent areas.**

The correct answer is A lot of boring pumps have been set up in the adjacent areas.

Key Points

• Primary factor contributing to dryness of old wells:

• A lot of boring pumps have been set up in the adjacent areas, leading to depletion of groundwater resources and drying up of old wells.

• Groundwater depletion is a major issue in many parts of the world due to increasing population and demand for water.

• Wells being covered may contribute to their abandonment, but not necessarily to their dryness.

• People stopping to utilize wells may be a consequence of their dryness, not the cause.

• Vegetation around wells may actually help retain moisture and prevent evaporation, but it is not the primary factor contributing to their dryness.

Additional Information

• Boring pumps extract groundwater from aquifers, which are underground layers of permeable rock or soil that hold water.

• Overuse of groundwater resources can lead to depletion and even collapse of aquifers, causing wells to dry up.

• Groundwater depletion can also have other negative impacts, such as land subsidence, saltwater intrusion, and reduced streamflow.

• In some cases, old wells can be rehabilitated by deepening or re-drilling them, or by implementing sustainable groundwater management practices.

**Q48. Answer: (b) Article 19**

The correct answer is Article 19.

Key Points

• Article 19:-

• The Right to Freedom is enshrined in Article 19 of the Indian Constitution.

• Article 19 guarantees six freedoms to the citizens of India, namely, freedom of speech and expression, freedom of assembly, freedom of association, freedom of movement, freedom of residence, and freedom of profession, occupation, trade, or business.

• These freedoms are subject to reasonable restrictions in the interest of sovereignty and integrity of India, the security of the State, friendly relations with foreign countries, public order, decency or morality, or in relation to contempt of court, defamation, or incitement to an offense.

Additional Information

• Article 17 deals with the abolition of untouchability.

• Article 18 deals with the abolition of titles.

• Article 16 deals with equality of opportunity in matters of public employment.

**Q49. Answer: (c) South-westerly**

The correct answer is South-westerly.

Key Points

• South-westerly:-

• The direction of the southeast trade winds in India during the southwest monsoon season is South-westerly.

• The southwest monsoon season in India generally lasts from June to September.

• The southeast trade winds blow towards the equator and are deflected westwards due to the Coriolis effect.

• The south-westerly winds bring in moisture from the Arabian Sea and cause heavy rainfall in the western and southern parts of India.

Additional Information

• South-easterly winds:-

• These are the direction of the southeast trade winds during the winter monsoon season in India, which lasts from December to February.

• North-westerly winds:-

• These are the direction of the winds during the retreating monsoon season in India, which lasts from October to December.

• North-easterly:-

• These winds are the direction of the winds during the northeast monsoon season in India, which lasts from October to December and brings rainfall to the eastern coast of India.

**Q50. Answer: (a) Article 12**

The correct answer is Article 12.

Key Points

• Article 12:-

• The word 'State' is defined under Article 12 of the Indian Constitution, which includes the Government and Parliament of India, the Government and Legislature of each of the States, and all local or other authorities within the territory of India or under the control of the Government of India.

• The scope of the word 'State' has been expanded by the judiciary to include private bodies or individuals performing public functions, which has led to the application of Fundamental Rights against them as well.

Additional Information

• Article 14:-

• It guarantees the right to equality before the law and equal protection of the laws within the territory of India.

• Article 15:-

• It prohibits discrimination on grounds of religion, race, caste, sex, or place of birth.

• Article 13:-

• It declares that any law that violates the Fundamental Rights shall be void.

**Q51. Answer: (c) 305/8%**

Calculation

The marks obtained in English and S.S. are 52 and 59 respectively.

The marks obtained in Hindi and Maths are 72 and 88 respectively.

=> (160 - 111)160 × 100

=> 4900/160

=> 245/8

=> 305/8%

The answer is 305/8%

**Q52. Answer: (c) 42**

Given:

Arc length = 16.5 cm

Angle subtended by Arc = 22.5°

The radius of the circle = r

Formula used:

The angle subtended by an arc (in Radian) = (Length of arc)/Radius

The arc length of a sector = (θ/360°) × 2πr

Calculation:

(θ/360°) × 2πr = 16.5

=> 22.5/360 ×(22/7 × r) = 16.5

=> r/14 = 3

=> r = 42 cm

Therefore The radius of the circle is 42cm.

**Q53. Answer: (a) 2**

Calculation:

The average sale of books throughout the week = (100 + 200 + 550 + 800 + 450 + 600)/6

= 2700/6 = 450

Only Monday and Tuesday has sale less than the average of the whole week's sale.

Therefore The answer is 2.

Confusion Points

According to the given data, Difference between each gap = 200Assume that each gap is divided into four parts, as example, for 0 - 200: the four parts are: 0 to 50, 50 to 100, 100 to 150, and 150 to 200.

**Q54. Answer: (a) Rs. 3,0662/3**

Given

C.P of C = 3059

Profit = 33%

Loss = 25%

Formula used

S.P = (100 + profit)/100 × C.P

Profit of A = 33% = 33/100

Loss of B = 25% = 1/4

Let the cost price of A = Rs.400 (product of 4 and 100)

=> Profit of A = 400 × 33/100 = Rs.132

=> Selling price of A = 400 + 132 = Rs.532

=> Cost price of B = Rs.532

B sold to C at a loss of 1/4

=> Loss of B = 532 × 1/4 = Rs.133

=> Selling price of B = 532 - 133 = Rs.399

=> Cost price of C = Rs.399

399 → 3059

400 → 3059/399 × 400

400 → 9200/3 = 3066(2/3)

The answer is 3066(2/3).

Shortcut Trick

Let the C.P of A be x.

=> x × 133/100 × 3/4 = 3059

=> x = 9200/3 or 3066(2/3)

**Q55. Answer: (d) 99/16**

Shortcut Trick

Given, 4(y − 1/y) = 11 => y − 1/y = 11/4

Direct formula: If x − 1/x = a, then $x^2 + 1/x^2 = a^2 + 2$

=> $y^2 + 1/y^2 = (11/4)^2 + 2$

=> $y^2 + 1/y^2 = 121/16 + 2 = 153/16$

=> 153/16 = 9 ^9/16

Therefore The correct answer is 9 ^9/16.

Alternate Method

Given:

4y − 4/y = 11

Formula Used:

$(a − b)^2 = a^2 + b^2 − 2ab$

Calculations:

=> 4(y − 1/y) = 11

=> y − 1/y = 11/4

Squaring both sides:

=> $(y - 1/y)^2 = (11/4)^2$

=> $y^2 + 1/y^2 − 2 × y × (1/y) = 121/16$

=> $y^2 + 1/y^2 − 2 = 121/16$

=> $y^2 + 1/y^2 = 121/16 + 2$

=> $y^2 + 1/y^2 = (121 + 32) / 16$

=> $y^2 + 1/y^2 = 153/16 = 9$ ^9/16

Therefore The correct answer is 9 ^9/16.

Additional Information

Algebraic Identities for Squares

If x + 1/x = a, then $x^2 + 1/x^2 = a^2 − 2$

Algebraic Identities for Cubes

If x + 1/x = a, then $x^3 + 1/x^3 = a^3 − 3a$

Difference to Sum Conversion

If x − 1/x = a, then x + 1/x = $\sqrt{(a^2 + 4)}$

**Q56. Answer: (c) -62739**

Given:

y - 1/y = - 9

Formula used:

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

$(a + b)^3 = a^3 + 3ab(a + b) + b^3$

Calculation:

y - 1/y = - 9

=> $x^2 + 1/x^2 = 9^2 + 2$

=> 83

$y^3 - 1/y^3$

=> $(-9)^3 + 3(-9)$

=> -729 – 27

=> - 756

x^5 - 1/x^5 = $(x^2 + 1/x^2)(x^3 - 1/x^3)$ – (x - 1/x)

=> 83 × - 756 + 9

=> - 62748 + 9

=> - 62739

Therefore x^5 - 1/x^5 is - 62739.

**Q57. Answer: (a) 16%**

Given:

A mobile is marked at a price 25% above its cost price.

Profit = 5%

Formula used:

SP = (100 + Profit)/100 × C.P100+??????100×??100+??????100×??100+??????100×??100+??????100×??

Calculations:

Let the CP of the article be Rs. 100

MP of the article = Rs. 125

SP of the article = 100 × (105/100)

= Rs. 105

Discount = 125 – 105 = 20

Discount percentage = 20/125 × 100 = 16%

Hence, the Discount percentage is 16%.

Shortcut Trick

5 = 25 – x – (25x/100)

5 = 25 – x – x/4

5x/4 = 20

x = 16%

**Q58. Answer: (b) Rs. 6,050**

Shortcut Trick

Interest for the 1st year = 10% of 50,000 = Rs. 5,000.

In Compound Interest, the interest earned each subsequent year grows successively by the rate percentage.

Interest for 3rd year = Interest for 1st year × $(1 + 10/100)^2$

Interest for 3rd year = 5000 × 1.1 × 1.1 = 6050

Therefore The correct answer is Rs. 6,050.

Alternate Method

Given:

Principal (P) = Rs. 50,000

Rate (R) = 10% per annum compound interest

Time period = 3rd year

Formula Used:

Interest for a specific year is calculated on the total amount accrued up to the previous year.

50k

Start

55k

Year 1

60.5k

Year 2

66.55k

Year 3

• 5k

• 5.5k

• 6.05k

I&sub3; = 6050

Calculation:

=> Interest for 1st year = 10% of 50,000 = Rs. 5,000

=> Amount after 1st year = 50,000 + 5,000 = Rs. 55,000

=> Interest for 2nd year = 10% of 55,000 = Rs. 5,500

=> Amount after 2nd year = 55,000 + 5,500 = Rs. 60,500

=> Interest for 3rd year = 10% of 60,500 = Rs. 6,050

Therefore The correct answer is Rs. 6,050.

Additional Information

Successive Increment in CI

In compound interest, the interest earned each successive year forms a geometric progression with a common multiplier of (1 + R/100).

Compound Interest Total Amount Formula

The total amount after n years is directly calculated as $A = P(1 + R/100)^n$, where P is the principal and R is the rate of interest.

Difference Between SI and CI (2 Years)

The difference between compound interest and simple interest for exactly two years is derived using the formula: Difference = $P(R/100)^2$.

**Q59. Answer: (d) 12%**

Given:

Principal1 = Rs. 2500

Principal2 = Rs. 1500
Time = 3 years
S.I = 360
Formula used:
SI = (PRT)/100
where,
SI is Simple interest, P is Principal, R is Rate, T is Time and A is Amount
Calculations:
According to the question, we have
=> SI = (PRT)/100
=> 360 = ((2500 - 1500) × R × 3))/100
=> R = 12%
Therefore The rate of interest per annum is 12%.

**Q60. Answer: (a) 10√2 m²**

Given
Perimeter = 20 metres
The two sides are 5 metres and 6 metres.
Formula used
Semi-perimeter = (a + b + c)/2
Area of triangle = √s(s - a)(s - b)(s - c)
Calculation
Semi-perimeter = 20/2 = 10
Third side of triangle = 20 - (5 + 6) = 9
Area of triangle = √[10(10 - 5)(10 - 6)(10 - 9)]
= √(10 × 5 × 4 × 1)
= 10√2
The answer is 10√2 m²

**Q61. Answer: (b) 5 units**

Given:
x2 + y2 – 25 = 0
Concept used:
The standard equation of a circle is given by:
(x-h)2 + (y-k)2 = r2
Where (h,k) is the coordinates of the circle's centre and r is the radius.
Calculation:
Comparing the given equation with the concept used, we can conclude that,
x2 + y2 – 25 = 0
=> x2 + y2 = 25
=> x2 + y2 = 5²
where r(radius) = 5
Therefore The radius of circle is 5 units

**Q62. Answer: (c) 50%**

Given
Raman spends = 75% of his income
Expenditure increased = 10%
Income increased = 20%
Formula used
Expenditure = Income - Savings
Calculation
Let the income be 100x

Raman expenditure = 75% of 100x = 75x
Savings = 25x
Now if the expenditure is increased by 10%,
New expenditure = 75x × 110/100
=> 82.5x
And if Income is increased by 20%
New income = 100x × 120/100
=> 120x
New savings = New income - New expenditure
New savings = 120x - 82.5x = 37.5x
The percentage increase in savings = (New savings - old savings)/old savings × 100
The percentage increase in savings= (37.5x - 25x)/25x × 100
The percentage increase in savings = 50%
The correct option is 50%.

**Q63. Answer: (d) 30 days**

Given:
Efficiency of A = 2 × efficiency of B
Concept used:
If total work is constant then,
Efficiency prop. to (1/time)
Formula used:
Total work = efficiency × time
Calculation:
Efficiency of A : Efficiency of B = 2 : 1
Total work = (2 + 1) × 20
=> 3 × 20 = 60
Time taken by A to do the same work = 60/2
=> 30 days
Therefore The correct answer is 30 days.

**Q64. Answer: (c) 100°**

Given:
First interior angle = 35°
Second interior angle = 65°
Concept used:
The sum of the interior opposite angle is equal to the exterior angle.
Calculation:
The measurement of exterior angle = first interior angle + second interior angle
=> 35° + 65° = 100°
Therefore The correct answer is 100°.

**Q65. Answer: (b) 76 km/h**

Given:
First distance = 210 km
Speed for first distance = 70 km/h
Second distance = 170 km
Speed for second distance = 85 km/h
Formula used:
Average speed = total distance/total time taken
Time taken to cover the distance = distance/time
Calculation:
Time to cover the first distance = 210/70 = 3 hours

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Time to cover the second distance = 170/85 = 2 hours
Average speed = total distance/total time taken
=> (210 + 170)/(3 + 2)
=> 380/5 = 76 km/h
Therefore The correct answer is 76 km/h.

**Q66. Answer: (b) 22/3**

Concept used:
Calculation:
(3+8× 8÷8 of 8+7÷ 7× 2)/(5÷ 5 of 4+3× 3÷3-3+2)
=> (3 + 8 × 8 ÷ 64 + 7 ÷ 7 × 2)/(5 ÷ 20 + 3 × 3 ÷ 3 - 3 + 2)
=> (3 + 8 × (1/8) + 1 × 2)/((1/4) + 3 × 1 - 3 + 2)
=> (3 + 1 + 2)/((1/4) + 2)
=> (6× 4)/(1 + 8)
=> 24/9
=> 8/3 = 2 2/3
Therefore The correct answer is 2 2/3.

**Q67. Answer: (b) 0**

Formula used:
Sec (90° - θ) = cosec θ
tan (90° - θ) = cot θ
tan 45° = 1
Calculation:
sec 54°/(cosec 36°)+tan 70°/cot 20°-2tan 45°
=> (sec (90° - 36°))/(cosec 36°)+(tan (90° - 20°))/cot 20° - 2 × tan 45°
=> (cosec36°)/(cosec 36°)+(cot 20°)/cot 20° - 2
=> 1 + 1 - 2 = 0
Therefore The correct answer is 0.

**Q68. Answer: (c) 13 : 6**

Given:
a : b = 5 : 7
Calculation:
(6a2 - 2b2) : (b2 - a2)
Now, putting the value of 'a' and 'b'
=> {6 × (5)²} - {2 × (7)²} : 7² - 5²
=> {6 × 25} - {2 × 49} : 49 - 25
=> 150 - 98 : 24
=> 52 : 24
=> 13 : 6
Therefore The correct option is 3.

**Q69. Answer: (b) 9.9**

Concept used:
=> (a+b)/(a-b)
By rationalisation
=> (a+b)/(a-b) × (a~+~b)/(a~+~b)
Calculation:
=> (√3+√2)/(√3-√2)
=> (√3+√2)/(√3-√2) × (√3+√2)/(√3+√2)
=> (√3 + √2)²/{(√3)² - (√2)²}
=> {(√3)2 + (√2)2 + 2 × √6}/(3 - 2)

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=> 3 + 2 + 2 × 2.45

=> 5 + 4.9 = 9.9

Therefore The correct answer is 9.9.

**Q70. Answer: (d) 121/2%**

Given:

Marked price (M.P) = 125% × cost price (C.P)

Formula used:

C.P/M.P = (100 - D%)/(100 ± P/L%)

Calculation:

C.P : M.P = 125 : 100 = 5 : 4

=> C.P/M.P = (100 - D%)/(100 + P%)

=> 4/5 = 90/(100 + P%)

=> (100 + P%) = (90 × 5)/4

=> (100 + P%) = 450/4

=> (100 + P%) = 112.5

=> P% = (112.5 - 100) = 12.5

Therefore The correct answer is 12 1/2%.

Alternate MethodCalculation:

Discount% = M.P : S.P = 10 : 9 ------ (1)

M.P : C.P = 125 : 100 = (5 : 4) × 2

M.P : C.P = 10 : 8 ------- (2)

From eq. (1) & (2)

C.P : M.P : S.P = 8 : 10 : 9

Gain % = {(9 - 8) × 100}/8

=> 100/8 = 12 1/2%

Therefore The correct answer is 12 1/2%.

**Q71. Answer: (c) 12**

Given:

angle BAP = angle CAP

BP = x ; PC = 3y

AB = 4x ; AC = (5y + 21)

Concept used:

Angle bisector bisects the third side into their two corresponding side ratio.

Calculation:

=> BP/PC = AB/AC

=> x/3y = 4x/(5y + 21)

=> 5y + 21 = 12y

=> 7y = 21

=> y = 3

Now,

In triangle APB & triangle APC

AP = AP (Common)

angle P = angle P = 90°

angle BAP = angle CAP

Therefore triangle APB ~= triangle APC (By ASA)

By C.P.C.T

x = 3y

=> x = 3 × 3 = 9

Now, x + y = 9 + 3 = 12

Therefore The value of (x + y) is 12.

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**Q72. Answer: (d) 15/8**

Given:

Sec A = 17/15

Formula used:

Sec θ = H/B

By Pythagoras theorem:

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

Where H = hypotenuse ; P = perpendicular

and B = base

Calculation:

Sec A = 17/15 = H/B

By Pythagoras theorem:

=> H2 = P2 + B2

=> $17^2 = P^2 + 15^2$

=> P = √(289 - 225)

=> P = √64 = 8

So, cot A = B/P

=> 15/8

Therefore The correct answer is 15/8.

**Q73. Answer: (b) 450 m**

Given:

Speed of first train = 80 km/h

Speed of second train = 26 km/h

Concept used:

If both trains moving in the same direction then,

Relative speed = difference of speed of both trains

Formula used:

Distance = relative speed × time

Calculation:

Let the length of the first train = T1

Length of second train = T2

Distance = relative speed × time

=> T1 + T2 = (80 - 26) × (5/18) × 30

=> 54 × (5/18) × 30

=> 15 × 30 = 450 m

Therefore The correct answer is 450 m.

**Q74. Answer: (a) S**

Calculation:

Checking the value with options:

Option 1:

Taking the value of S;

Physics number by S = 60

Mathematics number by S = 78

Physics : Mathematics = 60 : 78 = 10 : 13

Therefore The correct option is 1.

**Q75. Answer: (a) 3√3/2**

Given:

sec θ - tan θ = 1/√3

Concept used:

If sec θ - tan θ = P, then

sec θ + tan θ = 1/P

Calculation:

sec θ - tan θ = 1/√3 -------- (1)

sec θ + tan θ = √3 --------- (2)

From eq (1) + (2)

=> sec θ - tan θ + sec θ + tan θ = 1/√3 + √3

=> 2 × sec θ = (1 + 3)/√3

=> sec θ = 2/√3

So, θ = 30

cot θ + cos θ

Putting the θ value in the equation:

cot 30° + cos 30° = √3 + (√3/2)

=> (2√3 + √3)/2 = 3√3/2

Therefore The correct answer is 3√3/2.

**Q76. Answer: (d) Diciplinary**

The solution is in Hindi. Read it online.

**Q77. Answer: (b) occasionally**

The solution is in Hindi. Read it online.

**Q78. Answer: (d) to plan our course careful**

The correct answer is: "to plan our course careful."

Key Points

• The error is in the word "careful,"

• It should be "carefully" to correctly modify the verb "plan."

• "Carefully" is the adverb form that appropriately modifies the action of planning.

• Adverbs are used to modify verbs, adjectives, or other adverbs.

• Adverbs play a crucial role in providing additional information and detail in sentences.

Therefore, the correct answer is option 4.

Corrected sentence: In this world of competitions, every one of us is required to plan our course carefully.

**Q79. Answer: (a) the newly released books**

The solution is in Hindi. Read it online.

**Q80. Answer: (d) ABCDE**

The correct answer is: ABCDE

Key Points

• A: This sentence introduces the main subject of the paragraph, which is the museum exhibit and its impressive collection.

• B: This sentence provides additional information about the exhibit, describing the interest it attracted and the significance of each artifact.

• C: This sentence introduces the director's perspective on the exhibit, expressing pride in the team's efforts.

• D: This introduces a conflict or twist in the narrative, adding suspense and raising a potential issue with one of the artifacts.

• E: This sentence provides a reaction to the visitor's claim, indicating the director's shock and determination to address the situation.

• The sequence follows a logical flow, starting with the introduction of the exhibit, moving to its significance and the director's pride, introducing a conflict with the visitor's claim, and concluding with the director's reaction and commitment to investigating the matter.

Therefore, the correct answer is option 4.

**Q81. Answer: (d) Her boss gives her proper guidance.**

The correct answer is: Her boss gives her proper guidance

Key Points

• Passive Voice Structure: Subject + Form of "to be" + Past Participle + Agent (optional)

• Active Voice Structure: Subject + Verb + Object

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• In active voice, the subject of the sentence performs the action.

• Therefore, "her boss" becomes the subject and "gives" becomes the verb.

• The sentence in its original form is in passive voice, where the subject receives the action.

• Active Voice Sentence: Her boss gives her proper guidance.

• In the active voice sentence, "Her boss" (the doer of the action) is the subject, "gives" is the verb, and "her proper guidance" is the object.

• This structure makes the sentence more direct and emphasizes the doer of the action.

Therefore, the correct answer is option 4.

**Q82. Answer: (a) Serious**

The solution is in Hindi. Read it online.

**Q83. Answer: (c) obnoxious**

The solution is in Hindi. Read it online.

**Q84. Answer: (a) Fatalist**

The solution is in Hindi. Read it online.

**Q85. Answer: (d) The investigation conducting by the research team**

The correct answer is: "The investigation conducting by the research team".

Key Points

• The error is in the use of the present participle "conducting" instead of the past form "conducted".

• "Conducting" is the present participle of the verb "conduct."

• Present participles are used in continuous verb forms, such as "is conducting."

• "Conducted" is the past participle of the verb "conduct."

• In this context, "conducted" is the appropriate form because it is used with the auxiliary verb "is" in passive voice construction ("is conducted").

• Passive voice is often used when the focus is on the action itself rather than the doer of the action.

• The investigation is the focus here, and "conducted" is the correct past participle to convey this.

• The correct sentence should be "The investigation conducted by the research team yielded statistically significant results, providing substantial evidence to support the hypothesis."

Therefore, the correct answer is option 4.

**Q86. Answer: (d) A problem that is difficult to solve**

The solution is in Hindi. Read it online.

**Q87. Answer: (a) advantageous**

The solution is in Hindi. Read it online.

**Q88. Answer: (c) QPSR**

The correct answer is: QPSR.

Key Points

• Q: Provides information about the birthplace of the person being discussed.

• P: Introduces the subject, providing details about Crane and his family background.

• S: Gives additional information about the naming of Crane, connecting to his family history.

• R: Adds a historical context by mentioning that an ancestor of Crane had signed a significant document, providing more background information about his family.

• So, the correct sequence is: Q (birthplace) - P (subject and family background) - S (naming after an ancestor) - R (ancestor's historical connection).

Therefore, the correct answer is option 3.

**Q89. Answer: (a) covert**

The solution is in Hindi. Read it online.

**Q90. Answer: (d) were**

The correct answer is: Were

Key Points

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• In the sentence using "was" might be considered colloquial or informal but may not be grammatically precise.

• The more standard and grammatically accepted form in this context is "If I were you," as it adheres to the subjunctive mood, indicating a hypothetical or unreal scenario.

• The phrase "If I were you" is an example of a subjunctive mood, which is used to express hypothetical or unreal situations.

• In the English language, when talking about conditions that are contrary to fact or situations that are not true, it's grammatically correct to use "were" instead of "was" after "if."

Therefore, the correct answer is option 4.

Corrected sentence: If I were you, I would not have appeared for the entrance exam.

**Q91. Answer: (b) Incredibility**

The solution is in Hindi. Read it online.

**Q92. Answer: (c) The boys are taught by Mr. Hamel.**

The correct answer is: The boys are taught by Mr. Hamel.

Key Points

• In passive voice, the object of the active sentence becomes the subject of the passive sentence.

• Active voice structure: Subject + Verb + Object

• Passive voice structure: Object + Auxiliary verb + Past participle of the main verb + Preposition + Subject

• So, in the passive voice construction:

• "The boys" is the subject.

• "are" is the auxiliary verb.

• "taught" is the past participle of the main verb.

• "by" is the preposition.

• "Mr. Hamel" is the object of the active sentence.

• The passive voice is often used when the focus is on the receiver of the action rather than the doer, or when the doer is unknown or less important.

Therefore, the correct answer is option 3.

**Q93. Answer: (a) Few and far between**

The solution is in Hindi. Read it online.

**Q94. Answer: (b) Usual**

The solution is in Hindi. Read it online.

**Q95. Answer: (c) who were shouting**

The correct answer is: Who were shouting

Key Points

• The error here lies in the subject-verb agreement.

• The subject of the sentence is "It was Ravi," which is singular.

• The verb "were" is plural, and does not agree with the singular subject.

• "Not his friends" is a modifying phrase that adds additional information about Ravi. While it mentions "friends," the key point is that it is not the main subject of the sentence.

• The correct verb form should be "was," which agrees with the singular subject.

Therefore, the correct answer is option 3.

Corrected sentence: It was Ravi, not his friends, who was shouting at late hours last night.

**Q96. Answer: (d) affects**

The solution is in Hindi. Read it online.

**Q97. Answer: (a) enough**

The solution is in Hindi. Read it online.

**Q98. Answer: (c) across**

The correct answer is: Across.

Key Points

• Across is the most appropriate option to fill in blank no. 3.

• Across refers to moving from one side to the other side of something.
• Example: She walked across the bridge, enjoying the scenic view of the river below.
• The sentence suggests that the data in the row is spread out or distributed across something.

Thus, option 3 is the correct answer.

Additional Information

• From is typically used to indicate a starting point, source, or origin.
• Between is used when referring to two distinct, individual items or groups.
• Amongst is used when referring to a relationship involving three or more items or people.

**Q99. Answer: (d) compete**

The solution is in Hindi. Read it online.

**Q100. Answer: (c) unrest**

The solution is in Hindi. Read it online.

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