SSC CHSL Previous Paper 50 (Held On: 25 March 2018 Shift 1) (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 spelt. Select the correctly spelt word.

(a) revarberate
(b) reverberate
(c) reverberete
(d) revarberete

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.

In the entire

A: process of discoveries

B: and development, ethics

C: was exiled

(a) CBA
(b) ABC
(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".

The greeting card (also reducing) the need to sit down and write loving messages to our dear ones.

(a) has also reduce
(b) had also reduce
(c) has also reduced
(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".

By the time we set out, the sun (sit) pretty in the blue sky.

(a) was sitting
(b) had sitting
(c) was sit
(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.

Relating to the study of the nature of god and religious belief

(a) Scepticism
(b) Atheism
(c) Impiety

(d) Theological

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

The state or quality of being holy, sacred, or saintly

(a) Base
(b) Sanctity
(c) Vile
(d) Heinous

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

The tail is wagging the dog

(a) A situation where a small good thing makes everyone happy.
(b) The less important or subsidiary factor, person, or thing dominates a situation.
(c) A person who is always happy to meet you.
(d) Even smaller tasks become important if the whole project is to succeed.

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

Cut corners

(a) Remove the sharp edges now if you don’t want to get hurt later.
(b) One has to sacrifice to achieve one's goals.
(c) Even a coward when cornered musters strength to fight back.
(d) Do something perfunctorily so as to save time or money.

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.

Starting late-2014, scientists of the National Aeronautics and Space Administration (NASA) working _____ satellite data tracking the rift found that the defect in the Larsen C was growing _____. By 2016 the crack became 70 miles long and 300 feet ____. By January 2017 it measured 109 miles in length and 1,500 metres in breadth. On July 12, it broke. The broken shelf, now _____ official iceberg, was massive, indeed the _____-ever such iceberg, weighing 1.1 trillion tons and measuring 2,200 square miles.

Q9. indeed the _____-ever such iceberg,

(a) big
(b) bigger
(c) biggest
(d) the big

Q10. shelf, now _____ official iceberg

(a) a
(b) an
(c) the
(d) once

Q11. and 300 feet _____. By January 2017

(a) width
(b) length
(c) breadth
(d) wide

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Q12. was growing _____. By 2016 the

(a) steadily
(b) steady
(c) instead
(d) instead of

Q13. Administration (NASA) working _____ satellite data tracking

(a) besides
(b) along
(c) by
(d) with

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) Ceiling
(b) Cieling
(c) Ceeling
(d) Crileing

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.

"My hour has come." thought the king.

(a) The king thought that his hour had come.
(b) His hour had come thought the king.
(c) The king thought that his hour had came.
(d) The king wondered if his hour has come.

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 fans invited the cricketer.

(a) The cricketer was invited by the fans.
(b) The cricketer received an invitation by the fans.
(c) The cricketer is invited by the fans.
(d) The cricketer was invite by the fans.

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

Climatic information can

P : be obtained through an

Q : in tree growth

R : understanding of changes

(a) PQR
(b) RPQ
(c) PRQ
(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.

Effervescent

(a) Bouncy
(b) Lively
(c) Stale
(d) Resilient

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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.

Vanguard

(a) Forefront
(b) Follower
(c) Leader
(d) Pioneer

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

Reminisce

(a) Remember
(b) Discover
(c) Forget
(d) Hang

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

Repugnance

(a) Esteem
(b) Respect
(c) Aversion
(d) Sympathy

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 many _____ of Dalhousie have made it popular among tourists.

(a) signs
(b) attractions
(c) entertainment
(d) disadvantages

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.

This is Hrithik Roshan’s autograph, _____?

(a) hasn’t it
(b) hasn’t he
(c) isn’t it
(d) isn’t he

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'.

The truth is that when people seeing you zoned into your work and (1)/ in harmony with yourself, (2)/ they come to distract you. (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'.

The excessive use of pesticides (1)/ has negatively (2)/ effected soil output. (3)/ No error (4)

(a) 1
(b) 2

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(c) 3
(d) 4

GENERAL INTELLIGENCE

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

School : Education ? ? : ?

(a) Scalpel : Teacher
(b) Hospital : Treatment
(c) Teacher : School
(d) Class : College

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

5 : 125 ? 7 : ?

(a) 343
(b) 512
(c) 243
(d) 729

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

BGR : CIU ? HCY : ?

(a) IFC
(b) IEB
(c) JEC
(d) JFB

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

(a) Cup – Tea
(b) Jug – Water
(c) Bowl – Curd
(d) Pen – Butter

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 alternatives.

(a) 25 – 21
(b) 39 – 35
(c) 51 – 47
(d) 93 – 87

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

(a) CGJ
(b) IMQ
(c) OSW
(d) JNR

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

1. Tolerate
2. Toddle
3. Toast
4. Toilet
5. Tiring

(a) 51423
(b) 53241

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(c) 25143
(d) 52143

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

18, 37, 76, 155, 314, ?

(a) 633
(b) 628
(c) 537
(d) 528

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

HJRN, JMTQ, LPVT, NSXW, ?

(a) QWYY
(b) QVAA
(c) PVZZ
(d) PVYZ

Q35. Raman remembers that his marriage is before 20th July and after 13th July. His mother remembers that Raman's marriage is after 16th July. His father remembers that Raman's marriage is before 19th July. On which date of July is Raman's marriage?

(a) 15 or 16
(b) 17 or 18
(c) 15 or 16 or 17
(d) 14 or 15 or 16

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

PREMONITION

(a) Moon
(b) More
(c) Move
(d) Note

Q37. In a certain code language, "PILOW" is written as "49352" and "TRAIN" is written as "78691". How is "PRAWN" written in that code language?

(a) 97816
(b) 69832
(c) 48621
(d) 29647

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

9 × 18 ÷ 5 - 90 + 8 = ?

(a) 35
(b) 11
(c) 15
(d) 2

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

24 + 4 - 20 ÷ 9 × 5 = 31

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

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Q40. If 5 # 5 = -25, -4 # 3 = 12 and 3 # 3 = -9, then find the value of 4 # 5 = ?

(a) 49
(b) -56
(c) -17
(d) -20

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

BBAAAAA, ABBAAAA, AABBAAA, AAABBAA, AAAABBA, _____.

(a) BBAAAAA
(b) AABBAAA
(c) AAAAABB
(d) ABBAAAA

Q42. Chand and Dhyan start from the same point. Chand walks 105 m North, then turns East and walks 55 m, then turns to his right and walks 75 m. At the same time, Dhyan walks 45 m South, then turns to his left and walks 55 m. Where is Chand now with respect to the position of Dhyan?

(a) 135 m North
(b) 75 m North
(c) 75 m South
(d) 135 m South

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 atvariance from commonly known facts. You have to decide which of the given conclusions, if any, follows from the given statements.

Statement I: Some burgers are fast foods

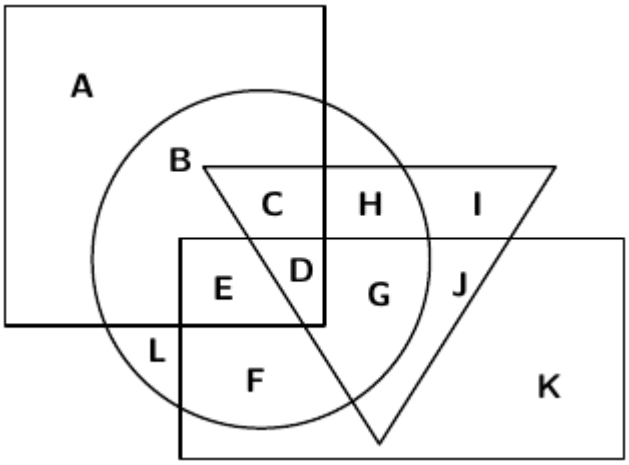
Statement II: Some sandwiches are burgers

Conclusion I: No fast foods are sandwiches

Conclusion II: Some fast foods are burgers

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

Q44. In the following rectangle represents Opticians, circle represents Art critics, triangle represents Riders and square represents Boxers, which set of letters represents Art critics who are not Riders?



(a) BLEF
(b) IJ
(c) CHDG
(d) EDGJ

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

CPI, AME, YJA, WGW, ?

(a) UCT
(b) VDT
(c) VCS
(d) UDS

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

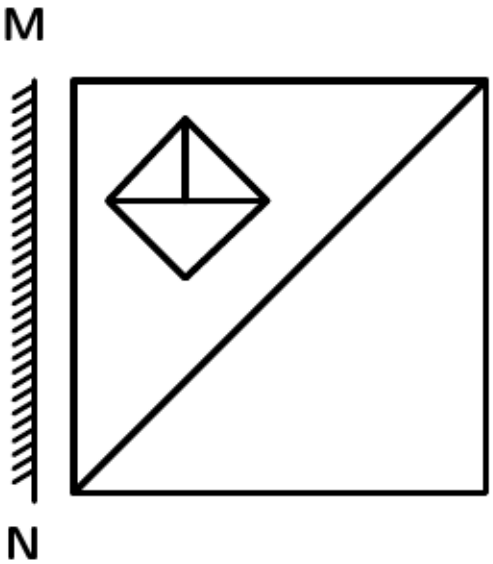
44, 40, 36, ?, 28, 24

(a) 30
(b) 32
(c) 34
(d) 29

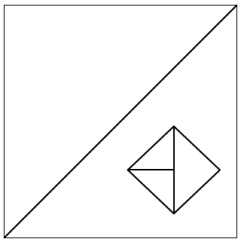
Q47. In the following question, four groups of three numbers are given. In each group the second and third number are related to the first number by a Logic/Rule/Relation. Three are similar on basis of same Logic/Rule/Relation. Select the odd one out from the given alternatives.

(a) (8, 23, 15)
(b) (12, 35, 23)
(c) (15, 44, 31)
(d) (17, 50, 33)

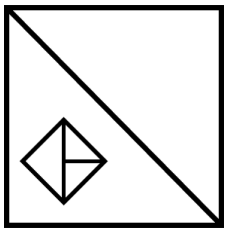
Q48. If a mirror is placed on the line MN, then which of the answer figures in the right image of the given figure?



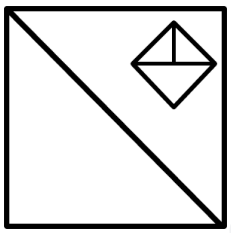
(a)



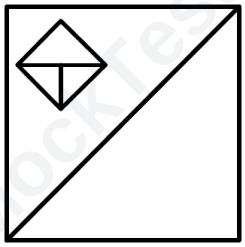
(b)



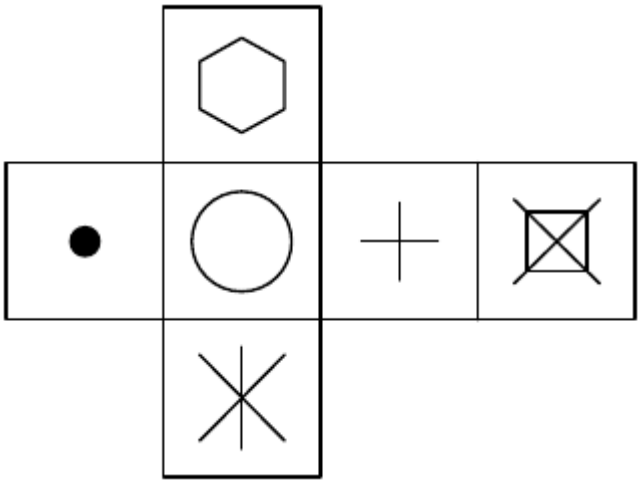
(c)



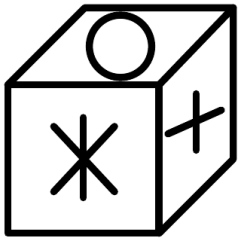
(d)



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

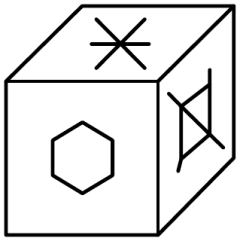


(a)

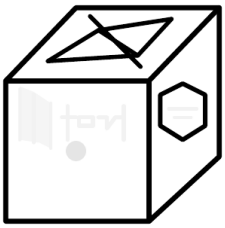


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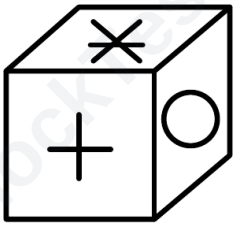
(b)



(c)



(d)



Q50. A word is represented by only one set of numbers as given in any one of the alternatives. The sets of numbers given in the alternatives are resented by two classes of alphabets as shown in the given two matrices. The columns and rows of Matrix-I are numbered from 0 to 4 and that a Matrix-II are numbered from 5 to 9. A letter from these matrices can be represented first by its row and row and next by its column, for example, 'F' can be represented by 14, 31 etc., and 'U' can be represented by 86, 97 etc. Similarly, you have to identify the set for the word "SACK".

MATRIX – I		**MATRIX – II**									
	0	1	2	3	4		5	6	7	8	9
0	F	C	I	L	H	5	R	P	Z	R	V
1	K	E	A	D	F	6	S	O	P	Y	T
2	M	C	F	M	E	7	W	N	Q	V	P
3	G	F	M	M	E	8	X	U	O	O	Z
4	M	E	K	E	C	9	W	P	U	W	Q

(a) 97, 12, 21, 42
(b) 65, 12, 21, 42
(c) 30, 55, 42, 68
(d) 12, 77, 21, 68

QUANTITATIVE APTITUDE

Q51. If a number 6573547x45 is divisible by 9, then find the value of x.

(a) 7
(b) 0
(c) 8
(d) 6

Q52. Calculate the value of ((59881 × 59881 - 49681 × 49681))/10200

(a) 110956
(b) 109562
(c) 109652
(d) 109662

Q53. If (5/7)^(4x)(7/5)^(3x - 1) = (7/5)^8~~, then find the value of x which satisfies the equation.

(a) -1
(b) -9
(c) 1
(d) 9

Q54. If $(x^{32} - 1)/(x^{(16)}) = 5$ then find the value of (x^(96) - 1)/(x^(48))

(a) 40
(b) 70
(c) 140
(d) 180

Q55. If the length of the transverse tangent is 8 cm, then calculate the centre distance (in cm) of the two circles with radii 7 cm and 3 cm.

(a) √100
(b) 6
(c) √164
(d) √48

Q56. Calculate the value of angle OBC + angle BAC, if O is the circum centre of the triangle ABC inscribed in the circle.

(a) 60^o
(b) 90^o
(c) 120^o
(d) 130^o

Q57. Weight of A and B are in the ratio 11 : 8. A's weight increases by 40% and the total weight of A and B increases by 30%. What is the percentage increase in the B's weight?

(a) 10.25
(b) 16.25
(c) 12.5
(d) 18.75

Q58. The income of S, T and U are in the ratio of 7 : 9 : 6 and their expenses in the ratio of 4 : 5 : 3. If S saves Rs 2000 out of an income of Rs 14000, then what will be the saving (in Rs) of T?

(a) 2400
(b) 1500
(c) 3000
(d) 2000

Q59. A mixture contains acid and water in the ratio of 7 : 3. If 4 litres of water is added to it, then the ratio of acid and water becomes 7 : 4. What is the quantity (in litres) of acid in the mixture?

(a) 28
(b) 22
(c) 20
(d) 32

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Q60. What will be the average of the first 7 positive odd numbers divisible by 5?

(a) 45
(b) 35
(c) 40
(d) 32

Q61. The simple interest on a sum is 7/8 of the principal for 5 years. What is the rate (in percentage) of interest per annum?

(a) 15
(b) 17.5
(c) 14
(d) 22.5

Q62. If A purchase 9 chairs for Rs. 5 and sells all the chairs at the rate of 5 chairs for Rs. 9, then what will be the profit percentage?

(a) 212
(b) 224
(c) 248
(d) 194

Q63. The marked price of a pen is Rs. 3000. The shopkeeper gives two successive discounts of 15% and a% to the customer. If the customer pays Rs. 2142 fourth pen, then what is the value (in percentage) of a?

(a) 16
(b) 14
(c) 18
(d) 17

Q64. What is the value of √(1054 + √196 + √169 + √64) ?

(a) 33
(b) 37
(c) 29
(d) 31

Q65. X and Y undertook to do a piece of work for Rs 5400. X alone could do this work in 18 days and Y alone could do this work in 24 days. With the assistance of Z they finished the work in 8 days. What is the share (in Rs) of Z?

(a) 1200
(b) 1500
(c) 1600
(d) 1800

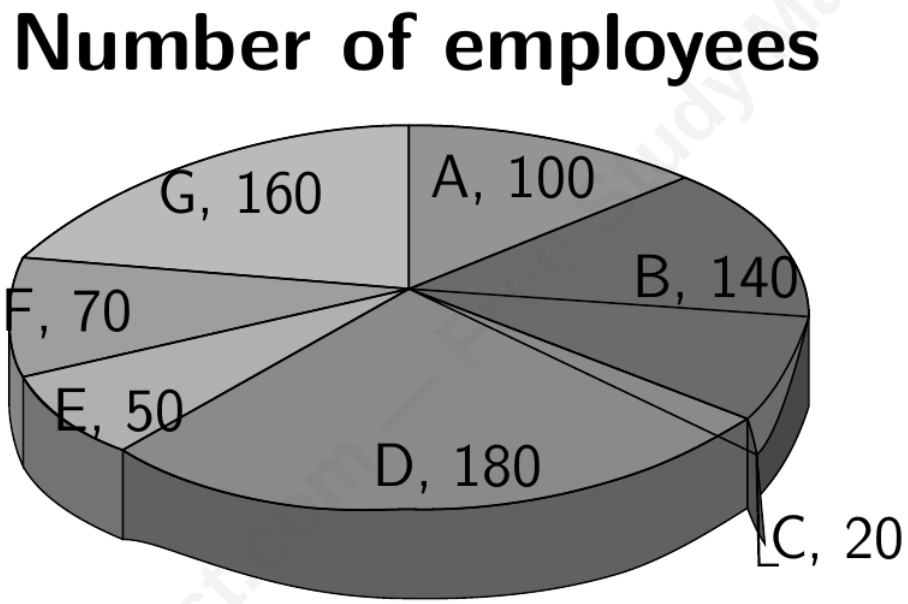
Q66. A boat cover row 12 km upstream in 4 hours and can cover the same distance downstream in 3 hours. What is the speed (in km/hr) of the boat in still water?

(a) 3.5
(b) 3
(c) 2.5
(d) 2

Directions

Direction: The HR department of an MNC prepared a report. The pie chart represents all the employees of the MNC and the languages they speak. Study the diagram and answer the following questions. The alphabets denote the language and the numbers denote the number of employees.

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Q67. In which language do most of the workers speak in the MNC?

(a) F
(b) C
(c) D
(d) G

Q68. What is the total number of employees working in the MNC?

(a) 600
(b) 780
(c) 640
(d) 720

Q69. The measure of the central angle of the sector representing language A is _____ degrees.

(a) 60
(b) 50
(c) 100
(d) 25

Q70. If the average monthly salary of the employees of this MNC is $5000 then what is the total of the salaries (in $ millions) paid to all the employees of this MNC?

(a) 3.6
(b) 36
(c) 18
(d) 1.8

Q71. The area and the breadth of a rectangle are 288 cm^2 and 16 cm respectively. Find the length of its perimeter (in cm).

(a) 34
(b) 68
(c) 136
(d) 102

Q72. Calculate the area (in cm^2) of a circle whose diameter is 35 cm.

(a) 1825
(b) 962.5
(c) 857.5
(d) 1715

Q73. Find the volume (in cm^3) of a hemisphere of diameter 14 cm.

(a) 512.33
(b) 718.67
(c) 628
(d) 826

Q74. What is the value of (√2/3 - cosec60^o)?

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

Q75. ΔXYZ is right angled at Y. If cotX = 5/12, then what is the value of sec Z?

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

GENERAL AWARENESS

Q76. For an inferior good, demand falls when _____.

(a) Price rises
(b) Price falls
(c) Income rises
(d) Income falls

Q77. Which of the following is NOT a Nuclear Power Centre?

(a) Narora
(b) Kakrapar
(c) Talcher
(d) Rawatbhata

Q78. The 'noble tradition' was related to which of the following the dynasties?

(a) Pal
(b) Pratihara
(c) Rashtrakuta
(d) Sen

Q79. Alauddin Khilji's first military operation was against which of the following?

(a) Gujarat
(b) Ranthambore
(c) Devagiri
(d) Chittaur

Q80. Which port is situated on the southern tip of the Suez Canal?

(a) Port Suez
(b) Port Said
(c) Ismailia
(d) Port Ibrahim

Q81. The Machkund project is a joint project of which two states?

(a) West Bengal and Odisha
(b) West Bengal and Bihar
(c) Odisha and Andhra Pradesh
(d) Karnataka and Andhra Pradesh

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Q82. Who was the exponent of Yoga Darshana?

(a) Kapil
(b) Gautam
(c) Patanjali
(d) Jamini

Q83. At which of the following places the 5th Global Conference on Cyber Space (GCCS) was held on November 23-24, 2017?

(a) London
(b) New Delhi
(c) Sanya
(d) Tokyo

Q84. Who among the following was honoured with the IAAF male Athlete of year Award for 2017 at an award ceremony in Monaco in November 2017?

(a) Mutaz Essa Barshim
(b) Usain Bolt
(c) Mo Farah
(d) Wayde van Niekerk

Q85. What is the national sport of Pakistan?

(a) Cricket
(b) Football
(c) Hockey
(d) Table Tennis

Q86. What is the purpose of adding Gypsum to the cement?

(a) For lubrication
(b) To slow down its rate of setting
(c) To increase its rate of setting
(d) To make it strong

Q87. Which of the following has highest penetration power?

(a) α - radiations
(b) β - radiations
(c) γ - radiations
(d) All have same penetration power.

Q88. Which of the following organ of the government refers to a smaller group of people who are responsible for implementing laws and running the government?

I. The Judiciary
II. The Executives
III. The Legislature

(a) Only I
(b) Only II
(c) Only III
(d) No option is correct.

Q89. In which of the following countries fascism did originate?

(a) Italy
(b) Japan
(c) France
(d) Russia

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Q90. Along the path of the Vas deferens which glands add their secretions in the sperms?

I. Prostate

II. Seminal vesicles

III. Scrotum

(a) Only I and III
(b) Only I and II
(c) Only II and III
(d) All I, II and III

Q91. Which among the following constituents of the Xylem is/are tubular structure(s)?

I. Tracheids

II. Vessels

III. Xylem fibres

(a) Only I
(b) Only II
(c) Only I and II
(d) All I, II and III

Q92. Indian Government is hopeful of bringing at least one crore subscribers by March 2018 under the Atal Pension Yojana (APY). What is the age limit for APY?

(a) 21 to 60 years
(b) 18 to 40 years
(c) 18 to 45 years
(d) 21 to 70 years

Q93. What is the duration of the world's shortest X-ray laser successfully created by the scientists?

(a) 39 nanoseconds
(b) 43 attoseconds
(c) 15 picoseconds
(d) 57 microseconds

Q94. In April 2017, on the birth anniversary of Dr. B. R. Ambedkar which body announced the winners of Lucky Draw Schemes like 'Lucky Grahak Yojana' and 'Digi-Dhan Vyapar Yojana'?

(a) Reserve Bank of India
(b) State Bank of India
(c) NITI Aayog
(d) No option is correct.

Q95. Where was the 7th edition of Rashtriya Sanskriti Mahotsav held from 14 January to 20 January, 2018?

(a) New Delhi
(b) Bengaluru
(c) Jaipur
(d) Kanpur

Q96. Find the potential energy gained by a body of mass 60 kg, if it is raised by 12 m. (use g = 10 m/s^2)

(a) 7200
(b) 50
(c) 3600
(d) 25

Q97. Light is a _____ wave.

(a) longitudinal
(b) elastic
(c) transverse

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(d) mechanical

Q98. Terrestrial life forms require _____ water for life processes.

(a) fresh
(b) saline
(c) salt
(d) sour

Q99. Which of the statement (s) given below is/are correct?

A) In 2017, Virat Kohli captained the IPL team Rising Pune Supergiant.
B) In 2017 Pro Kabaddi League, Surjeet Singh played for Bengal Warriors.
C) United Kingdom hosted the Table Tennis 2017 ITTF Women's World Cup.

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

Q100. _____ among the following is not a type of JavaScript.

(a) text/javascript
(b) text/ecmascript
(c) text/vbscript
(d) Javascript vbscript

ANSWER KEY

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

SOLUTIONS

Q1. Answer: (b) reverberate

The correctly spelt word is reverberate. It means resound / re-echo / be repeated several times as an echo.

Example : Her singing reverberated through the halls.

Therefore, the correct answer is option 2.

Q2. Answer: (b) ABC

The correct answer is 'ABC'

Key Points

• Going through the parts A, B and C, the only part that can form the first part of the sequence is A.

• 'In the entire process of discoveries…' makes logical sense. The next part can be B which continues the thought flow. 'discoveries and development' form a sensible pair of words joined by the conjunction and.

• This is suitably followed by C. The correct sequence is ABC.

• In the entire process of discoveries and development, ethics was exiled.

Therefore, the correct answer is option 2.

Q3. Answer: (c) has also reduced

The correct answer is 'Has also reduced'

Key Points

• The correct structure to be used is had/has + verb in past participle.

• Let us see some examples to understand:

• I had cooked some food for you.

• They had bought a new car.

• This has given me a new opportunity.

• Has is used in the present tense and had in the past tense.

• The sentence in the question is discussing one of the advantageous features of writing a greeting card. This is valid in the present time. So, we will use has. The past participle form of the verb reduce is reduced.

• Correct sentence - The greeting card has also reduced the need to sit down and write loving messages to our dear ones.

Therefore, the correct answer is option 3.

Q4. Answer: (a) was sitting

The correct answer is 'was sitting'

Key Points

• The sentence is in past tense. The action was completed in the past. The rule is : past continuous tense can be used to describe something that was happening continuously in the past when another action interrupted it (this action is expressed in simple past).

• Examples :

• I was making lunch when he arrived.

• When I woke up, it was raining

• In the given question, it would be grammatically correct to use the past continuous tense as ‘by the time we set out’ is in simple past tense.

Correct Sentence - By the time we set out, the sun was sitting pretty in the blue sky.

Therefore, the correct answer is option 1.

Q5. Answer: (d) Theological

The correct answer is 'Theological'

Key Points

Let us look into the meaning of the given words:

1. Scepticism – an attitude that shows that one doubts the truth of something

2. Atheism – lack of belief in the existence of God

3. Impiety – lack of respect for sacred things or God

4. Theological – relating to the study of faith and religion

Therefore, the correct answer is option 4.

Additional Information

Scepticism	**The girl in the photograph is skeptical because of spectacles.**	
Atheism	This Aunt is an Atheist.	
Impiety	I will feel a pity if impiety flourishes	
Theological	"Theos" is a root word that means "God". Any word formed with the help of "theo" will have the sense of "god" in it.	

Q6. Answer: (b) Sanctity

The solution is in Hindi. Read it online.

Q7. Answer: (b) The less important or subsidiary factor, person, or thing dominates a situation.

The idiom ‘The tail is wagging the dog’ means that an unimportant part of something is becoming very important and is controlling the whole thing.

Example : The company cannot accept the demands of this small group. We don't want the tail wagging the dog, after all.

Therefore, the correct answer is option 2.

Q8. Answer: (d) Do something perfunctorily so as to save time or money.

'Cut corners' meaning to do something in the easiest and shortest way especially to save money, time or efforts.

Example : It is not a smart move to cut corners with national security.

Therefore, the correct answer is option 4.

Q9. Answer: (c) biggest

The structural form that we require to understand is this : Superlative + ever + present perfect

Examples – Titanic is the best movie I have ever seen (Best + ever + seen)

It is the worst relationship I have ever had. (worst + ever + had)

So, in the given sentence, we need the superlative form (highest degree of comparison) of big – biggest. (…indeed the biggest-ever such iceberg,…)

Therefore, the correct answer is option 3.

Q10. Answer: (b) an

'A'/ 'An' are articles having the same meaning used for singular nouns. We use 'a' in front of consonant sounds and 'an' before vowel sounds.

In English alphabets, A ,E, I, O and U are vowels and the rest are consonants. Thus, we have : a girl, a boy, an apple, an orange etc.

In the given sentence, official starts with a vowel sound. So, the most appropriate article would be an (shelf, now an official iceberg…)

Therefore, the correct answer is option 2.

Q11. Answer: (d) wide

Width is the measure used to indicate how wide something is. The following example will help us to

understand how these words differ in their usage.

This table is 1 metre wide / The width of this table is 1 metre.

Similar is the case with length and long : This table is 1 metre long / The length of this table is 1

metre.

So, looking at the given context, the most appropriate word is wide (and 300 feet wide. By January 2017…).

Therefore, the correct answer is option 4.

Q12. Answer: (a) steadily

Adverbs describe how, when or where an action takes place. These are describing words of verbs. They often end with –ly.

For example, Ramesh does his job sincerely. Here, sincerely describes how Ramesh does his job. So, sincerely is an adverb.

Similarly, in the question, we need an adverb that will describe the verb 'growing'. Steadily seems an appropriate answer. (was growing steadily. By 2016 the …)

Therefore, the correct answer is option 1.

Q13. Answer: (d) with

The correct preposition to be used here is with – you work with something.

When we use with in the blank, the part of the sentence is logically and grammatically correct : Administration (NASA) working with satellite data tracking

Therefore, the correct answer is option 4.

Q14. Answer: (a) Ceiling

The correctly spelt word is 'Ceiling'. Therefore, the correct answer is option 1.

"I before E, except after C" is the general rule to be followed. We often have -ei after c in spellings. For other words, -ie is used.

Examples: relieve, receive, fierce, friend, conceive

Q15. Answer: (a) The king thought that his hour had come.

The correct answer is 'The king thought that his hour had come.'

Key Points

• In Direct speech, the message is conveyed in the words of the author or concerned person.

• In Indirect speech, the message is conveyed in our words.

• When we convert Direct speech to Indirect speech, we omit the inverted commas. Also, the conjunction that is added before introducing the words spoken between quotation marks ("…").

• Some notable changes that are made while doing the conversion from Direct to Indirect is :

• am --> was

• is --> was

• has --> had

• have been to --> had been to

• So, has in the given sentence of the question should be converted to had.

So the correct sentence is- The king thought that his hour had come.

Therefore, the correct answer is option 1.

Q16. Answer: (a) The cricketer was invited by the fans.

The correct answer is 'The cricketer was invited by the fans.'

Key Points

• When the subject performs the action – it is Active Voice.

• When the subject is being acted upon by the verb – it is Passive Voice.

• We should change the sequence of the subject and the object (or the action) while keeping the meaning intact.

• In Active voice – Subject + verb + object is the sequence.

• In Passive voice – Object + verb + Subject is the sequence.

• (Subject is someone that works on the object)

• In the given sentence, 'the fans' is the subject because they are doing an action. They are inviting. The action is done on the object which is the cricketer here. So, the sentence in the question is in its Active Voice.

To change it into passive voice, the sentence should begin with the object 'The cricketer'.

• Verbs are also changed. Some conversions are :

• Eats --> is eaten

• Is cleaning --> is being cleaned

• Will clean --> will be cleaned

• Destroyed --> was destroyed

Following these thumb rules, the same sentence in the passive voice is The cricketer was invited by the fans.

Therefore, the correct answer is option 1.

Q17. Answer: (c) PRQ

The correct answer is 'PRQ'

Key Points

• The first part of the sequence can be P as it continues the thought flow. 'Climatic information can be obtained through an…' seems logically sound.

• Now, we need to know through what climatic information can be obtained? This is answered by part R. So, R can follow with Q as the ending part of the sentence. The right sequence is PRQ.

Climatic information can be obtained through an understanding of changes in tree growth

Therefore, the correct answer is option 3.

Q18. Answer: (c) Stale

The word Effervescent means lively, marked by high spirits or excitement.

Let us look into the meaning of the difficult words:

Bubbly – cheerful and full of high spirits

Stale – not fresh, not enthusiastic, bored

Resilient - able to withstand and recover quickly from difficult conditions

We find that the word stale expresses the opposite meaning.

Therefore, the correct answer is option 3.

Q19. Answer: (b) Follower

The correct answer is 'Follower'

Key Points

• The word Vanguard means a group of people leading the way in ideas or new developments
• Let us look into the meaning of the given words:
• Forefront – the most important or influential position.
• Follower - a person who supports and admires a particular person or set of ideas.
• Leader - the person who leads or commands a group, organization, or country.
• Pioneer - one of the first people to do something.
• We find that the word follower expresses the opposite meaning.
• Therefore, the correct answer is option 2.

Q20. Answer: (a) Remember

The correct answer is 'Remember'

Key Points

• The word Reminisce means to talk or write (enjoyably) about something from the past. In a way, it is like remembering the past with pleasure.
• We find that the word remember expresses the similar meaning.

Therefore, the correct answer is option 1.

Q21. Answer: (c) Aversion

The correct answer is 'Aversion'

Key Points

• The word Repugnance means a feeling of strong dislike or disgust.
• Let us look into the meaning of the given words:
• Esteem – admiration and respect
• Aversion – a strong dislike
• Sympathy – understanding and caring for someone else's misfortune or suffering
• We find that the word aversion expresses a similar meaning.

Therefore, the correct answer is option 3.

Q22. Answer: (b) attractions

The correct word is 'attractions' as it suits the given context. Here, it means the aspects or features that make something interesting.

Complete sentence: The many attractions (interesting features) of Dalhousie have made it popular among tourists.

The correct answer is option 2.

Q23. Answer: (c) isn't it

The solution is in Hindi. Read it online.

Q24. Answer: (a) 1

The error lies in part 1 of the sentence. Therefore, the correct answer is option 1.

Looking at the structure of the sentence, see should replace seeing to make the sentence grammatically correct. The context uses the simple present tense.

Correct Sentence - The truth is that when people see you zoned into your work and in harmony with yourself, they come to distract you

Q25. Answer: (c) 3

The error lies in part 3 of the sentence. Therefore, the correct answer is option 3.

Let us understand the meanings of the words affect and effect.

The word affect is used as a verb only. We can use effect as both verb and noun.

Affect means to influence something or someone. Effect, when used as a noun, means the result of an influence. When used as a verb, effect means to bring about or cause something to occur.

Examples –

The harmful effects of a bad company should be highlighted among teenagers. (effect as noun)

The bad company has affected him severely.

The government was not able to effect any social change. (effect as a verb - meaning the government was not able to bring about any social change)

In the given sentence, affected should replace the word effected to make the sentence grammatically correct.
Correct Sentence - The excessive use of pesticides has negatively affected soil output.

Q26. Answer: (b) Hospital : Treatment

As School is for education similarly hospital is for treatment.
Hence, the correct answer is, "Hospital : Treatment".

Q27. Answer: (a) 343

The logic here as follows:
125 is the cube of 5.
Similarly,
343 is the cube of 7.
Hence, the correct answer is "343".

Q28. Answer: (b) IEB

The logic here as follows:
Similarly,
Hence, the correct answer is "IEB".

Q29. Answer: (d) Pen – Butter

The logic here is as follows:
The first one is used to hold/store the second one.
1) Cup – Tea → Cup is used to hold Tea.
2) Jug – Water → Jug is used to hold Water.
3) Bowl – Curd → Bowl is used to hold Curd.
4) Pen – Butter → In this case there is no relationship between them.
Hence, the correct answer is "Pen – Butter".

Q30. Answer: (d) 93 – 87

The logic followed here is,
(Second Number) + 4 = First Number
21 + 4 = 25
35 + 4 = 39
47 + 4 = 51
87 + 4 = 91 ≠ 93
Except for option 4, in all the other alternatives, the first one is greater than the second one by 4. Thus it is the odd one out.
Hence, the correct answer is, "93 – 87".

Q31. Answer: (a) CGJ

The logic here is as follows:
Hence, the correct answer is "CGJ".

Q32. Answer: (b) 53241

After arranging the given words in the dictionary order, we get
5. Tiring
3. Toast
2. Toddle
4. Toilet
1. Tolerate
Hence, the correct answer is “53241”.

Q33. Answer: (a) 633

The logic followed here is,
Hence, the correct answer is "633".

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Q34. Answer: (c) PVZZ

The table showing the alphabetical order given below,

The pattern followed here is First and Third letters of each word are shifted forward by 2 places, while the Second and the Fourth letters are shifted forward by 3 places as per the English alphabetical order.

Thus,

H + 2 = J + 2 = L + 2 = N + 2 = P

J + 3 = M + 3 = P + 3 = S + 3 = V

R + 2 = T + 2 = V + 2 = X + 2 = Z

N + 3 = Q + 3 = T + 3 = W + 3 = Z

Hence, the correct answer is "PVZZ".

Q35. Answer: (b) 17 or 18

Given that, “Raman remembers that his marriage is before the 20th July and after the 13th July” and “His mother remembers that Raman’s marriage is after the 16th of July.”.

It means Raman’s marriage is on 17^(th) July or 18^(th) July or 19^(th) July.

Again, given that “His father remembers that Raman’s marriagee is before 19th July.”

Thus, Raman’s marriage is on 17^(th) July or 18^(th) July.

Hence, the correct answer is, "17 or 18".

Q36. Answer: (c) Move

1) Moon → PREMONITION → CAN be formed

2) More → PREMONITION → CAN be formed

3) Move → PREMONITION → CANNOT be formed

4) Note → PREMONITION → CAN be formed

Hence, the answer is “MOVE”.

Q37. Answer: (c) 48621

Given that “PILOW” is written as “49352” and “TRAIN” is written as “78691”.

Here, “I” is common in both the words and here his value is “9”.

So, “PRAWN” is written as “48621”.

Q38. Answer: (d) 2

Given that: 9 × 18 ÷ 5 - 90 + 8

After change the code: 9 + 18 × 5 ÷ 90 – 8 = 9 + 1 – 8 = 2

Hence, the answer is 2.

Q39. Answer: (d) • and ÷

Given equation: 24 + 4 - 20 ÷ 9 × 5 = 31

Checking each option one by one, we get

1) “- and +”

24 - 4 + 20 ÷ 9 × 5 ≠ 31

2) ÷ and ×”

24 + 4 - 20 ÷ 9 × 5 ≠ 31

3) “× and –“

24 + 4 × 20 ÷ 9 - 5 ≠ 31

4) “+ and ÷”

24 ÷ 4 – 20 + 9 × 5 = 31

Hence, the answer is option "+ and ÷".

Q40. Answer: (d) -20

The logic followed here is,

(Product of the two integers) × (-1)

5 # 5 → {(5) × (5)} × (-1) = -25

-4 # 3 → {(-4) × (3)} × (-1) = 12

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3 # 3 → {(3) × (3)} × -1 = -9

Similarly,

4 # 5 → {(4) × (5)} × -1 = -20

Hence, the correct answer is '-20'.

Q41. Answer: (c) AAAAABB

The logic followed here is in every step 'BB' shifts one place towards the right side.

Thus the above series will be,

BBAAAAA, ABBAAAA, AABBAAA, AAABBAA, AAAABBA, AAAAABB

Hence, the correct answer is, "AAAAABB".

Q42. Answer: (b) 75 m North

The paths followed by Chand and Dhyan are shown below,

From the above figure,

The distance between Chand's final point and Dhyan's final point is,

= (105+ 45) - 75 => 150 - 75 = 75

Thus, Chand is 75 m North with respect to the position of Dhyan.

Hence, the correct answer is, "75 m North".

Q43. Answer: (b) Only conclusion II follows

The least possible Venn diagram for the given statements is as follows,

I. No fast foods are sandwiches → Does not follow (As there is no direct relation between Sandwich and Fastfood, it may be possible but not definite)

II. Some fast foods are burgers → Follows (as some burgers are fast foods)

Thus, only conclusion II follows.

Hence, the correct answer is, "Only conclusion II follows".

Q44. Answer: (a) BLEF

Art critics who are not Riders are represented by the area bounded by Circle excluding the area bounded by the triangle.

Thus, BLEF is the set of letters represents Art critics who are not Riders.

Hence, the correct answer is, "BLEF".

Q45. Answer: (d) UDS

The table showing the alphabetical order is given below,

The logic followed is the First, Second and the third letter of each word is shifted backwards by two, three and four places as per the English alphabetical order.

Hence, the correct answer is 'UDS'.

Q46. Answer: (b) 32

The logic here is as follows:

Hence, the correct answer is "32".

Q47. Answer: (c) (15, 44, 31)

The logic here is as follows:

Logic: First number + Third number = Second number

1) (8, 23, 15) → 8 + 15 = 23,

2) (12, 35, 23 → 12 + 23 = 35,

3) (15, 44, 31) → 15 + 31 = 46 (given 44),

4) (17, 50, 33) → 17 + 33 = 50

Hence, the correct answer is " (15, 44, 31) ".

Q48. Answer: (c) [figure]

The correct mirror image of the given figure when the mirror is held on the left side of the oject is

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

Additional Information

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In the Mirror image left side and right side changed vice-versa where the top and bottom remain the same.

The reflection of an object into the water is its water image. It appears by inverting an object vertically i.e. upside down.

The water image of the figure looks like the mirror image of the figure in case the mirror is horizontally at the bottom of the figure.

The water image is just a reflection where the top and bottom parts of the images changed while the left and right sides of the image remain the same.

Q49. Answer: (b) [figure]

figure cannot be made based on the unfolded cube in the given question figure.

Q50. Answer: (b) 65, 12, 21, 42

Checking each option as per the table given,

1) 97, 12, 21, 42 – U, A, C, K

2) 65, 12, 21, 42 – S, A, C, K

3) 30, 55, 42, 68 – G, R, K, Y

4) 12, 77, 21, 68 – A, Q, C, Y

Hence, the correct answer is “65, 12, 21, 42”.

Q51. Answer: (c) 8

Concept used:

A number is divisible by 9 if sum of its digit is divisible by 9

Calculation:

The number is 657354x45

So, the sum of the digit = 6 + 5 + 7 + 3 + 5 + 4 + 7 + x + 4 + 5 = 46 + x

If we put x = 8, then number become 46 + 8 = 54

The 54 is divisible by 9

Therefore The correct answer is 2.

Q52. Answer: (b) 109562

Formula used:

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

Calculation:

=> (59881 × 59881 - 49681 × 49681)/10200

=> ((59881) - $(49681)^2$)/10200

=> ((59881 + 49681) (59881 - 49681))/10200

=> (109562 × 10200)/10200

=> 109562

Therefore The correct answer is 109562.

Q53. Answer: (b) -9

Given:

(5/7)^(4x)(7/5)^(3x - 1) = (7/5)^8~~

Concept used:

a^m × a^n= a^({m + n})

Concept used:

=> (5/7)^(4x)(7/5)^(3x - 1) = (7/5)^8~

=> (7/5)^(3x - 1) = (7/5)^8 × (7/5)^(4x)~

=> 3x - 1 = 8 + 4x

=> x = -9

Therefore The correct answer is -9.

Q54. Answer: (c) 140

Given:

=> (x^{32} - 1)/(x^(16)) = 5

Formula used:

(a - b)³ = a3 - b3 - 3ab (a - b)

Calculation:

=> (x³² - 1)/(x^(16)) = 5

=> x^(16) - 1/(x^(16)) = 5

Cubing both sides of the equation:

=> (x^(16) - 1/(x^(16)))³ = (5)³

=> x^(48) - 1/(x^(48)) - 3(x^(16) - 1/(x^(16))) = 125

=> x^(96) -1over x^(48) - 3 × 5 = 125

=> (x^(96) - 1)/(x^(48)) = 125 + 15

=> (x^(96) - 1)/(x^(48)) = 140

Therefore The Required value of the given expression is 140

Q55. Answer: (c) √164

Given:

The length of the transverse tangent = 8 cm

Radius of the circle1 = 7 cm

Radius of the circle2 = 3 cm

Formula used:

(Transverse tangent)² = (distance between center)² - (radius1 + radius2)²

Calculation:

Let the Distance between center (AC) = d

Length of Transverse tangent = PQ = RS = 8 cm

By formula,

=> PQ² = d² - (r1 + r2)²

=> 8² = d² - (7 + 3)²

=> 64 = d² - 10²

=> d² = 100 + 64 = 164

=> d = √164 cm

Therefore The correct answer is √164 cm.

Q56. Answer: (b) 90^o

Concept used:

The angle subtended by an arc at the center is twice the angle subtended at the circumference.

angle BOC = 2 × angle BAC

Calculation:

In triangle OBC

Let angle OBC = X

Thus, angle OCB = X (Because OB = OC = r)

The sum of all the angles of the triangle is 180°.

angle BOC + angle OBC + angle OCB = 180

=> angle BOC + X + X = 180

=> angle BOC = 180 - 2X

Now,

angle BOC = 2 × angle BAC

So, 2 × angle BAC = 180 - 2X

=> angle BAC = 90 - X

angle BAC + angle OBC = 90 - X + X = 90°

Therefore The correct answer is 90°.

Q57. Answer: (b) 16.25

Given:

The weight of A and B are in the ratio = 11 : 8

Calculation:

Let the weight of A = 1100
& weight of B = 800
Total weight of (A + B) = 1000 + 800 = 1900
Let B's weight increases by x%
According to the question
=> 1100 + 1100 × 40/100 + 800 + 800 × (x/100) =1900 + 1900 × 30/100
=> 1100 + 440 + 800 + 800 × (x/100) = 1900 + 570
=> 2340 + 800 × (x/100) = 2470
=> 800 × (x/100) = 130
=> x = 130/800 × 100
=> x = 16.25%
Therefore The correct answer is 16.25%.

Q58. Answer: (c) 3000

Given:
Income of S : Income of T : Income of U = 7 : 9 : 6
Expenses for S : expenses for T : expenses for U = 4 : 5 : 3
S income = 14000; S expenses = 2000
Calculation:
Let income of S = 7x, income of T = 9x and expenses of U = 6x
And expenses of S = 4y, expenses of T = 5y and expenses of U = 3y
'S' saves Rs.2000 out of an income of 14000.
So, 7x = 14000
=> x = 2,000
So, 7x - 4y = 2000
=> 14000 - 4y = 2000
=> 4y = 12000
=> y = 3000
Savings of T = 9x - 5y
=> 9 × 2000 - 5 × 3000 = 18000 - 15000 = 3000
Therefore The correct answer is Rs.3000

Q59. Answer: (a) 28

Given:
Acid : Water = 7 : 3
Calculation:
Let the acid in the mixture = 7x
And water in the mixture = 3x
According to the question
=> 7x/(3x + 4) = 7/4
=> 28x = 21x + 28
=> 7x = 28
=> x = 4
Therefore The quantity of acid in the mixture = 7x = 7 × 4 = 28

Q60. Answer: (b) 35

Calculation:
7 positive odd number which is divisible by 5 = 5, 15, 25, 35, 45, 55, 65
Average of any AP = (first term + last term)/2
=> (5 + 65)/2 = 70/2 = 35
Therefore The correct answer is 35.

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Q61. Answer: (b) 17.5

Given:

S.I : Principal = 7 : 8

Time = 5 years

Calculation:

Let the principal = 8x

And Simple interest = 7x

We know,

=> (P × R × T)/100 = S.I

=> (8x × R × 5)/100 = 7x

=> R = 17.5%

Therefore The correct answer is 17.5%.

Q62. Answer: (b) 224

Calculation:

CP of 9 chairs = Rs.5

So, C.P of 1 chair = 5/9

SP of 5 chairs = 9

So, SP of 1 chair = 9/5

We know, profit % = (SP - CP)/CP × 100

Profit% = {(9/5) - (5/9)}/(5/9) × 100 = 56/45 × 9/5 × 100 = 224%

Therefore The correct answer is 224%.

Alternate MethodCalculation:

	Price	No. of product
C.P.	5 × 5	9 × 5
S.P.	9 × 9	5 × 9

Now,

C.P : S.P = 25 : 81

Profit % = (56/25) × 100 = 56 × 4 = 224%

Therefore The correct answer is 224%.

Q63. Answer: (a) 16

Given:

M.P of the pen = 3000

Calculation:

After 15% discount = 3000 × 85/100 = 2550

SP of the pen = 2142

required discount = (2550 - 2142)/2550 × 100

=> (408/2550) × 100 = 16%

Therefore The correct answer is 16%.

Q64. Answer: (a) 33

Calculation:

=> √(1054 + √196 + √169 + √64)

=> √(1054 + 14 + 13 + 8)

=> √1089

=> 33

Therefore The correct answer is 33.

Q65. Answer: (a) 1200

Given:

Wages of total work = Rs.5400

X alone can do a work = 18.
Y alone can do a work = 24.
Calculation:
X alone can do a work = 18
So, work done by X in 1 day = 1/18
Y alone can do a work = 24
So, work done by Y in 1 day = 1/24
The assistance of Z they finished the work = 8 days
Thus, work done by (X + Y + Z) in 1 day = 1/8
So, work by z in 1 day = 1/8 -1/18-1/24 = 1/36
Z alone can do a work = 36 days
Ratio of time X : Y : Z = 18 : 24 : 36 = 3 : 4 : 6
Ratio of their efficiency X : Y : Z = 1/3 : 1/4 : 1/6 = 4 : 3 : 2
So, 4 + 3 + 2 = 9 unit = 5400
=> 1 unit = 600
=> 2 unit = 1200
Share of z = Rs.1200
Therefore The correct answer is Rs.1200.
Shortcut TrickCalculation:

Efficiency	Person	Time	Total work
4	X	18	72
3	Y	24	
9	X + Y + Z	8	

So, X + Y + Z = 9
=> 4 + 3 + Z = 9
=> Z = 9 - 7 = 2 units/day
Now, X + Y + Z = 9 units = Rs.5400
1 unit = Rs.600
2 units = Rs.1200
Therefore The correct answer is Rs.1200.

Q66. Answer: (a) 3.5

Given:
Total distance = 12 km
Time to go upstream = 4 hours
Time to go downstream = 3 hours
Calculation:
Let the speed of boat = x km/h
& the speed of stream = y km/h
According to the question
=> 12/(x - y) = 4
=> x - y = 3 ----(1)
=> 12/(x + y) = 3
=> x + y = 4 ----(2)
From equation (1) and equation (2)
=> x = 3.5 and y = 0.5
The speed of the boat in still water is 3.5 km/h
Therefore The correct answer is 3.5 km/h.
Shortcut TrickConcept used:
If the distance is constant then

Time prop. to (1/speed)

Calculation:

	Upstream	Downstream
Time	4	3
Speed	3	4

Now, 3 × 4 = 12 unit = 12 km

So, the upstream speed (x -y) = 3 km/h

Downstream speed (x + y) = 4 km/h

The speed of the boat in still water = (3 + 4)/2 = 3.5 km/h

Therefore The correct answer is 3.5 km/h.

Q67. Answer: (c) D

Calculation:

The language in which most of the workers in the MNC speak is D i.e. 180.

Therefore The correct option is 3.

Q68. Answer: (d) 720

Calculation:

The total number of workers in the MNC = A + B + C + D + E + F + G

=> 100 + 140 + 20 + 180 + 50 + 70 + 160 = 720

Therefore The correct answer is 720.

Q69. Answer: (b) 50

Calculation:

Total number of employees = 720

Total number of people sector A = 100

According to the question:

Total number of employees = 360°

=> 720 = 360°

The measure of the central angle of the sector A = 360/720 × 100 = 50°

Therefore The correct answer is 50°.

Q70. Answer: (a) 3.6

Calculation:

Total number of employees = 720

average salary of total employees = 5000

So, total salary of employees = 5000 × 720 = 36,00,000

Therefore The correct answer is $ 3.6 million.

Q71. Answer: (b) 68

Given:

The Area of rectangle = 288 cm^2

Breadth = 16 cm

Formula used:

Area of the rectangle = l × b

Perimeters of the rectangle = 2(l + b)

Calculation:

Area of the rectangle = 288

=> l × b = 288

=> l × 16 = 288

=> l = 18

So, the length of the given rectangle = 18 cm

Perimeter of the given rectangle = 2(l + b)
=> 2(18 + 16) = 68 cm
Therefore The correct answer is 68 cm.

Q72. Answer: (b) 962.5

Given:
Diameter of circle = 35 cm
Formula used:
area of circle = πr2
Calculation:
Diameter of circle = 35 cm
So, the radius of circle = 35/2
Area of circle = πr²
=> 22/7 × 35/2 × 35/2 = 962.5 cm²
Therefore The correct answer is 962.5 cm2.

Q73. Answer: (b) 718.67

Given:
Diameter of hemisphere = 14 cm
Formula used:
Volume of hemisphere = 2/3 × πr³
Calculation:
Diameter of hemisphere = 14 cm
So, the radius of hemisphere = 14/2 = 7 cm
Volume of hemisphere = 2/3 × πr³
=> 2/3 × 22/7 × 7 × 7 × 7 = 718.67cm³
Therefore The correct answer is 718.67cm3

Q74. Answer: (a) (√6 - 6)/3√3

Calculation:
=> (√2/3 - cosec60^o)
=> √2/3 - (2/√3)
=> (√6- 6)/3√3
Therefore The correct answer is (√6- 6)/3√3.

Q75. Answer: (c) 13/12

Given:
Cot x = 5/12
angle XYZ = 90°
Concept used:
Cot x = Base/Perpendicular
Calculation:
Cot x = XY/YZ = 5/12 = Base/Perpendicular
Base = 5k; Perpendicular = 12k
In ΔXYZ
By Pythagoras Theorem
=> (ZX)² = (XY)² + (YZ)²
=> (ZX)² = (12k)² + 5k²
=> ZX = 13k
Sec Z = XZ/YZ = 13/12
Therefore The correct answer is 13/12.

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Q76. Answer: (c) Income rises

• Inferior good, in economics, is the good for which demand decreases when the consumer income rises, and demand increases when the consumer income decreases.

• In the case of normal goods, exactly the opposite is observed.

Q77. Answer: (c) Talcher

• Talcher is not a Nuclear Power Centre of India. It is a thermal power plant in the Odisha.

• In a nuclear plant, the heat source is from the nuclear reaction whereas in a thermal power plant it is from the combustion of coal.

Name of the Nuclear Power Station	Location
Narora Atomic Power Station	Narora, Bulandshahar district, UP
Kakrapar Atomic Power Station	Vyara, Gujarat
Rajasthan Atomic Power Station	Rawatbhata(Chittorgarh District), near Kota, Rajasthan

Q78. Answer: (d) Sen

The correct answer is Sen.

Key Points

• The 'noble tradition' was related to the Sen/Sena dynasty.

• The Sena dynasty was a Hindu dynasty of the Indian subcontinent in the late classical period.

• It ruled Bengal in the 11th and 12th centuries.

Additional Information

Rashtrakuta Dynasty:

• Between the eighth and the tenth century CE, they ruled parts of South India.

• They controlled the entire modern state of Karnataka as well as parts of the states of Tamil Nadu, Andhra Pradesh, Telangana, Maharashtra, and Gujarat.

• They were originally known as the feudatories of the Western Chalukyas of Vatapi.

• The Rashtrakuta dynasty was founded by Dhantidurga, who defeated the Chalukyas of Badami.

• The Rashtrakutas were known for their worship of Shiva and Vishnu.

• Taila II, a feudatory of Krisha III, overthrew the Rashtrakuta dynasty in 973 CE.

• Tailpa II was a descendant of the old Chalukya empire.

• The Chalukyas of Kalyani was later founded by Taipa II.

Pratihara dynasty:

• Pratihara dynasty was founded by King Harichandra at Mandore, a city near Jodhpur in 640 AD. Hence statement 4 is correct.

• King Nagbhatta I, who was fourth in line from Harishchandra, captured an area of Bhinmal, which used to be the capital of Gurjara. He earned the title of Gurjeshwar.

• This was the beginning of the Imperial Pratihar dynasty which produced great emperors such as Mihir Bhoj I.

• Mihir Bhoj I was the 6th and one of the most powerful emperors of the Imperial Pratihar dynasty who ruled from 836 AD to 885 AD.

• He made Kannauj his capital city and extended his empire from the foothills of the Himalayas to the river Narmada in the South and Bengal in the east.

• “Ghaznavid (a Persianate Muslim dynasty of Turkic mamluk origin) invasions weakened the Imperial Pratihars of Kannauj, who we finally defeated by the Rathores or Rashtrakuts.

• After the death of the last ruler in the early 11th century, the surviving leadership established the Gwalior Parihar dynasty and the Nagod Parihar dynasty.

Pal Dynasty:

• Pala dynasty ruled in Bihar and Bengal from the 8th to the 12th century.

• Its founder was Gopala.

• His successor was Dharmapala and he greatly expanded the Pala kingdom.

• Pala dynasty was a staunch follower of Mahayana and Tantric schools of Buddhism and created the environment for Buddhist monasteries including the Somapura Mahavihara.

• Govindapala was the last ruler of the Pala dynasty.

• During the time of Palas, classical Indian philosophy, literature, painting, and sculptures flourished

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• They also patronized the great universities of Nalanda and Vikramashila.

Q79. Answer: (a) Gujarat

The correct answer is Gujarat

Key Points

• Alauddin Khilji's first military operation was against Gujarat from 1299 to 1304. He later conquered Ranthambore in 1301, Chittor in 1303, Malwa in 1305, Siwana in 1308, and Jalore in 1311.

• Alauddin Khilji was the second ruler of the Khilji dynasty and the most powerful one who ruled the Delhi Sultanate.

Q80. Answer: (a) Port Suez

The correct answer is Port Suez.

Key Points

• The Suez Port is an Egyptian Port which is situated on the southern tip of the Suez Canal.

• The Suez Canal, situated in Egypt, is an artificial sea-level waterway which connects the Red Sea to the Mediterranean Sea through the Isthmus of Suez.

Additional Information

Name of the port	Location
Suez Port	The southern tip of Suez Canal
Said Port	North of the Suez Canal
Ismailia	City on the west bank of Suez Canal
Ibrahim Port	Egypt

Q81. Answer: (c) Odisha and Andhra Pradesh

The correct answer is Odisha and Andhra Pradesh

Key Points

• The Machkund project is a joint project of the Government of Odisha and the Government of Andhra Pradesh.

• It is a hydroelectric project which is situated near the Duduma Falls between the Odisha and Andhra Pradesh border.

• The planning of the project began in the 1930s and its actual displacement started in the late 1940s.

Q82. Answer: (c) Patanjali

The correct answer is Patanjali.

Key Points

• Yoga Darshana is defined as the yoga system of philosophy which is associated with Patanjali’s Yoga Sutras.

• Patanjali, a great sage, systematized and organized the study of the yogic teachings and the human internal states into 196 sutras. These sutras are called the Yoga Darshana.

• There are 6 darshans according to the Hindu philosophy, namely, Nyaya, Purva Mimansa, Yoga, Uttara Mimansa, Sankhya, and Vaisheshika.

Q83. Answer: (b) New Delhi

The correct answer is New Delhi.

Key Points

• The 5th Global Conference on Cyber Space (GCCS) was held on November 23-24, 2017 in New Delhi, India.

• It is the world’s largest conference on cyberspace that took place outside the OECD nations for the first time.

• The theme of the 5th Global Conference on Cyber Space (GCCS), 2017 was ‘Cyber4All: An Inclusive, Sustainable, Developmental, Safe and Secure Cyberspace’.

• It was inaugurated by Prime Minister Narendra Modi.

Q84. Answer: (a) Mutaz Essa Barshim

The correct answer is Mutaz Essa Barshim.

Key Points

• Mutaz Essa Barshim from Qatar was honoured with the IAAF Male Athlete of the Year Award for 2017 at an award ceremony in Monaco in November 2017.

• The IAAF Female Athlete of the Year Award for 2017 was awarded to Nafissatou Thiam from Belgium.

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• Usain Bolt from Jamaica, the retired sprinting legend received the IAAF President's Award.

Q85. Answer: (c) Hockey

The correct answer is Hockey.

Key Points

• Field Hockey is the national sport of Pakistan.

• Field Hockey is also the national sport of India.

• Hockey is not a contact sport, so players may not trip, charge at, interfere with, touch, handle, or push any opponent.

• A field hockey match has four quarters with a two-minute break between the first and second as well as the third and fourth quarters.

Additional Information

• Football:

• One of the most watched games in the world.

• It is a game consisting of 11 players each.

• A team involves a goalkeeper and 10 field players.

• It involves several fundamental skills, which are to be learned to be able to play football like:

1. Shooting

2. Passing

3. Receiving, etc.

• Cricket :

• Cricket is a team game.

• It is played between two teams.

• It is governed by umpires and officials.

• It consists of a batting and a bowling team.

• A typical Cricket game has 11 players on each team.

• The center of the field is a rectangular area of 22 meters called a pitch.

Q86. Answer: (b) To slow down its rate of setting

The correct answer is To slow down its rate of setting.

Key Points

Gypsum:

• Plaster of Paris changes into gypsum on mixing with water and is used for decoration.

• Plaster of Paris, commonly called P.O.P. is Calcium sulphate hemihydrate.

• The chemical formula of Plaster of Paris is CaSO4.1/2 H2O.

• Crystals of gypsum are produced when Plaster of Paris is mixed with water.

• Gypsum is calcium sulphate dihydrate (CaSO4.2H2O) and a mineral used in cement manufacturing.

• It helps in controlling the rate of hardening of the cement. A small amount of gypsum is added to the clinker upon its cooling during the final grinding process. It controls the setting of cement.

• If it isn't added, the cement immediately sets post-mixing water and there is no time left for concrete placing.

Additional Information

Some common chemical compounds with their common names are:

Chemical Compounds	Common Names	Chemical Formulas
Sodium Bicarbonate	Baking Soda	NaHCO3
Calcium ChlorohypoChlorite	Bleaching Powder	CaOCl2
Sodium Hydroxide	Caustic Soda	NaOH
Sodium Carbonate	Washing Soda	Na2CO3 .10 H2O
Carbon Dioxide	Dry Ice	CO2
Copper Sulphate	Blue Vitriol	CuSO4
Ferrous Sulphate	Green Vitriol	FeSO4

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Sulphuric Acid	Oil of vitriol	H2SO4
Calcium Sulphate Hemihydrate	Plaster of Paris	(CaSO4. 1/2H2O)
Calcium Sulphate Dihydrate	Gypsum	CaSO4.2H2O
Calcium Hydroxide	Slaked Lime	Ca(OH)2
Sodium nitrate	Chile Saltpeter	NaNO3
Potassium nitrate	Saltpetre	KNO3
Hydrochloric acid	Muriatic acid	HCl

Q87. Answer: (c) γ - radiations

The correct answer is γ - radiations.

Key Points

• The penetration power of alpha, beta, and gamma radiations vary greatly of which gamma radiations have the highest penetrating power.

• They are the most difficult to stop and can be blocked only by lead, concrete, or another heavy shielding.

• Alpha radiations can be blocked easily even with a few pieces of paper.

• Beta radiations can be stopped by aluminium foil but pass through the paper.

Q88. Answer: (b) Only II

The correct answer Only II

Key Points

• The Executive refers to a smaller group of people who are responsible for implementing laws and running the government.

• The Constitution of India has recommended three organs of the state - the Judiciary, the Executive, and the Legislative.

• The Legislatives are the elected representatives, while the Judiciary is the system of courts in the country to stop any misuse of power by any branch of the government or country.

Q89. Answer: (a) Italy

The correct answer is Italy

Key Points

• Fascism is a form of radical authoritarian nationalism that came to prominence in early 20th-century Europe, characterized by one-party totalitarian regimes run by charismatic dictators, glorification of violence, and racist ideology.

• The term "fascism" was invented by the Italian Fascist dictator Benito Mussolini (1883 - 1945) and the self-described "philosopher of Fascism" Giovanni Gentile (1875 - 1944).

• The Great Depression, which caused significant social unrest throughout the world, led to a major surge of fascism.

• Fascism was also popular during the Depression-era outside of Europe, in Japan, Brazil, and Argentina among other nations.

• The term originated in Italy and is derived from fascio, meaning a bundle of rods, and is used to symbolize strength through unity: a single rod is easily broken, while the bundle is difficult to break.

• After the end of World War I, fascism rose out of relative obscurity into international prominence, with fascist regimes forming most notably in Italy, Germany, and Japan, the three of which would be allied in World War II.

Q90. Answer: (b) Only I and II

The correct answer is Only I and II.

Key Points

• The sperms are transferred from the Vas deferens to the urethra after the collection of secretions from the Bulbourethral gland, Prostate gland, and Seminal vesicles.

• These glands provide the semen in bulk.

Additional Information

• Prostate gland

• The prostate gland is present below the urinary bladder.

• The prostate gland in males helps to control urination from the bladder.

• The prostate is a gland connected to the testicles at one end and the penis at the other end.

• While ejaculating the prostate stores semen and makes fluid which liquefies it before it ejects out of the penis.

• Seminal vesicles

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• Seminal vesicles secrete seminal plasma which helps in providing nutrition, and protection and makes transport easy.

• Scrotum

• The testes are situated outside the abdominal cavity within a pouch called the scrotum.

• The scrotum helps in maintaining the low temperature of the testes (2^o– 2.5^o C lower than the normal internal body temperature) necessary for spermatogenesis.

Q91. Answer: (c) Only I and II

The correct answer is Only I and II.

Explanation:

• Xylem is a kind of tissue in vascular plants which transports nutrients and water from the roots to the leaves.

• It is composed of 4 types of cells, which are tracheids, vessels, xylem fibres, and xylem parenchyma. Of these, xylem vessels and tracheids are tubular structures.

Q92. Answer: (b) 18 to 40 years

The correct answer is 18 to 40 years

Key Points

• The age limit for the Atal Pension Yojana is 18 to 40 years.

• The Atal Pension Yojana is a pension scheme started by the Government of India. It targets the unorganised sector and was launched by Prime Minister Narendra Modi in Kolkata on 9 May 2015.

• The start of the pension or the age of exit for this scheme would be 60 years. The subscribers can opt for a monthly pension from Rs.1000 to Rs.5000.

Q93. Answer: (b) 43 attoseconds

The correct answer is 43 attoseconds

Key Points

• Scientists from Zurich, Switzerland successfully created the world's shortest X-ray laser pulse which has a duration of 43 attoseconds.

• With the help of this, the researchers can now observe the electron movement in high detail and understand fully the dynamics during a chemical reaction.

Important Points

• Wilhelm Conrad Roentgen discovered X-Rays in 1895.

• He discovered this while working with a cathode-ray tube in his laboratory.

• X-Ray is an electromagnetic wave of high energy and very short wavelength, which is able to pass through many materials opaque to light.

• The frequency of X-Rays is 1016 to 1019 Hz.

• X-rays are used to detect cracks in bones, in medicine and industries and also for security purposes.

• Soft and Hard X-rays

• X-rays are usually described by their maximum energy, which is determined by the voltage between the electrodes.

• X-rays with high photon energies (above 5–10 keV) are called hard X-rays.

• Due to their penetrating ability, hard X-rays are widely used to image the inside of visually opaque objects.

• Those with lower energy (and longer wavelength) are called soft X-rays.

Q94. Answer: (c) NITI Aayog

The correct answer is NITI Aayog.

Key Points

• In April 2017, on the birth anniversary of Dr B. R. Ambedkar, NITI Aayog announced the winners of Lucky Draw Schemes like 'Lucky Grahak Yojana' and 'Digi-Dhan Vyapar Yojana'.

• The announcement was made by the CEO of NITI Aayog- Parameswaran Iyer.

• The Digi-Dhan Vyapar Yojana has been designed for merchants, while the Lucky Grahak Yojana is for consumers.

Additional Information

• Dr Babasaheb Bhimrao Ramji Ambedkar was born in Mahu, a village near Indore in Madhya Pradesh on April 14, 1891.

• Dr Ambedkar did valuable work in creating awareness in the untouchable society.

• His native village is Ambwade in Dapoli taluka of Ratnagiri district of Maharashtra.

• Due to his work, the people and activists awarded him the title of Babasaheb.

• Babasaheb did the work of social awareness and organization of Dalits.

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Q95. Answer: (b) Bengaluru

The correct answer is Bengaluru.

Key Points

• The 7th edition of the Rashtriya Sanskriti Mahotsav was held in Bengaluru, Karnataka from 14 January to 20 January 2018 under the 'Ek Bharat Shreshtha Bharat' spirit to celebrate unity in diversity.

• The event will cover a profusion of art forms from classical and folk, music and dance, and theatre to literature and visual arts.

Q96. Answer: (a) 7200

P.E = mgh

Given:-

m = 60 kg; h = 12 m; g = 10 m/s²

Therefore, P.E = 60 × 10 × 12

= 7200 kgm²/s² = 7200 J

Q97. Answer: (c) transverse

The correct answer is transverse.

Explanation:

• Light is a transverse wave since the components of light vibrate perpendicular to the direction of propagation. Light has magnetic and electric components, thus it is an electromagnetic transverse wave.

• A transverse wave is a wave which oscillates perpendicular to the direction of propagation.

• Longitudinal Waves: Those waves whose direction of propagation and direction of disturbance is always parallel.

• These waves are produced in a medium that can sustain compressive strain.

• Example Sound Wave

Q98. Answer: (a) fresh

The correct answer is fresh.

Explanation:

Terrestrial life forms require fresh water for life processes such as excretion processes, transportation, and cellular reactions, and not saline water since their bodies cannot get rid of the high amounts of salts present in the saline water.

Q99. Answer: (a) Only B

The correct answer is Only B.

Key Points

• In 2017, Steve Smith captained the IPL team Rising Pune Supergiant. Hence, Statement A is incorrect.

• In 2017 Pro Kabaddi League, Surjeet Singh played for Bengal Warriors. Hence, Statement B is correct.

• Canada hosted the Table Tennis 2017 ITTF Women's World Cup. Hence, Statement C is also incorrect.

Additional Information

• 2017 Indian Premier League:

• Rising Pune Supergiant was the franchise cricket team based in Pune.

• Steve Smith was the captain of this team.

• Mumbai Indians were the champion of the Indian Premier League 2017 and Rising Pune Supergiants were the runners-up.

• 2017 ITTF Women's World Cup:

• The 2017 ITTF Women's World Cup was a table tennis competition held in Markham, Ontario, from 27 to 29 October 2017.

• It was the 21st edition of the ITTF-sanctioned event, and the first time that it had been staged in Canada.

• In the final, China's Zhu Yuling defeated fellow Chinese player Liu Shiwen, 4–3, to win her first World Cup title.

Q100. Answer: (d) Javascript vbscript

The correct answer is Javascript vbscript.

Key Points

• Javascript vbscript is not a type of JavaScript.

• It is the name of scripting language.

• Whereas, text/javascript, text/ecmascript and text/vbscript are types of JavaScript.

Additional Information

• JavaScript was originally created to make web pages more interactive.

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- The programs in this language are called scripts.
- They can be written in a web page's HTML and run automatically as the page loads.
- Scripts are written and executed as plain text.
- JavaScript doesn't need any special compilation to run.
- JavaScript is different from Java language.

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