SSC CHSL Previous Paper 48 (Held On: 24 March 2018 Shift 2) (Previous Year Paper)

SSC Combined Higher Secondary Level (CHSL) • 2018 • 100 questions • 60 minutes • Answer key and solutions

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ENGLISH LANGUAGE

Q1. In the following question, four words are given out of which one word is correctly spelled. Select the correctly spelled word.

(a) effluants
(b) effluents
(c) efluents
(d) efluants

Q2. The question below consists of a set of labelled sentences. Out of the four options given, select the most logical order of the sentences to form a coherent paragraph.

One major human

A- frailty is that most

B- people do not want

C- to think and act

(a) ABC
(b) CBA
(c) CAB
(d) BCA

Q3. In the following question, out of the four alternatives, select the alternative which will improve the bracketed part of the sentence. In case no improvement is needed, select 'no improvement'.

My brother and I would enjoy (chasing) the butterflies amidst our own simple, innocuous games.

(a) chase
(b) chased
(c) to chasing
(d) No improvement

Q4. In the following question, out of the four alternatives, select the alternative which will improve the bracketed part of the sentence. In case no improvement is needed, select 'no improvement'.

We (had) a horseshoe-shaped platform made of clay, but it was destroyed by the rains.

(a) have
(b) has
(c) has had
(d) no improvement

Q5. In the following question, out of the four alternatives, select the alternative which is the best substitute of the words/sentence.

A person falsely claiming to have a special knowledge or skill

(a) Indubitable
(b) Palpable

(c) Authentic
(d) Charlatan

Q6. In the following question, out of the four alternatives, select the alternative which is the best substitute of the words/sentence.

Infinite or unending time

(a) Ephemeral
(b) Fugacious
(c) Eternity
(d) Transitory

Q7. In the following question, out of the four alternatives, select the alternative which best expresses the meaning of the idiom/phrase.

Pass the buck

(a) Pass a person by awarding a few grace marks.
(b) Borrow small amounts of money from your friends.
(c) Offer help even without the other person asking for it.
(d) Shift the responsibility for something to someone else.

Q8. In the following question, out of the four alternatives, select the alternative which best expresses the meaning of the idiom/phrase.

It's not rocket science

(a) A task so difficult that it has a slim chance of success.
(b) Speak in jargon that is not understandable by laymen.
(c) Used to say that you do not think that something is very difficult to do or to understand.
(d) Refuse something that someone wants on a false pretext.

Directions

In the following passage, some of the words have been left out. Read the passage carefully and select the correct answer for the given blank out of the four alternatives.

Autocracy and bureaucracy must perish utterly, in the East and the West, and, _____ order that their germs may not re-sprout in the future, they must be _____ in the minds of men. They must be proved to be less efficient _____ the Governments of Free Peoples, even in their favourite work of War, and their iron machinery - which at first brings outer _____ and success - must be shown to be less lasting and effective than the living and flexible organisations _____democratic Peoples.

Q9. East and West, and, _____ order that their germs

(a) in
(b) into
(c) on
(d) onto

Q10. they must be _____ in the minds of men.

(a) discredit
(b) discredits
(c) discrediting
(d) discredited

Q11. be less efficient _____ the Governments

(a) then
(b) with
(c) than
(d) by

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Q12. first brings outer _____ and success

(a) prosperous
(b) prosperity
(c) prosper
(d) prospered

Q13. flexible organisations _____ democratic Peoples.

(a) of
(b) for
(c) from
(d) off

Q14. In the following question, a word has been written in four different ways out of which only one is correctly spelt. Select the correctly spelt word.

(a) Misillaneus
(b) Miscellaneous
(c) Micillanous
(d) Micsellanous

Q15. A sentence has been given in Direct/Indirect Speech. Out of the four given alternatives, select the one which best expresses the same sentence in Indirect/Direct Speech.

She says, “She wants to buy this dress.”

(a) She said she want to buy this dress.
(b) She wanted to buy this dress, she said.
(c) She said that she wants to buy this dress.
(d) She says that she wants to buy this dress.

Q16. A sentence has been given in Active/Passive Voice. Out of the four given alternatives, select the one which best expresses the same sentence in Passive/Active Voice.

The students will learn the equations.

(a) The equations are learned by the students.
(b) The equation is learn by them.
(c) The equations will be learnt by the students.
(d) The equations by the students will be learned.

Q17. Rearrange the parts of the sentence in correct order.

The seismic-reflection

P : important tool in the

Q : method is the most

R : search of petroleum reserves

(a) RPQ
(b) PRQ
(c) QPR
(d) QRP

Q18. In the following question, out of the given four alternatives, select the one which is opposite in meaning of the given word.

Gullible

(a) Innocent
(b) Silly
(c) Wise
(d) Naive

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Q19. In the following question, out of the given four alternatives, select the one which is opposite in meaning of the given word.

Docile

(a) Controllable
(b) Opposing
(c) Mild
(d) Subservient

Q20. In the following question, out of the given four alternatives, select the one which best expresses the meaning of the given word.

Despicable

(a) Hateful
(b) Disappointing
(c) Creditable
(d) Nonchalance

Q21. In the following question, out of the given four alternatives, select the one which best expresses the meaning of the given word.

Equanimity

(a) Anxiety
(b) Calm
(c) Arousal
(d) Upset

Q22. In the following question, the sentence given with blank to be filled in with an appropriate word. Select the correct alternative out of the four and indicate it by selecting the appropriate option.

The Myth of Sisyphus by Camus is _____ popular.

(a) often
(b) sometimes
(c) still
(d) enough

Q23. In the following question, the sentence given with blank to be filled in with an appropriate word. Select the correct alternative out of the four and indicate it by selecting the appropriate option.

Rachel _____ to Paris to complete her course.

(a) returning
(b) would returned
(c) will return
(d) was return

Q24. In the following question, some part of the sentence may have errors. Find out which part of the sentence has an error and select the appropriate option. If a sentence is free from error, select 'No Error'.

A woodpecker hammering away at a tree experiences (1)/ forces in to 1,400 times that of (2)/Earth's gravity, or 1,400 G's. (3)/ No error (4)

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

Q25. In the following question, some part of the sentence may have errors. Find out which part of the sentence has an error and select the appropriate option. If a sentence is free from error, select 'No Error'.

In personification, inanimate objects (1)/ and abstract notions are spoken of (2)/ as life and intelligent. (3)/ No error (4)

(a) 1

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

GENERAL INTELLIGENCE

Q26. In the following question, select the related word pair from the given alternatives.

Grandmother : Female : : ? : ?

(a) Father : Male
(b) Male : Son
(c) Mother : Sister
(d) Uncle : Aunt

Q27. In the following question, select the related number from the given alternatives.

695 : 659 : : 839 : ?

(a) 392
(b) 984
(c) 931
(d) 893

Q28. In the following question, select the related letter/letters from the given alternatives.

CPR : ERT : : DQS : ?

(a) FSU
(b) FTU
(c) ESV
(d) ETV

Q29. In the following question, select the odd word pair from the given alternatives.

(a) White – Colour
(b) Blue – Colour
(c) Yellow – Orange
(d) Black – Colour

Q30. In the following question, four number pairs are given. The number on left side of (–) is related to the number on the right side of (–) with some Logic/Rule/Relation. Three are similar on basis of same Logic/Rule/Relation. Select the odd one out from the given

(a) 3 – 6
(b) 5 – 10
(c) 7 – 12
(d) 9 – 18

Q31. In the following question, select the odd letter/letters from the given alternatives.

(a) SUWX
(b) EGIK
(c) LNPR
(d) TVXZ

Q32. Arrange the given words in the sequence in which they occur in the dictionary.

1. Whimper 2. Where 3. Wherever 4. Wedding 5. Wednesday

(a) 54231
(b) 45231
(c) 25134
(d) 35241

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Q33. In the following question, select the missing number from the given series.

54, 51, 48, 45, 42, ?

(a) 38
(b) 36
(c) 40
(d) 39

Q34. A series is given with one term missing. Select the correct alternative from the given ones that will complete the series.

PRQ, NPO, LNM, ?, HJI

(a) IJK
(b) KMK
(c) JLK
(d) JJK

Q35. Six family members Pankaj, Gopi, Chetan, Dinesh, Akash and Vyom are standing around a circular table. Gopi is between Vyom and Chetan. Pankaj is between Akash and Dinesh. Vyom is to the immediate right of Dinesh. Who is opposite to Dinesh?

(a) Pankaj
(b) Chetan
(c) Vyom
(d) Gopi

Q36. From the given alternatives, select the word which CANNOT be formed using the letters of the given word.

DEMONSTRATION

(a) Moon
(b) Most
(c) Train
(d) Damage

Q37. In a certain code language, “CUDGEL” is written as “FYGKHP”. How is “DAINTY” written in that code language?

(a) REBAFK
(b) GELRWC
(c) KUCLEC
(d) WCEVCK

Q38. In a certain code language, '×' represents '+', '÷' represents '×', '-' represents '÷' and '+' represents '-'. Find out the answer to the following question.

15 × 4 ÷ 35 - 70 + 16 = ?

(a) 1
(b) 15
(c) 19
(d) 17

Q39. The following equation is incorrect. Which two signs should be interchanged to correct the equation?

15 × 12 + 40 ÷ 40 - 6 = 21

(a) • and ×
(b) • and ÷
(c) • and +
(d) ÷ and ×

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Q40. If 7 % 8 = 30, 4 % 3 = 14 and 4 % 9 = 26, then find the value of 1 % 8 = ?

(a) 29
(b) 10
(c) 18
(d) 22

Q41. Which of the following terms follows the trend of the given list?

XYXXXXX, XXYXXXX, XXXYXXX, XXXXYXX, XXXXXYX, _____.

(a) YXXXXXX
(b) XYXXXXX
(c) XXYXXXX
(d) XXXXXXY

Q42. Abhay and Chintan are riding their motorcycles. They start from the same point. Abhay rides 7 km North, then turns to his left and rides 4 km. In the meanwhile, Chintan rides 6 km West, then turns North and rides 7 km, then turns to his left and rides 8 km. Where is Abhay with respect to Chintan?

(a) 4 km East
(b) 10 km West
(c) 4 km West
(d) 10 km East

Q43. In the question two statements are given, followed by two conclusions, I and II. You have to consider the statements to be true even if it seems to be at variance from commonly known facts. You have to decide which of the given conclusions, if any, follows from the given statements.

Statement I: All cells are chargers

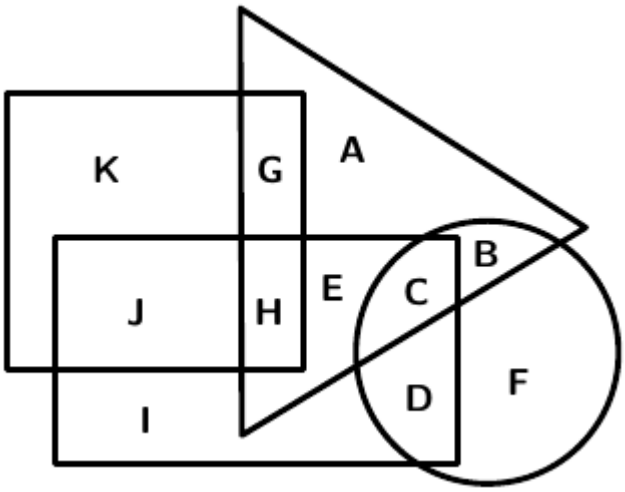
Statement II: All batteries are cells

Conclusion I: Some chargers are batteries

Conclusion II: All batteries are chargers

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

Q44. In the following figure, rectangle represents Doctors, circle represents Essayists, triangle represents Cooks and square represents Europeans. Which set of letters represents Essayists who are not Cooks?



(a) CB
(b) AE
(c) DF
(d) AEGH

Q45. A series is given with one term missing. Select the correct alternative from the given ones that will complete the series.

UPM, BWT, IDA, PKH, ?

(a) WPR
(b) XPO
(c) WRO
(d) XRS

Q46. In the following question, select the missing number from the given series.

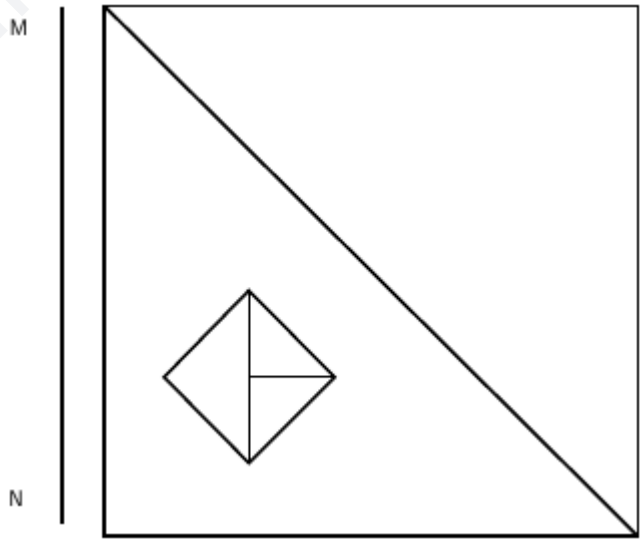
102, 85, 68, 51, ?

(a) 34
(b) 40
(c) 37
(d) 31

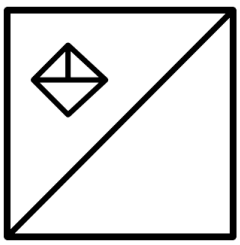
Q47. In the following question, four groups of three numbers are given. In each group the second and third number are related to the first number by a Logic/Rule/Relation. Three are similar on basis of same Logic/Rule/Relation. Select the odd one out from the given alternatives.

(a) (8, 23, 15)
(b) (17, 52, 33)
(c) (12, 35, 23)
(d) (15, 44, 29)

Q48. If a mirror is palced on the line MN, then which of the answer figures is the right image of the given figure?

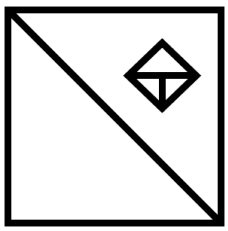


(a)

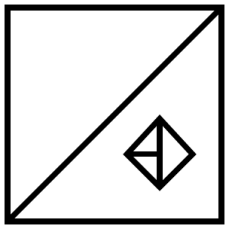


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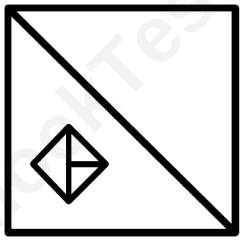
(b)



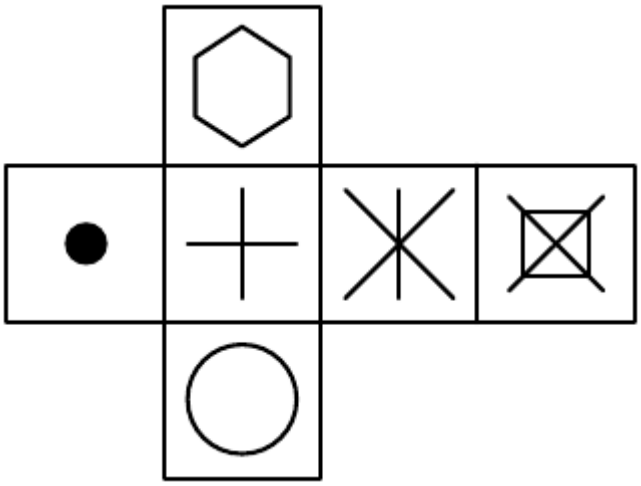
(c)



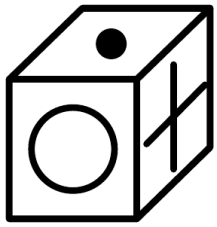
(d)



Q49. Which of the following cube in the answer figure cannot be based on the unfolded cube in the question figure?

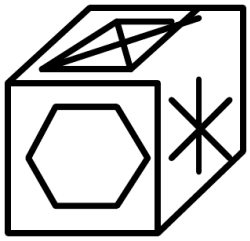


(a)

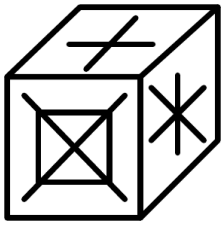


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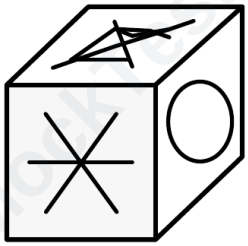
(b)



(c)



(d)



Q50. A word is represented by only set of numbers as given in any one of the alternatives. The sets of numbers given in the alternatives are represented by two classes of alphabets as shown in the given two matrices. The columns and rows of Matrix-I are are numbered from 0 to 4 and that of Matrix-II are numbered from 5 to 9. A letter from these matrices can be represented first by its row and next by its column, for example ‘A’ can be represented by 20, 41 etc and ‘T’ can be represented by 89, 85 etc. Similarly, you have to identify the set for the word ‘CORN’.

Matrix-I					
	0	1	2	3	4
0	A	J	I	A	J
1	H	I	M	E	C
2	A	K	I	I	B
3	L	J	J	H	E
4	M	A	B	J	F

Matrix-II					
	5	6	7	8	9
5	R	V	V	S	P
6	W	S	O	O	X
7	S	S	R	Z	V
8	T	Y	Z	Y	T
9	P	N	Q	S	S

(a) 33,78,34,87
(b) 44,86,43,55
(c) 14,67,77,96

(d) 22,98,43,79

QUANTITATIVE APTITUDE

Q51. The sum of two numbers is 7 and the sum of their squares is 23, their product is equal to:

(a) 10
(b) 11
(c) 12
(d) 13

Q52. The difference between two numbers is 1146. When we divide the larger number by smaller we get 4 as quotient and 6 as remainder. Find the larger number.

(a) 1526
(b) 1431
(c) 1485
(d) 1234

Q53. Find the value of $n = 3n/2 + 9n/4 + \ldots\infty$.

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

Q54. If $2x^2 + 2y^2 = 4a$, then find the value of $2a/(x^2 - a) + 2a/(y^2 - a)$.

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

Q55. Choose the CORRECT option if the two sides of a triangle are of length 4 cm and 10 cm and the length of its third side is a cm.

(a) $a < 6$
(b) $a > 6$
(c) $a > 5$
(d) 5

Q56. An isosceles triangle ABC has sides AB = AC. If side BA is produced to D in such a manner that AC = AD. Then what will be the measure of angle BCD?

(a) $\pi/6$
(b) $\pi/3$
(c) $2\pi/3$
(d) $\pi/2$

Q57. Rahul's salary is 40% more than Mohit's salary. If Rahul's salary is increased by 60% and Mohit's salary is decreased by 20%, then Rahul's salary will be how much percentage of Mohit's salary?

(a) 280%
(b) 100%
(c) 105%
(d) 64%

Q58. Rs. 7750 is divided among X, Y and Z such that 3 times of X's share is equal to 5 times of Y's share which is equal to 2 times of Z's share. What is the share (in Rs) of Z?

(a) 4250
(b) 3750
(c) 3875

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(d) 4475

Q59. Lokesh starts a business with Rs. 240000. After 3 months Vishal joins him with Rs. 210000. At the end of the year what will be the ratio of their profits?

(a) 32 : 21
(b) 16 : 13
(c) 8 : 5
(d) 45 : 39

Q60. The average weight of two players P and Q of a football team is 38 kg. The average weight of P, Q and their coach T is 49 kg. What is the weight (in kg) of coach?

(a) 71
(b) 46
(c) 76
(d) 91

Q61. A sum of Rs. 1200 amounts to Rs. 1740 in 3 years at simple interest. If the rate of interest is increased by 3%, then what will be the new amount (in Rs)?

(a) 1848
(b) 1946
(c) 1812
(d) 1924

Q62. If cost price of an article is 75% of its selling price, then what will be the profit percentage?

(a) 23.47%
(b) 25%
(c) 33.33%
(d) 20%

Q63. The marked price of an article is 10/7 of the cost price and the selling price of that article is 4/5 of the marked price. What is the profit percentage?

(a) 17.24
(b) 16.66
(c) 14.28
(d) 15.42

Q64. If $x = [1/ (\sqrt{5} + \sqrt{3})]$, $y = [1/ (\sqrt{7} + \sqrt{5})]$ and $z = [1/ (\sqrt{7} + \sqrt{3})]$, then what is the value of $(x + y + z)$?

(a) $3/4(\sqrt{7} - \sqrt{3})$
(b) $\sqrt{5} - \sqrt{3}$
(c) $\sqrt{7} + \sqrt{5}$
(d) $1/2(\sqrt{7} + \sqrt{3})$

Q65. 50 men can complete a work in 28 days. They started the work together, but at the end of each 10th day, 10 men left the job. The work was completed in how many days?

(a) 36
(b) 38
(c) 40
(d) 45

Q66. The distance between places U and V is 1008 km. An express train leaves place U at 9 : 00 a.m. and runs at a speed of 126 km/hr. The train stops on the way for 20 minutes. At what time (in p.m.) the train will reach at the place V?

(a) 6 : 50
(b) 3 : 50
(c) 4 : 20
(d) 5 : 20

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Directions

Directions: The bar graph shows the number of employees working in the different departments of a company. Study the diagram and answer the following questions.



Q67. Which department has the lowest number of employees?

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

Q68. What is the ratio of number of employees of department A to that of department F

(a) 7 : 4
(b) 5 : 7
(c) 7 : 5
(d) 4 : 7

Q69. The number of employees of department G are greater than those of department C by _____.

(a) 42.8%
(b) 75%
(c) 150%
(d) 84.2%

Q70. If the average compensation of an employee of department A is Rs 40,000 per month, then what is the total compensation (in Rs lakhs) of all employees of department A per month?

(a) 800
(b) 40
(c) 80
(d) 400

Q71. If the length of one side and the diagonal of a rectangle are 8 cm and 17 cm respectively, then find its perimeter (in cm).

(a) 92
(b) 48
(c) 46
(d) 96

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Q72. The area of a semicircle is 308 cm². Calculate its perimeter (in cm).

(a) 144
(b) 49
(c) 98
(d) 72

Q73. Find the volume (in cm³) of a sphere of diameter 42 cm.

(a) 17779
(b) 36922
(c) 38808
(d) 13371

Q74. What is the value of (2/√3 + tan45°)?

(a) (1 + √6)/√3
(b) (2 + √3)/√3
(c) 4/√3
(d) √3 + 2

Q75. ΔPQR is right angled at Q. If cot P = 5/12, then what is the value of tan R?

(a) 5/13
(b) 5/12
(c) 13/5
(d) 13/12

GENERAL AWARENESS

Q76. Income and consumption are _____.

(a) Directly related
(b) Partially related
(c) Inversely related
(d) Unrelated

Q77. When was Consumer Protection Act (COPRA) passed?

(a) 1984
(b) 1980
(c) 1986
(d) 1995

Q78. Which of the following Neolithic sites gives evidence of trough residence?

(a) Burzahom
(b) Brahmagiri
(c) Chirand
(d) Maski

Q79. Which of the following medieval rulers was called 'Jagat Guru'?

(a) Ibrahim Qutbshah
(b) Ibrahim Adilshah II
(c) Akbar
(d) Malik Ambar

Q80. Which port is located at the northern end of the Panama Canal?

(a) Panama
(b) Colone
(c) Gatun
(d) Miraflores

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Q81. Which of the following pairs is NOT correctly matched?

(a) Jog - Karnataka
(b) Papanasham - Himachal Pradesh
(c) Dhuandhar - Madhya Pradesh
(d) Hundru - Jharkhand

Q82. The term "Anuvrata" is associated to which religion?

(a) Mahayana Buddhism
(b) Hiragana Buddhism
(c) Jainism
(d) Lokayata sect

Q83. World's first green Islamic bond was issued by which of the following countries?

(a) Indonesia
(b) Malaysia
(c) Saudi Arabia
(d) Iraq

Q84. Who among the following won the best actor award in the 48^(th) International Film Festival of India (IFFI), organized in November 2017 at Panji, Goa?

(a) Atom Egoyan
(b) Robin Campillo
(c) Vivian Qu
(d) Nahuel Perez Biscayart

Q85. The international border of Myanmar is the longest with which of the following countries?

(a) India
(b) Bangladesh
(c) Laos
(d) China

Q86. Isotones have always _____.

(a) Same number of protons
(b) Same atomic number
(c) Same number of neutron
(d) Same number of proton and same number of neutron

Q87. Atomic bomb is based on which of the following principle?

(a) Nuclear fusion
(b) Nuclear fission
(c) Natural radioactivity
(d) All options are correct

Q88. The _____ is a key factor in making the Gram Panchayat play its role and to be responsible.

(a) Secretary
(b) Gram Sabha
(c) Only Sarpanch
(d) Block Development officer

Q89. In India, who appoints ministers at state level?

(a) The President of India
(b) Governor of that state
(c) Chief Minister of that state
(d) Prime Minister of India

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Q90. The terminal part of the carpel in a flower, which may be sticky is _____.

(a) Ovary
(b) Style
(c) Stigma
(d) Anther

Q91. Which chemical is present in the cells of cork of tree which makes them impervious to gases and water?

(a) Cellulose
(b) Suberin
(c) Pectin
(d) Lignin

Q92. In December 2017, Indian Railways announced to equip all trains with Bio-Toilets by _____.

(a) December 2018
(b) March 2019
(c) December 2019
(d) March 2018

Q93. Artificial Intelligent robot named Shelley developed by the MIT media lab writes which type of stories

(a) Love
(b) Action
(c) Drama
(d) Horror

Q94. In November 2017, RBI simplified 'FEMA' by putting all amendments under one notification. What does 'E' stand for in 'FEMA'

(a) Enterprise
(b) Exchange
(c) Evaluate
(d) Estate

Q95. Under which campaign the Government had launched 100 accessible website of various State Government/UTs on 19 January, 2018 for divyangjans?

(a) Make in India
(b) Skill India
(c) Digital India
(d) Accessible India

Q96. Find the current (in A) when a charge of 1200C flows in 6 seconds.

(a) 7200
(b) 200
(c) 100
(d) 3600

Q97. In a _____ wave particles of the medium vibrate in a direction perpendicular to the direction of wave propagation.

(a) Longitudinal
(b) Rolling
(c) Transverse
(d) Field

Q98. The polar ice-caps are made of _____ water.

(a) Saline
(b) Salt
(c) Sour
(d) Fresh

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Q99. Which of the statements given below are correct?

A) Georgia hosted the 2017 U-18 Baseball World Cup.

B) In 2017, Jamie Vardy played for the Premier League team Manchester United.

(a) Only A
(b) Only B
(c) Both A and B
(d) No option is correct.

Q100. In HTML, _____ tag is used to construct drop-down list boxes and scrolling list boxes.

(a) <SELECT>
(b) <OPTION>
(c) <TEXTAREA>
(d) <INPUT>

ANSWER KEY

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

SOLUTIONS

Q1. Answer: (b) effluents

The correct answer is effluents

Key Points

• The meaning of the word effluents is: liquid waste, especially chemicals produced by factories, e.g., The factory has been accused of discharging effluent into the river

Q2. Answer: (a) ABC

The correct answer is ABC

Key Points

• The sentence begins with the phrase 'One major human...'

• Let's look at each option:

• ABC: One major human frailty is that most people do not want to think and act

• This makes a meaningful and grammatically correct sentence - it implies that one primary vulnerability or fault in humans is that most of us do not want to think before we do something

• CBA: One major human to think and act people do not want frailty is that most

• **This is grammatically incorrect because:

• One major human to think and act is a partially grammatically correct phrase

• If we proceed further, One major human to think and act people do not want

• The boldened italic words in the above partially combined phrases indicate grammatically incorrect construction

• CAB: One major human to think and act frailty is that most people do not want

• **The boldened italic words in the above partially combined phrase indicate grammatically incorrect construction

• BCA: One major human people do not want to think and act frailty is that most

• **The boldened italic words in the above partially combined phrase indicate grammatically incorrect construction

Thus the correct sentence is: One major human frailty is that most people do not want to think and act

Hint

• In the opening phrase, "one major human..." shows that the adjective major is referring to a non-living noun or a quality and not a living noun like human, hence it could have been easily deduced that A would be the next phrase because it starts with the quality 'frailty' which means weakness or vulnerability

Q3. Answer: (d) No improvement

The correct answer is No improvement

Key Points

• If we look at the sentence carefully, we can figure out that the author is recounting previously spent time or recalling a memory wherein (s)he and her/his brother used to chase butterflies

• The form would + V1 indicates the past tense wherein a previous experience or earlier incident is being talked about

• In the above form, it is succeeded by the infinitive + ing

• Examples: I enjoy reading books, My grandfather would love telling stories, etc.

• All other options would lead to grammatically incorrect constructions.

Q4. Answer: (d) no improvement

The correct answer is No improvement

Key Points

• In the sentence, the author is talking about the past wherein (s)he is saying that they used to own or possess a horse-shoe shaped clay platform which was later destroyed by the rains.

• Let's look at each option:

• have: This represents the present tense but the latter part of the sentence indicates the past tense wherein the object was destroyed by the rains. Thus it violates tense agreement or uniformity

• has: This indicates singular present-tense. Since the subject 'we' is plural and the latter part of the sentence denotes the past tense, this option violates both noun and tense uniformity

• has had: 'We has had...' is grammatically incorrect as the plural 'we' doesn't agree with the singular connector 'has'

• 'had': This is a singular past tense connector and thus satisfies the grammatical construction requirement of the sentence.

Thus the correct sentence is: We had a horseshoe-shaped platform made of clay, but it was destroyed by the rains

Q5. Answer: (d) Charlatan

The correct answer is Charlatan

Key Points

• Let's look at the meaning of each option:

Indubitable	**impossible to doubt; unquestionable**
Palpable	a feeling or atmosphere that is so intense as to seem almost tangible
Authentic	of undisputed origin and not a copy; genuine
Charlatan	a person falsely claiming to have special knowledge or skill

Additional Information

• Antonyms of Charlatan: Authentic, Maestro, Professional, Virtuoso

Q6. Answer: (c) Eternity

The correct answer is Eternity

Key Points

• Let's look at the meaning of each of the words given:

Ephemeral	**lasting for a very short time; temporary**
Fugacious	tending to disappear; fleeting
Eternity	infinite or unending time

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Transitory	not permanent

Additional Information

• As we can see from the above table, the other three options are opposite in meaning to the term Eternity

Q7. Answer: (d) Shift the responsibility for something to someone else.

The correct answer is Shift the responsibility for something to someone else

Key Points

• The given phrase is an idiom

• An idiom is a group of words established by usage as having a meaning not deducible from those of the individual words (e.g. over the moon, see the light)

Additional Information

• Other idioms involving the word 'pass'

•

pass the hat (around)	**to try to collect money by asking people or organizations**
pass the time	to do something to keep busy while waiting
pass water	to urinate

Q8. Answer: (c) Used to say that you do not think that something is very difficult to do or to understand.

The correct answer is Used to say that you do not think that something is very difficult to do or to understand

Key Points

• The given phrase is an idiom - a group of words established by usage as having a meaning not deducible from those of the individual words (e.g. over the moon, see the light)

• The given idiom is used to express the fact that something is not extremely difficult although it is misconstrued to be so

Additional Information

• Other idioms using scientific terminologies/expressions:

to be on the same wavelength	**people think in a similar way and understand each other well**
to push one's buttons	to deliberately provoke someone
to pull the plug	to stop or prevent something from happening
a cog in the machine	people who feel they are insignificant in a large organisation
once in a blue moon	something that happens very infrequently. Just like a blue moon which is not an everyday occurrence
to blow a fuse	to become very angry and lose one's temper
to reinvent the wheel	to waste time by trying to create something that's already been done

Q9. Answer: (a) in

The correct answer is in

Key Points

• The opening sentence of the passage talks about the fact that autocracy and bureaucracy must go away for good in the East and the West, i.e., in the whole of the world so that it does not re-emerge in the future.

• The phrase 'in order that' or 'in order to' is used

• 'In order (that/to)':

• **It is a subordinating conjunction

• It is used with an infinitive form of a verb to express the purpose of something

• It introduces a subordinate clause

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Q10. Answer: (d) discredited

The correct answer is discredited

Key Points

• The opening sentence of the passage says that autocracy and bureaucracy should be gone for good form the world so that they do not re-emerge in the future and also, their value or worth or importance should be nullified in the minds of men or people.

• 'Discredit' means 'to harm the good reputation of'

• Here, the verb form of the root word 'discredit' should be used as autocracy and bureaucracy should undergo the action of getting discredited in the minds of men

• The construction in such sentences is must be + V3 (the third or past participle form of the verb)

• All other options yield grammatically incorrect constructions

Q11. Answer: (c) than

The correct answer is than

Key Points

• The sentence talks about the comparison that, in the minds of the people, should show them that autocracy and bureaucracy are less efficient compared to the Governments of Free Peoples

• To denote comparisons, we use the comparative 'than'

• Let's look at the other options:

• 'then': used when one is talking about something related to time

• 'with': It is used to denote the simultaneous presence, happening or occurrence of two or more people, things or events

• 'by': It is used as a preposition or an adverb used to denote 'not later than' or 'who did the action' or 'how an action was done'

Q12. Answer: (b) prosperity

The correct answer is prosperity

Key Points

• The sentence says "iron machinery which at first brings outer..."

• If we look at the sentence carefully, we can easily deduce that what should follow this part should be nouns expressing some quality

• Also, the conjunction 'and' connects two similar parts of speech (like 'success', the other word should also be a noun)

• Let's look the form and meaning of each option given:

prosperous (adjective)	**marked by success or economic well-being**
prosperity (noun)	the state of being prosperous
prosper (verb)	to succeed in an enterprise or activity especially: to achieve economic success

• 'Pospered' is the past participle form of the verb 'prosper'

Q13. Answer: (a) of

The correct answer is of

Key Points

• If we look the sentence carefully, we can understand that it mentions about flexible organisations that comprise democratic Peoples

• The preposition 'of' is used to denote possession, belonging, or origin, e.g., 'A friend of mine', 'employees of the organisation', etc.

• Similarly, here the preposition 'of' will be used to denote organisations that consist of democratic Peoples

Additional Information

• Let's look at the usage and example of other options:

for	**intended to be given to or having the purpose of**	**'There's a phone message for you'; 'This pool is for the use of hotel guests only'**
from	used to show the time or place when or where someone or something starts or used to show a change in the state of someone or something	'What time does the flight from Amsterdam arrive?'; 'Things went from bad to worse'

off	away from a place or position, especially the present place, position, or time or used with actions in which something is removed or removes itself from another thing	'He drove off at the most incredible speed'; 'Take your jacket off.'

Q14. Answer: (b) Miscellaneous

The correct answer is Miscellaneous

Key Points

• Miscellaneous - consisting of a mixture of various things that are not usually connected with each other

• Usage example: 'His bedroom is full of guitars, keyboards, and miscellaneous instruments'

Additional Information

• Antonyms of Miscellaneous: Homogeneous; Same; Undiversified

Q15. Answer: (d) She says that she wants to buy this dress.

The correct answer is She says that she wants to buy this dress.

Key Points

• If the reported speech is in the simple present tense and it is denoting a regular occurrence or a universal truth or idiom, we do not change the tense when converting between direct-indirect speech, e.g., She says she feels happy being with her granddad

• The conjunction 'that' is used to replace of commas and inverted commas when changing from direct to indirect speech

Additional Information

• If the reporting verb is in past tense and the reported speech is not an idiom/phrase/universal truth/routine/historical fact etc., the following changes will take place in the tense, time and place of the reported speech.

Direct Speech	Indirect Speech
Simple Present	Simple Past
Simple Past	Past Perfect
Present Continuous	Past Continuous
Past Continuous	Past Perfect Continuous
Present Perfect	Past Perfect
Past Perfect	No change
Present Perfect Continuous	Past Perfect Continuous
Past Perfect Continuous	No change
Will/Shall/Can/May	Would/Should/Could/Might
Now	Then
Today	That day
Tomorrow	The next day/The following day
Yesterday	The previous day
Tonight	That night
Hence	Thence
Ago	Before
Last	The previous
Here	There
This	That
These	Those

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Q16. Answer: (c) The equations will be learnt by the students.

The correct answer is The equations will be learnt by the students.

Key Points

• The instructions given below should be followed while changing an assertive sentence in active voice to passive voice.

• Find the subject and object of the sentence and exchange their places; make changes in their cases as well if subject and object are pronouns.

• Thus, in the above sentence, 'equations' and 'students' will interchange their places as subject and object after conversion

• Use preposition by before the agent. (the students)

• Use an appropriate helping verb in passive form according to the tense of the active form. (Present indefinite - will be+ V3)

• Always use the third (past participle) form of the main verb in passive form (learnt)

• At last line up the remaining part

Additional Information

• The voice of the sentence should be changed according to the following rules:

Tense	Active	Passive
Simple Present	Subject + V1 + Object	Object + is/am/are + V3 + by + Subject
Simple Past	Subject + V2 + Object	Object + was/were + V3 + by + Subject
Simple Future	Subject + shall/will + V1 + Object	Object + shall/will + be + V3 + by + Subject
Present Continuous	Subject + is/am/are + V1-ing + Object	Object + is/am/are + being + V3 + by + Subject
Past Continuous	Subject + was/were + V1-ing + Object	Object + was/were + being + V3 + by + Subject
Future Continuous	Subject + shall/will + be + V1-ing + Object	Not possible
Present Perfect	Subject + has/have + V3 + Object	Object + has/have + been + V3 + by + Subject
Past Perfect	Subject + had + V3 + Object	Object + had + been + V3 + by + Subject
Future Perfect	Subject + shall/will + have + V3 + Object	Object + shall/will + have + been + V3 + by + Subject
Infinitive	to + base form of verb	to + be + V3

Q17. Answer: (c) QPR

The correct answer is QPR

Key Points

• The sentence starts with mentioning 'The seismic-reflection...'

• This should logically be followed by a method or a process or some other appropriate noun as clear from the construction

• Thus the next part cannot be P because it starts with the adjective 'important'

• If we use R as the immediately following part, we see that no other part can grammatically follow it further in a correct manner: 'search of petroleum reserves method...' and 'search of petroleum reserves important tool...' both are grammatically incorrect

• If we use Q as the immediately proceeding phrase, we can deduce that the phrase proceeding it should begin with an adjective as Q ends with '...the most'

• The only such phrase is P which begins with the adjective 'important'

• The phrase P ends with "in the.." and thus is logically followed by the phrase R which beings with 'search of'

Thus the complete sentence is: The seismic-reflection method is the most important tool in the search of petroleum reserves.

Q18. Answer: (c) Wise

The correct answer is Wise

Key Points

• Let's look at the meaning of each of the given words:

Gullible	easily persuaded to believe something; credulous
Innocent	not guilty of a crime or offence

Silly	something or someone that or who can't be taken seriously
Wise	having or showing experience, knowledge, and good judgement
Naive	(of a person or action) showing a lack of experience, wisdom, or judgement

Q19. Answer: (b) Opposing

The correct answer is Opposing

Key Points

• Let's look at the meaning of each word given:

Docile	**ready to accept control or instruction; submissive**
Controllable	capable of being directed or influenced
Opposing	in conflict or competition with someone or something
Mild	not severe, serious, or harsh
Subservient	prepared to obey others unquestioningly

Q20. Answer: (a) Hateful

The correct answer is Hateful

Key Points

• Let's look at the meaning of each word:

Despicable	**deserving hatred and contempt**
Hateful	arousing, deserving of, or filled with hatred
Disappointing	failing to fulfil someone's hopes or expectations
Creditable	(of a performance, effort, or action) deserving public acknowledgement and praise but not necessarily outstanding or successful
Nonchalance	the state of being relaxed and free from concern or excitement

Q21. Answer: (b) Calm

The correct answer is Calm

Key Points

• Let's look at the meaning of each word given:

Equanimity	**calmness and composure, especially in a difficult situation**
Anxiety	a feeling of worry, nervousness, or unease about something with an uncertain outcome
Calm	Not showing or feeling nervousness, anger, or other strong emotions
Arousal	the physiological and psychological state of being awoken or of sense organs stimulated to a point of perception
Upset	the state of being unhappy, disappointed, or worried

Q22. Answer: (c) still

The correct answer is still

Key Points

• Here, the context is based upon a fact-based on history.

• History is the action of the past, and it shows that the myth is popular in today's time also

• We should use adjective still that means up to and including the present or the time mentioned; even now or then

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Q23. Answer: (c) will return

The correct answer is will return

Key Points

• If we look at the sentence carefully, we see that the latter part of the sentence says "...to complete her course.", i.e., this is the purpose

• Since the purpose (of completing her course) is yet to be fulfilled, simple future tense would be used, i.e., will return

• Let's look at the other options:

• 'returning': This is an example of a gerund here and it should be used alone. Thus this is incorrect.

• 'would returned': 'Would' is a modal verb that should be followed by V1 (present) form of the verb and not the past form. Thus this is incorrect.

• 'was return': The auxiliary verbs is/was/am/are/were, etc. are followed by either verb+ing or V3 + d/ed. Thus this is incorrect.

Thus the complete sentence is: Rachel will return to Paris to complete her course.

Q24. Answer: (b) 2

The correct answer is 2

Key Points

• Clearly, the context explains the force experienced by woodpecker

• Here, the concept of preposition is brought under consideration

• Since 'in to' is used to denote the change of form from one to another

• 'up to' is used for indicating a maximum amount

• Thus, we should replace in to with up to

Thus the correct sentence is: A woodpecker hammering away at a tree experiences forces up to 1,400 times that of Earth's gravity, or 1,400 G's.

Q25. Answer: (c) 3

The correct answer is 3

Key Points

• Here, in part 4, 'life' is a noun and 'intelligent' is an adjective and both are connected with the conjunction 'and' thus it should connect two similar parts of speech

• Also, the first part of the sentence talks about the personification of inanimate objects, thus it logically implies that adjectives not nouns should follow

• Hence, the noun life should be changed to living

Correct sentence: In personification, inanimate objects and abstract notions are spoken of as living and intelligent.

Q26. Answer: (a) Father : Male

‘Grandmother’ denotes a ‘female’ person, similarly, ‘father’ denotes a ‘male’ person.

Hence, answer is ‘Father : Male’.

Q27. Answer: (d) 893

The pattern/logic/rule followed here is:

695 : 659 → Position of 2^(nd) and 3^(rd)digit in first number is interchanged.

Similarly,

839 : 893

Hence, answer is ‘893’.

Q28. Answer: (a) FSU

The pattern/logic/rule followed here is:

Similarly,

Hence, answer is ‘FSU’.

Q29. Answer: (c) Yellow – Orange

Except ‘Yellow – Orange’ all other pairs denotes the relation of different colour.

Hence, the correct answer is "Yellow – Orange".

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Q30. Answer: (c) 7 – 12

The pattern/logic/rule followed here is:

First number × 2 = Second number

1) 3 – 6 → 3 × 2 = 6

2) 5 – 10 → 5 × 2 = 10

3) 7 – 12 → 7 × 2 = 14 ≠ 12

4) 9 – 18 → 9 × 2 = 18

Hence, the correct answer is "7 – 12".

Q31. Answer: (a) SUWX

The table shows the place value of the alphabet from A to Z and Z to A.

The pattern/logic/rule followed here is:

Logic: The difference between the letter is +2.

Hence, the correct answer is "SUWX".

Q32. Answer: (b) 45231

The dictionary sequence is as follows:

4. Wedding

5. Wednesday

2. Where

3. Wherever

1. Whimper

Hence, the correct answer is ‘45231’.

Q33. Answer: (d) 39

The logic/rule followed here is:

Hence, the correct answer is "39".

Q34. Answer: (c) JLK

Below given table shows the positional values of the letters:

The logic followed here is:

Hence, the correct answer is ‘JLK’.

Q35. Answer: (b) Chetan

Pankaj, Gopi, Chetan, Dinesh, Akash and Vyom.

Since no information is given regarding the person are facing outside or inside the circle, we follow up using two different cases.

1) Gopi is between Vyom and Chetan

2) Vyom is to the immediate right of Dinesh

3) Pankaj is between Akash and Dinesh.

Chetan is opposite to Dinesh.

Hence, the correct answer is "Chetan".

Q36. Answer: (d) Damage

1) Moon: DEMONSTRATION → Word can be formed

2) Most: DEMONSTRATION → Word can be formed

3) Train: DEMONSTRATION → Word can be formed

4) Damage: DEMONSTRATION → Cannot be formed because in order to make the word ‘damage’ we need two ‘a’ and there is only one ‘a’ in the word ‘demonstration’

Hence, the correct answer is "Damage".

Q37. Answer: (b) GELRWC

Below given table shows the positional values of the letters:

CUDGEL → FYGKHP

Similarly,

DAINTY → GELRWC

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Hence, the correct answer is "GELRWC".

Q38. Answer: (a) 1

Symbol	•	•	×	÷
Meaning	•	÷	•	×

Given equation: 15 × 4 ÷ 35 - 70 + 16 = ?

On replacing the symbol we get,

15 + 4 × 35 ÷ 70 - 16

Now apply Bodmas rule:

15 + 4 × 35 ÷ 70 - 16

→ 15 + 4 × 0.5 - 16

→ 15 + 2 - 16

→ 17 - 16

→ 1

Hence, the correct answer is '1'.

Q39. Answer: (a) • and ×

Given equation: 15 × 12 + 40 ÷ 40 - 6 = 21

1) After interchanging '+ and × ' we get:

15 + 12 × 40 ÷ 40 - 6 = 21

L.H.S of the equation: 15 + 12 × 40 ÷ 40 - 6

→ 15 + 12 × 1 - 6

→ 15 + 12 - 6

→ 27 - 6

→ 21 = R.H.S

2) After interchanging '+ and ÷ ' we get:

15 × 12 ÷ 40 + 40 - 6 = 21

L.H.S of equation: 15 × 12 ÷ 40 + 40 - 6

→ 15 × 0.3 + 40 - 6

→ 4.5 + 40 - 6

→ 44.5 - 6 ≠ RHS

3) After interchanging '- and + ' we get:

15 × 12 - 40 ÷ 40 + 6 = 21

L.H.S of the equation: 15 × 12 - 40 ÷ 40 + 6

→ 15 × 12 - 1 + 6

→ 180 - 1 + 6

→ 186 - 1

→ 185 ≠ RHS.

4) After interchanging '÷ and ×' we get:

15 ÷ 12 + 40 × 40 - 6 = 21

L.H.S of the equation:15 ÷ 12 + 40 × 40 - 6

→ 1.25 + 40 × 40 - 6

→ 1.25 + 1600 - 6 ≠ RHS.

Hence, the correct answer is '+ and × '.

Q40. Answer: (c) 18

The logic/rule followed here is:

% → +

7 % 8 = 30 → (7 + 8) × 2 = 30

4 % 3 = 14 → (4 + 3) × 2 = 14

4 % 9 = 26 → (4 + 9) × 2 = 26

Similarly,

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1 % 8 → (1 + 8) × 2 = 18

Hence, the correct answer is '18'.

Q41. Answer: (d) XXXXXXY

The pattern followed here is:

X	Y	X	X	X	X	X
X	X	Y	X	X	X	X
X	X	X	Y	X	X	X
X	X	X	X	Y	X	X
X	X	X	X	X	Y	X
X	X	X	X	X	X	Y

Hence, the correct answer is 'XXXXXXY'.

Q42. Answer: (d) 10 km East

As per the given information.

1) Abhay rides 7 km North, then turns to his left and rides 4 km.

2) Chintan rides 6 km West, then turns North and rides 7 km, then turns to his left and rides 8 km.

3) They start from the same point. So we combining above two diagram, we get

Abhay is 10 km to the East of Chintan.

Hence, the correct answer is "10 km East".

Q43. Answer: (c) Both conclusions I and II follow

The possible Venn diagram of the above statements is shown below,

Conclusion I: Some chargers are batteries → Folllows (As All cells are chargers and All batteries are cells)

Conclusion II: All batteries are chargers → follows (As All cells are chargers and All batteries are cells)

Thus, both conclusions I and II follow.

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

Q44. Answer: (c) DF

Essayists who are not Cooks are represented by the area bounded by the circle excluding the area bounded by the triangle, thus the shaded region depicts the required answer.

Hence, the correct answer is 'DF'.

Q45. Answer: (c) WRO

Below given table shows the positional values of the letters:

The logic/rule/relation followed here is:

The letter is increased by + 7.

Hence, the correct answer is 'WRO'.

Q46. Answer: (a) 34

Given series: 102, 85, 68, 51, ?

The logic/rule/relation followed here is:

Subtracting 17 from each term to get the next term

Hence, the correct answer is '34'.

Q47. Answer: (b) (17, 52, 33)

The logic/rule/relation followed here is:

Logic: First number + Third number = Second number.

1) (8, 23, 15) → 8 + 15 = 23

2) (17, 52, 33) → 17 + 33 = 50 ≠ 52

3) (12, 35, 23) → 12 + 23 = 35

4) (15, 44, 29) → 15 + 29 = 44.

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Hence, the correct answer is '(17, 52, 33)'.

Q48. Answer: (c) [figure]

The mirror image of the object when the mirror is placed on the right side of the object is shown below,

Hence, the correct answer is "option 3".

Q49. Answer: (c) [figure]

From the figure we can conclude:

1) The face of the dice with a star will be opposite to the side with a dot.

2) The side with a plus will be opposite the side with a cross and square.

3) The side with a circle will be opposite to the side with a hexagon.

But, in option 3 as shown above, the side with a plus and the side with a cross and square are adjacent to each other.

Thus, it cannot be made based on the unfolded cube in the question figure.

Hence, the correct answer is, "Option 3".

Q50. Answer: (c) 14,67,77,96

Applying the pattern shown in the table above to each option, we get

1) 33,78,34,87 → H, Z, E, Z

2) 44,86,43,55 → F, Y, J, R

3) 14,67,77,96 → C, O, R, N

4) 22,98,43,79 → I, S, J, V

Hence, the correct answer is '14,67,77,96'.

Q51. Answer: (d) 13

Given:

Let the two numbers be 'a' and 'b'

=> a + b = 7

=> a2 + b2 = 23

Formula used:

(a + b)2 = a2 + b2 + 2ab

Calculation:

=> (a + b)2 = a2 + b2 + 2ab

=> $a \times b = [(a + b)^2 - (a^2 + b^2)]/2$ ----(1)

Substituting the values of (a + b) and $(a^2 + b^2)$ in Equation 1, we get

=> $a \times b = [(7)^2 - 23]/2$

=> $a \times b = (49 - 23)/2 = (26/2) = 13$

Therefore Product of the numbers = 13

Q52. Answer: (a) 1526

Given:

Let the two numbers be 'a' and 'b'

=> a - b = 1146

Concept used:

Dividend = Divisor × Quotient + Remainder

Calculation:

Let the larger number = a;

Smaller number = b

=> a - b = 1146 ----(1)

Dividend = Divisor × Quotient + Remainder

a = (b × 4) + 6 = 4b + 6 ----(2)

Substituting the value of 'a' from Equation 2 in Equation 1, we get

=> a - b = 1146

=> (4b + 6) – b = 1146

=> 3b = 1140

=> b = 1140/3 = 380

Substituting the values of 'b' in Equation 1 to get the value of 'a'

a = b + 1146 = 380 + 1146 = 1526

Therefore The larger of both the numbers (a) = 1526

Q53. Answer: (d) Infinity

n = 3n/2 + 9n/4 + … ∞

n = 3n/2 + 3/2[3n/2 + 9n/4 + … ∞]

So, n = 3n/2 + 3n/2

n = 3n, which is possible only at ∞.

Q54. Answer: (a) 0

Given:

=> $2x^2 + 2y^2 = 4a$

Calculation:

=> 2x2 + 2y2 = 4a ----(1)

Dividing Equation 1 throughout with 2, we get

=> $x^2 + y^2 = 2a$

According to the question:

=> $2a/ (x^2 - a) + 2a/ (y^2 - a)$

=> $2a [(1/ (x^2 - a) + 1/ (y^2 - a)]$

=> $2a [(y^2 – a + x^2 – a)/ (x^2 – a) (y^2 – a)]$

=> $2a [(y^2 + x^2 – 2a)/ (x^2 – a) (y^2 – a)]$

=> $2a [(2a – 2a)/ (x^2 – a) (y^2 – a)]$

=> 0

Therefore The correct answer is 0.

Q55. Answer: (b) a > 6

Concept used:

The sum of the lengths of any two sides of a triangle is greater than the length of the third side

Calculation:

We can consider the following cases

Case 1: 4 + 10 > a (a < 14)

Case 2: 10 + a > 4 (a > -6)

Case 3: a + 4 > 10 (a > 6)

Therefore The correct option is 2.

Q56. Answer: (d) π/2

Given:

triangle ABC is a isosceles triangle.

AB = AC; AC = AD

Calculation:

Let angle BAC be 2x

=> angle ABC = angle BCA = (90 - x)

=> angle DAC = (180 - 2x)

=> angle ADC = angle ACD = x

Measure of angle BCD = angle ACB + angle ACD

=> (90 - x) + (x) = π/2

Therefore The correct answer is π/2.

Q57. Answer: (a) 280%

Calculation:

Let Mohit's original salary be 100

Rahul's original salary (being 40% more than Mohit's salary) = 100 + (40% of 100) = 100 + 40 = 140

If Rahul's salary is now increased by 60%, then
Rahul's new salary = 140 + (60% of 140) = 140 + 84 = 224
Mohit's salary is decreased by 20%, then
Mohit's new salary = 100 - (20% of 100) = 100 - 20 = 80
Required Percentage = (224/80) × 100 = 280%
Therefore The correct answer is 280%.

Q58. Answer: (b) 3750

Given:
Total sum = Rs.7750
Calculation:
Let 3X = 5Y = 2Z = k
X = k/3, Y = k/5, Z = k/2
Sum of shares of all of them together = 7750
=> (k/3) + (k/5) + (k/2) = 7750
=> (10k + 6k + 15k)/30 = 7750
=> 31k = 7750 × 30
=> k = (7750 × 30/31) = 7500
Share of Z = (k/2) = 7500/2 = Rs.3750
Therefore The correct answer is Rs.3750.

Q59. Answer: (a) 32 : 21

Calculation:
Vishal joins Lokesh after 3 month. So his amount invested for 9 months.

Lokesh	Vishal
240000 × 12	210000 × 9
24 × 12	21 × 9

Now,
Ratio of their Profits = 24 × 12 : 21 × 9 = 32 : 21
Therefore The correct answer is 32 : 21

Q60. Answer: (a) 71

Given:
The average weight of two players P and Q = 38 kg
The average weight of P, Q and their coach T = 49 kg
Calculation:
Average weight of P and Q = 38 kg
Sum of weight of P and Q = 38 × 2 = 76 ----(1)
Average weight of 'P', 'Q' and 'T' = 49
Sum of weight of P, Q and T = 49 × 3 = 147 ----(2)
Weight of the coach = (P + Q + T) - (P + Q) = 71 kg
Therefore The correct answer is 71 kg.

Q61. Answer: (a) 1848

Given:
Principal = Rs.1200
Amount = Rs.1740
Time = 3 years
Formula used:
S.I = (P × R × T)/100
Calculation:
S.I = Amount - principal = 1740 - 1200 = Rs.540

=> (P × R × T)/100 = S.I
=> (1200 × R × 3)/100 = 540
=> R = (540 × 100)/(1200 × 3)
=> R = 15%
According to the question
New R% = (15 + 3)% = 18%
So, S.I = (1200 × 18 × 3)/100
=> S.I = 12 × 18 × 3 = Rs.648
New amount = 1200 + 648 = Rs.1848
Therefore The correct answer is Rs.1848.

Q62. Answer: (c) 33.33%

Given:
Cost Price (CP) = 75% of Selling Price (SP)
Calculation:
According to the question:
Cost Price (CP) = 75% of Selling Price (SP)
=> C.P/S.P = 3/4
Profit Percentage = [(Selling Price - Cost Price)/Cost Price] × 100
Profit Percentage = (1/3) × 100% = 33.33%
Therefore The correct answer is 33.33%.

Q63. Answer: (c) 14.28

Given:
Marked Price (MP) = (10/7) Cost Price (CP)
Selling Price (SP) = (4/5) Marked Price (MP)
Calculation:
M.P : C.P = 10 : 7
S.P : M.P = 4 : 5
M.P must be equal in both ratio;
S.P : M.P = (4 : 5) × 2 = 8 : 10
Now, C.P : M.P : S.P = 7 : 10 : 8
So, profit % = [(8 - 7)/7] × 100
Required Percentage = (100/7)% = 14.28%
Therefore The correct answer is 14.28%.

Q64. Answer: (a) 3/4(√7 - √3)

Calculation:
Rationalising each of the values by multiplying and dividing with its conjugate
x = [1/(√5 + √3)] × [(√5 – √3) / (√5 – √3)] = (√5 – √3)/2
y = [1/(√7 + √5)] × [(√7 – √5) / (√7 – √5)] = (√7 – √5)/2
z = [1/(√7 + √3)] × [(√7 – √3) / (√7 – √3)] = (√7 – √3)/4
Adding all the three
(x + y + z) = (√5 – √3)/2 + (√7 – √5)/2 + (√7 – √3)/4
=> (x + y + z) = [(2√5 – 2√3) + (2√7 – 2√5) + (√7 – √3)]/4
=> (x + y + z) = (3√7 – 3√3)]/4 = (3/4) (√7 – √3)
Therefore Value of x + y + z = (3/4) (√7 – √3)

Q65. Answer: (c) 40

Calculation:
Work completed by 1 men in 1 day = 1/ (28 × 50) = 1/1400
Work completed by 50 men in 1 day = 50 × (1/1400) = 1/28
Work completed by 50 men in first 10 days = 10/28 = 5/14

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Work completed by 40 men in next 10 days = 10 × 40 × (1/1400) = 4/14
Work completed by 30 men in next 10 days = 10 × 30 × (1/1400) = 3/14
Work completed by 20 men in next 10 days = 10 × 20 × (1/1400) = 2/14
Time taken to complete the work = 40 days as 5/14 + 4/14 + 3/14 + 2/14 = 1
Therefore The correct answer is 40 days.
Alternate MethodCalculation:
According to the question:
Total work = 50 × 28 = 1400
So, work done in first 10 days = 50 × 10 = 500
Work done in next 10 days = 40 × 10 = 400
Work done in next 10 days = 30 × 10 = 300
Work done in next 10 days = 20 × 10 = 200
Now, Total work done in 40 days = 500 + 400 + 300 + 200 = 1400
Therefore The correct answer is 40 days.

Q66. Answer: (d) 5 : 20

Given:
Distance between U and V = 1008 km
Calculation:
Time taken to cover the distance between U and V = 1008/126 = 8 hrs
Total time taken by the train to travel including the waiting time = 8 hours + 20 minutes
Adding 8 hours and 20 minutes from 9 : 00 am, the train will reach the point V at 5 : 20 pm
Therefore The correct answer is 5 : 20 pm.

Q67. Answer: (b) D

Calculation:
From the graph it is clearly visible that the lowest number of employees is in Department ‘D’ which is 100
Therefore Department D has the lowest number of Employees

Q68. Answer: (d) 4 : 7

Calculation:
Number of employees in department A = 200
Number of employees in department F = 350
Ratio of number of employees of department A to that of department F = 200 : 350 = 4 : 7
Therefore The correct answer is 4 : 7

Q69. Answer: (b) 75%

Calculation:
Number of employees of department G = 350
Number of employees in department C = 200
The difference between the number of employees of department G and department C = (350 - 200) = 150
Required Percentage = (Difference in number of employees in Department G and C)/(Number of employees in Department C) × 100%
=> (150/200) × 100% = (3/4) × 100% = 75%
Therefore Required Percentage = 75%

Q70. Answer: (c) 80

Calculation:
Total compensation of all the employees of Department A = (Average compensation of an employee of Department A) × Total number of employees of Department A
=> Rs. 40000 × 200 = Rs. 8000000 = Rs. 80 Lakhs
Therefore Total compensation of all the employees of Department A = Rs. 80 Lakhs

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Q71. Answer: (c) 46

Given:

Length of the Diagonal = 17 cm

Length of one side (L) = 8 cm

Formula used:

(Diagonal)2 = (Length)2 + (Breadth)2

Calculation:

=> (Diagonal)² = (Length)² + (Breadth)²

=> (Breadth)² = (Diagonal)² - (Length)²

=> (Breadth)2 = (17)² - (8)²

=> (Breadth)2 = 289 - 64 = 225

=> (Breadth) = √225 = 15 cm

Perimeter of the Rectangle = 2 (L + B)

=> 2 × (8 + 15) = 2 × 23 = 46 cm

Therefore The correct answer is 46 cm.

Q72. Answer: (d) 72

Given:

Area of a semicircle = 308 cm2

Calculation:

According to the question:

Area of a semicircle = 308 cm2

=> πr²/2 = 308

=> (22/7) × r² = 308 × 2

=> r² = 308 × 2 × (7/22) = 14 × 14

=> r = √(14 × 14) = 14 cm

Perimeter of semicircle = [(π× r] + 2 × r

=> [(22/7) × 14] + 28 = 44 + 28 = 72

Therefore The correct answer is 72 cm.

Q73. Answer: (c) 38808

Given:

Diameter (d) = 42 cm

Formula used:

Volume of Sphere = (4/3) × π × r³

Calculation:

Radius = (diameter/2)

Radius = 42/2 = 21 cm

Volume of sphere = (4/3) × π × r3

=> (4/3) × (22/7) × (21)³

=> (88/21) × (21)³

=> 88 × (21²)

=> 88 × 441 = 38808 cm³

Therefore Volume of the sphere = 38808 cm³

Q74. Answer: (b) (2 + √3)/√3

Formula used:

tan 45° = 1

Calculation:

According to the question:

(2/√3 + tan45°)

=> (2/√3) + 1

=> (2 + √3)/√3

Therefore Required answer = (2 + √3)/√3

Q75. Answer: (b) 5/12

Given:

ΔPQR is right angled at Q

=> Cot P = 5/12

Calculation:

Cot P = Adjacent/Opposite = QP/RQ = 5/12

Tan R = PQ/QR = 5/12

Therefore The correct answer is 5/12.

Q76. Answer: (a) Directly related

Income and consumption are related to each other in a directly proportional way. If income arises then consumption also goes upright. There is an exception in Giffen / Griffin Goods.

Q77. Answer: (c) 1986

The correct answer is 1986

Key Points

• Consumer Protection Act was passed in 1986 to protect the rights and interests of consumers.

• COPRA is regarded as the Magna Carta in the field of Sellers and Consumers where consumers are at the edge when it comes to claiming a false or malicious practice practised by the sellers.

Q78. Answer: (a) Burzahom

The correct answer is Burzahom

Key Points

• The Burzahom archaeological site is located in the Kashmir Valley of the Indian state of Jammu and Kashmir.

• The Burzahom site revealed the transition from the subterranean and ground-level housing features of the Neolithic people to the mudbrick structures of the Megalithic people.

Additional Information

• Paleolithic:

• It is the earliest Stone age period dating 2.6 million years ago.

• The age is distinguished by most primitive stone tools. Humans during the era grouped together in small “bands” and were involved in gathering plants, fishing, and hunting.

• The paleolithic period is the longest in human history.

• The age can be divided into lower Paleolithic, Middle Paleolithic, and Upper Paleolithic.

• During the end of the age, people developed spiritual and religious beliefs as depicted in some of the excavations.

• Mesolithic: It is the second period of the stone age between Paleolithic and Neolithic. The start and end of the age vary by geographical region. It is a transition period from hunting and gathering as in Paleolithic to domestication as in Neolithic. The tools used were the mode V chipped stone tools (microliths).

• Neolithic: It is the 3rd period of the stone age and is often referred to as the “New stone age”. Its time period is considered to be around 10,200 BC to 4,500BC, which ended with the beginning of the “Bronze Age”.

• Microlith: It is a small tool made up of flint or chert, used to form the points of hunting weapons.

Q79. Answer: (b) Ibrahim Adilshah II

The correct answer is Ibrahim Adilshah II.

Key Points

• Ibrahim Adil Shah II

• Ibrahim Adil Shah II was king of the Bijapur Sultanate.

• He was a member of the Adil Shahi dynasty.

• He had the title of ‘Abla Baba’ (friend of the poor) of the Deccan.

• He had a title called ‘Jagadguru Badshah’

• Adil Shahi dynasty had its greatest period Under his reign.

• He ruled the dynasty from 1580 to 1626.

• He was an expert in Indian music and author of a book on this subject, Nauras-nama.

• He renovated Dutta temples in his fort and encouraged pooja rituals.

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• He worked for the cultural harmony of Hindu-Muslim.

• He wrote a book called 'Kitab-e-Navaras' and tried to make music popular among Muslims.

• 'Ibrahim Rauza' which is famous for its architecture was built by Ibrahim Adil Shah II.

Additional Information

• Ibrahim Adilshah II

• Ibrahim Quli Qutb Shah was in power from 1550–1580.

• Hussain Sagar is a heart-shaped lake in Hyderabad built by Ibrahim Quli Qutb Shah and named after Hussain Shah Wali.

• Akbar

• On October 15, 1542 AD, Mughal emperor Jalal-ud-din Muhammad Akbar was born in Amarkot, Pakistan in the palace of King Veersaal when his father Humayun fled from military defeat at the hands of Sher Shah Suri.

• Abu'l-Fath Jalal-ud-din Muhammad Akbar, also known as Akbar I, was the third Mughal emperor, who reigned from 1556 to 1605.

• Akbar succeeded his father, Humayun, under a regent, Bairam Khan, who helped the young emperor expand and consolidate Mughal domains in India.

• Malik Ambar

• Malik Ambar was the real founder of Aurangabad city.

• Malik Ambar was an Ethiopian and had been brought to India as a slave.

• This able slave rose to prominence between 1607 to 1626, when he was regent of the Nijamshahis of the Ahmednagar. He increased the strength of Murtuza Nizam Shah and established a new city at the site of an old village Khadki in Maharashtra, which is known as Aurangabad today. The name was changed to Aurangabad later by Aurangzeb.

• The Guerilla warfare for which the Marathas are best known was pioneered by Malik Ambar.

Q80. Answer: (b) Colone

The correct answer is Colone

Key Points

• Panama Canal is an 82 km long canal which connects the Atlantic Ocean and the Pacific Ocean.

• USA Govt. started this project in 1904 and the canal was opened on August 15, 1914.

• Colon is the northernmost port on the Canal.

Q81. Answer: (b) Papanasham - Himachal Pradesh

The correct answer is Papanasham - Himachal Pradesh.

Key Points

• Papanasham dam is located in Tamil Nadu. It is also known as Karaiyar Dam.

• It is situated on the bank of the Thamirabarani River.

Additional Information

Dhuandhar falls	**Narmada river, Madhya Pradesh**
Hundru falls	Subarnarekha river, Ranchi
Jog falls	Sharavati river, Karnataka

Q82. Answer: (c) Jainism

The correct answer is Jainism.

Key Points

• Anuvarta is associated with Jainism.

• There are five Anuvratas, or "little vows", in Jainism:

Ahimsa: Non-violence

Satya: Truthfulness

Asteya: Non-stealing

Brahmacharya: Chastity

Aparigraha: Non-possession.

• It is also called small vows sometimes. Anu means small and vart means vow.

Additional Information

Cast	**Pitcher**

Jainism	Mahavir
Hinayana Buddhism	Gautama Buddha
Lokayata sect	Ajita Kesakambli

Q83. Answer: (b) Malaysia

The correct answer is Malaysia.

Key Points

• First Islamic bond, the green sukuk, was issued by the Malaysian Govt.

• It was a great step to fill the gap in green financing.

• World Bank also issues green bonds and those green bonds are very effective to raise the issue of environmental awareness.

Q84. Answer: (d) Nahuel Perez Biscayart

The correct answer is Nahuel Perez Biscayart.

Key Points

• Nahuel Perez Biscayart won the best actor award for the movie 120 Beats per Minutes which was directed by Robin Campillo.

• This movie was about the AIDS epidemic and homosexual relationships.

Q85. Answer: (d) China

The correct answer is China

Key Points

• Myanmar shares the longest border line with China. The border between Myanmar and China starts from the Hkakabo Razi, the highest mountain in Southeast Asia.

Additional Information

Country	International Boundary with Myanmar	Capital
India	1468 km	New Delhi
Bangla Desh	271 km	Dhaka
Laos	238 km	Naypyidaw
China	2129 km	Beijing

Q86. Answer: (c) Same number of neutron

The correct answer is the same number of neutrons.

Explanation:

Isotones:

• The atoms of the elements having the same difference between mass number and atomic number are called Isotones.

• Isotones are nucleoid which has different proton number and the same number of neutrons.

• For example, boron-12 and carbon-13 nuclei both contain 7 neutrons

Isobar:

• Isobars are those elements which have different atomic numbers but the same atomic mass.

• Their chemical property is different because there is a difference in the number of electrons.

• Example of two Isobars is Iron and Nickel.

• Both have the same mass number which is 58 whereas the atomic number of Iron is 26, and the atomic number of Nickel is 28.

Isotopes:

• They are variants of a particular chemical element.

• While all isotopes of a given element share the same number of protons and electrons, each isotope differs from the others in its number of neutrons.

• For example, Carbon-12, Carbon-13 and Carbon-14 are three isotopes of the element carbon with mass numbers 12, 13 and 14 respectively.

Q87. Answer: (b) Nuclear fission

The correct answer is Nuclear fission.

Key Points

• Nuclear fission:-

• It is the process of chain reaction in which neutrons get split into smaller parts.

• This process emits a large amount of energy which is used to utilize in many fields. But it should be a controlled reaction otherwise it can prove a fatal accident.

Additional Information

• Nuclear fusion:-

• Nuclear fusion is a reaction through which two or more light nuclei collide with each other to form a heavier nucleus.

• A hydrogen bomb works on the principle of a nuclear fusion bomb.

• Natural radioactivity:-

• Radioactivity was discovered by Henri Becquerel in 1896.

• SI unit of radioactivity is becquerel (Bq).

• Henry Becquerel discovered radioactivity proving that the uranium emitted radiation without an external source of energy such as the Sun.

• Marie Curie, who together with her husband Pierre Curie, actually coined the term radioactivity and began investigating the phenomenon recently discovered by Becquerel.

• In 1903, Henry Becquerel shared the Nobel Prize for Physics with Pierre and Marie Curie.

Q88. Answer: (b) Gram Sabha

The correct answer is Gram Sabha.

Key Points

• Gram Sabha has been regarded as the bedrock of the Panchayati Raj in India.

• The 73^(rd) amendment was done to introduce Panchayati raj in India which ultimately was done to give powers to decentralized bodies on the ground level.

Q89. Answer: (b) Governor of that state

The correct answer is Governor of that state.

Key Points

• State government rules the states in India. There is a legislature represented by the Governor and Ministers.

• Council of ministers i.e. ministers in the states are appointed by the Governor under articles 163 and 164.

Additional Information The President of India

• The president is the Supreme Commander of the Indian Armed Forces.

• The president can declare war or conclude peace, on the advice of the Union Council of Ministers headed by the prime minister.

• All important treaties and contracts are made in the president's name.

• Under the draft constitution, the President occupies the same position as the King under the English Constitution.

• He is the head of the state but not of the Executive.

• He represents the Nation but does not rule the Nation.

• He is the symbol of the Nation

The Chief Minister:

• In the scheme of the parliamentary system of government provided by the Constitution, the governor is the nominal executive authority (de jure executive) and the Chief Minister is the real executive authority (de facto executive).

• The Constitution does not contain any specific procedure for the selection and appointment of the Chief Minister.

• Article 164 only says that the Chief Minister shall be appointed by the governor.

The Prime Minister:

• He/She is appointed by the President and other ministers shall be appointed by the President on the advice of the Prime Minister.

• The Prime Minister of India is the Head of the Government of India.

• He is also the head of the council of ministers.

• He is the chairman of the cabinet and presides over the meetings of the Cabinet.

• He acts as the chief advisor to the President of India.

Q90. Answer: (c) Stigma

The correct answer is Stigma

Key Points

• The stigma receives pollen grains on it as it is the part of reproductive system of a plant and it is on the stigma where

germination process takes place.

• The stigma which is sticky, is adapted in various ways to catch and trap pollen with various hairs, flaps, or sculpturing.

Important Points

• The Sequence of pollen tube pathway:

• The stigma serves as a landing platform for pollen grains.

• Then it enters style, which is the elongated slender part beneath the stigma.

• The basal bulged part of the pistil is the ovary where the pollen grains finally fertilize.

Q91. Answer: (b) Suberin

The correct answer is Suberin

Key Points

• Suberin functions as a physical barrier, preventing water loss from the tissues.

• It surrounds as well as providing protection against pathogens.

• It also forms a significant component of the wound healing process in plants.

Additional Information

Cellulose	**It is the major part of plant cell wall**
Suberin	It works as a hurdle for the flow of water and gases in plants.
Pectin	It helps to hold the cells together and found in primary cell walls.
Lingin	It consolidates the wood and bark of plants.

Q92. Answer: (a) December 2018

The correct answer is December 2018.

Key Points

• Bio-toilets:-

• These are major steps towards the defection-free railway tracks in India by Indian Railways.

• It will improve the hygiene of the railway stations and consequently give a boost to the Swachh Bharat Mission of Govt. of India.

• Indian Railways announced to equip all trains with Bio-Toilets by December 2018.

Additional Information

• Indian Railways:

• It is owned and operated by the Government of India through the Ministry of Railways.

• Railways were first introduced to India in the year 1853 from Bombay to Thane.

• In 1951 the systems were nationalized as one unit, the Indian Railways, becoming one of the largest networks in the world.

• Indian Railways is divided into 18 zones, which are further subdivided into divisions.

• The number of zones in Indian Railways increased from six to eight in 1951, nine in 1966, and sixteen in 2003.

• Each zonal railway is made up of a certain number of divisions, each having a divisional headquarters.

• There are a total of sixty-eight divisions. Each zone is headed by a general manager, who reports directly to the Railway Board.

Q93. Answer: (d) Horror

The correct answer is Horror.

Key Points

• Shelley was the first horror writer in the field of Artificial Intelligence, which was developed by MIT researchers.

• It learns by feeding on data and then processed into horror stories.

• It was launched on Halloween.

Q94. Answer: (b) Exchange

The correct answer is Exchange.

Key Points

• FEMA stands for Foreign Exchange Management Act.

• Foreign Exchange Management Act is an act to consolidate and amend the law relating to foreign exchange with the objective of facilitating external trade and payments and promoting the orderly development and maintenance of the foreign exchange market in India.

• This act extends to the whole of India.

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• The act was passed in parliament on 29th December 1999.

• The act replaced the existing Foreign Exchange Regulation Act (FERA).

• Offences involving foreign exchange are now classified as civil offences under Foreign Exchange Management Act.

• It also prepared the way for the passage of the Money Laundering Prevention Act of 2002, which took effect on July 1, 2005.

Q95. Answer: (d) Accessible India

The correct answer is Accessible India.

Key Points

• Accessible India:-

• It also known as Sugamya Bharat, is a step to make differently-abled persons able to enter all public places with ease. It was launched in 2015 by the Ministry of Social Justice and Empowerment.

Additional Information

• Make in India Scheme:

• The Make in India initiative was launched by Prime Minister Narendra Modi in September 2014 as part of a wider set of nation-building initiatives. Devised to transform India into a global design and manufacturing hub, Make in India was a timely response to a critical situation.

• It represents a complete change of the government's mindset – a shift from issuing authority to a business partner, in keeping with the Prime Minister's tenet of Minimum Government, Maximum Governance.

• Special focus will be given to 25 manufacturing sectors and sector brochures were also developed - contents included key facts and figures, policies and initiatives, and sector-specific contact details, all of which were made available in print and on the website.

• It is being led by the Department for Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce and Industry, Government of India. The ministry is currently headed by Piyush Goyal.

• Skill India Programme:

• It was launched by BJP led government on 15 July 2015.

• Rural Skill India is also a part of this scheme.

• It has started to impart skill and vocation to the individual so as to become self-reliant and to increase the economic growth of the country.

• Digital India:-

• It is a campaign launched by the Government of India to ensure that Government services are made available to citizens electronically by improved online infrastructure and by increasing Internet connectivity or by making the country digitally empowered in the field of technology.

• It was launched on 1 July 2015 by Prime Minister Narendra Modi.

• The initiative includes plans to connect rural areas with high-speed internet networks.

Q96. Answer: (b) 200

The correct answer is 200 A

CONCEPT:

• Electric charge(q): The property of matter which is responsible for electrostatic force is called an electric charge.

• The SI unit of charge is coulomb (C).

• The rate of flow of electric charge is called an electric current.

Electric current (I) = (charge (q))/(Time (t))

Charge (q) = current (I) × time (t)

CALCULATION:

Given that,

charge, Q = 1200 C

time, t = 6 sec

Now by substituting this in the above equation we get

Electric current (I)=(charge (q))/(Time (t))=1200/6=200A

=> 200 A

Q97. Answer: (c) Transverse

The correct answer is Transverse.

Key Points

• Transverse waves

• Transverse waves are waves in which the particle of the medium vibrates perpendicular to the direction of its propagation.

• A water ripple is an example of a transverse wave in which water molecules vibrate perpendicular to the surface of the water while the wave propagates along the surface.

• In transverse waves particles of the medium vibrate up and down in the vertical direction whereas it is propagating along the horizontal direction.

• Hence in a transverse wave, a crest is a part where the particle rises from its mean position whereas a trough is a part where the particle dips below the mean position.

• Longitudinal

• Longitudinal waves are waves in which the particle of the medium vibrates parallel to the direction of its propagation.

• Sound waves are the best example of longitudinal waves.

• This diagram shows how longitudinal (sound) waves are propagated in a medium.

• Here dots represent air molecules and more dots in some area represent a region of compression or increased pressure whereas fewer dots in the same area represents the region of rarification or decreased pressure.

Q98. Answer: (d) Fresh

The correct answer is Fresh.

Key Points

• Polar ice-caps:-

• These are made up of fresh water and they are mainly found in Arctic Pole and Antarctic pole North and South respectively.

• Polar ice caps are melting at a very fast pace these days due to global warming.

• Freshwater:-

• It is found in glaciers, lakes, reservoirs, ponds, rivers, streams, wetlands, and even groundwater.

Additional Information

• Saline Water:-

• Saline water is water that contains high concentrations of dissolved salts.

• The concentration of salt in water is expressed as parts per million (ppm).

• Salt Water:-

• Saltwater is water that contains salt.

• It is the type of water that is found in seas and oceans.

• Sour Water:-

• It is the wastewater that is produced from atmospheric and vacuum crude columns at refineries.

• Hydrogen sulfide and ammonia are typical components in sour water that need to be removed before the water can be reused elsewhere in the plant.

Q99. Answer: (d) No option is correct.

The correct answer is No option is correct.

Key Points

• U-18 Baseball World Cup 2017 was hosted by Canada. Hence statement A is wrong.

• In 2017 Jamie Vardy played the Premier League team for Leicester City Hence statement B is wrong.

Q100. Answer: (a) <SELECT>

The correct answer is

Key Points

• IN HTML, Select tag used by the developers to make a drop down list in a code.

• Drop down list is a list which gives various options to the user and user have to choose one of them options.

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