SSC CHSL 2020 Official Paper 36 (Held on: 12 Aug 2021 Shift 3) (Previous Year Paper)

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

Take this paper as a timed mock test

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

yourmocktest.com/pyq/ssc-chsl/ssc-chsl-2020-official-paper-36-held-on-12-aug-2021-shift-3-pr…

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

ENGLISH LANGUAGE

Q1. Select the most appropriate meaning of the idiomatic expression given.

To cross one's mind

(a) To move from one idea to another
(b) To forget something
(c) To think of something
(d) To put a thought away from one's mind

Q2. Select the most appropriate option to fill in the blank.

Scientists all over the world are engaged in _____ how to find a vaccine for COVID-19.

(a) scrutinizing
(b) investigating
(c) researching
(d) inspecting

Q3. Select the option that can be used as a one-word substitute for the given group of words.

Causing a strong dislike

(a) Redundant
(b) Hateful
(c) Repulsive
(d) Revealing

Q4. Select the INCORRECTLY spelt word.

(a) Haunted
(b) Tendansy
(c) Terrible
(d) Uprooted

Q5. Select the most appropriate synonym of the given word.

Ban

(a) Ascertain
(b) Band
(c) Prohibit
(d) Abandon

Q6. Select the most appropriate word to fill in the blank.

The marking of answer papers is _____ out by the course teacher.

(a) crossed
(b) done
(c) checked

YourMockTest.com — Free Study Material

(d) carried

Q7. Select the most appropriate synonym of the given word.

REPULSIVE

(a) disgusting
(b) respectable
(c) attractive
(d) agreeable

Q8. Select the most appropriate option to substitute the underlined segment in the given sentence. If there is no need to substitute it, select 'No substitution required'.

He won’t come to the party unless you will invite him personally.

(a) invite
(b) would invite
(c) No substitution required
(d) invited

Q9. Given below are four jumbled sentences. Out of the given options, pick the one that gives their correct order.

A. The man who had caught me was a dreadful sight.

B. Suddenly I was picked up, whirled through the air, and made to sit on a tombstone.

C. He was about forty years old, hard-faced and fierce.

D. I was only a child, and small for my age.

(a) CBAD
(b) BACD
(c) DBAC
(d) DCBA

Q10. In the given sentence, identify the segment which contains the grammatical error.

Cyclone Amphan roared into West Bengal on Wednesday leave behind a trail of devastation across a large area of the State.

(a) a trail of devastation
(b) leave behind
(c) across a large area
(d) roared into West Bengal

Q11. Select the most appropriate option to substitute the underlined segment in the given sentence. If there is no need to substitute it, select ‘No substitution’.

Mr. Sharma is kind as his father.

(a) kinder as
(b) as kind as
(c) No substitution
(d) the kindest as

Q12. Select the most appropriate ANTONYM of the given word.

Buoyant

(a) bouncy
(b) lively
(c) enthusiastic
(d) weighted

Q13. The following sentence has been split into four segments. Identify the segment that contains a grammatical error.

It would be / more better if / she sang / with an orchestra.

(a) It would be
(b) more better if

(c) with an orchestra
(d) she sang

Q14. Select the option which means the same as the group of words given.

A hunting weapon which comes back, used by Australian Aborigines

(a) boomerang
(b) slingshot
(c) harpoon
(d) cutlass

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

In the evening we water the plants.

(a) The plants were watered in the evening.
(b) The plants are watered in the evening.
(c) The plants will be watered in the evening.
(d) The plants have been watered in the evening.

Q16. Select the most appropriate ANTONYM of the given word.

Traditional

(a) Conventional
(b) Customary
(c) Earthly
(d) Modern

Q17. Select the INCORRECTLY spelt word.

(a) rocket
(b) rogue
(c) rockiry
(d) roaster

Q18. Select the most appropriate meaning of the given idiom.

Not one’s cup of tea

(a) Not absolutely true
(b) Beyond one’s comprehension
(c) Of no concern for someone
(d) Not according to one’s interest

Q19. Select the option that expresses the given sentence in reported speech.

"Our teacher returned from Mumbai last month", she said.

(a) She said that her teacher had returned from Mumbai the earlier month.
(b) Her teacher returned from Mumbai last month, she said.
(c) She said that her teacher had returned from Mumbai the previous month
(d) She said that their teacher had returned from Mumbai the previous month.

Q20. Sentences of a paragraph are given below in jumbled order. Arrange the sentences in the right order to form a meaningful and coherent paragraph.

A. The whole area has been designed like a garden from Alice in Wonderland.

B. It’s about having fun and learning, too; all the activities help to explain the modern world of technology to the young visitors.

C. But ‘The World of Children’ isn’t just about playing games and having joy rides.

D. There are several different attractions in this vast area and there is a lot to see and do.

(a) ADBC
(b) BCDA
(c) DACB

YourMockTest.com — Free Study Material

(d) CBDA

Directions

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

Every Monday, on his way back from work, Bepin Chaudhury would drop in at KaliCharan's in New Market (1)____ books. Crime stories, ghost stories, and thrillers. (2)__ had to buy at least five at a time to last him (3)__ the week. He lived alone, was not a good mixer, had few (4)__, and didn't like spending time in idle chat. Today, at KaliCharan's, Bepin Babu had a (5)____ that somebody was observing him from close quarters.

Q21. Select the most appropriate option for blank no. 1.

(a) buy
(b) bought
(c) to buy
(d) buying

Q22. Select the most appropriate option for blank no. 2.

(a) She
(b) Him
(c) They
(d) He

Q23. Select the most appropriate option for blank no. 3.

(a) across
(b) by
(c) within
(d) through

Q24. Select the most appropriate option for blank no. 4.

(a) students
(b) servants
(c) friends
(d) followers

Q25. Select the most appropriate option for blank no. 5.

(a) feeling
(b) intuition
(c) perception
(d) connotation

GENERAL INTELLIGENCE

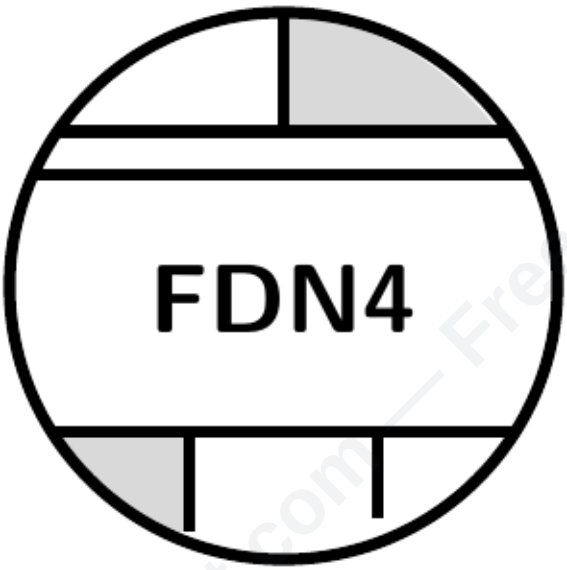
Q26. Select the number that can replace the question mark (?) in the following series.

25, 26, 53, 160, 641, ?

(a) 3403
(b) 2908
(c) 3206
(d) 3202

Q27. Select the correct mirror image of the given figure when a mirror is placed on the right side of the figure.

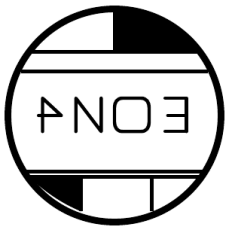
YourMockTest.com — Free Study Material



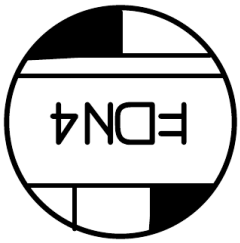
(a)



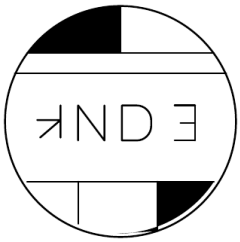
(b)



(c)



(d)



YourMockTest.com — Free Study Material

Q28. In a certain code language, 'FROZEN' is coded as '504' and 'TONSILS' is coded as '756'. How will 'MARINE' be coded in that language?

(a) 652
(b) 456
(c) 520
(d) 360

Q29. Select the option that is related to the third letter-cluster in the same way as the second letter-cluster is related to the first letter-cluster.

AZW : GFC :: LSM : ?

(a) DMT
(b) QOS
(c) RYS
(d) RXY

Q30. Select the option figure which contains figure X embedded in it as its part (rotation is NOT allowed).

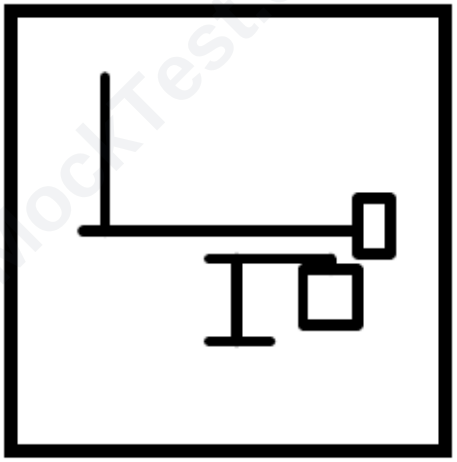
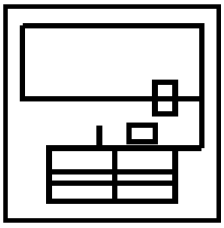
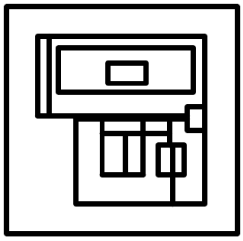


Figure X

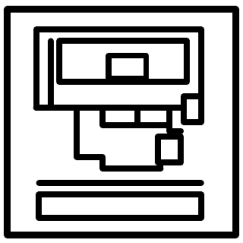
(a)



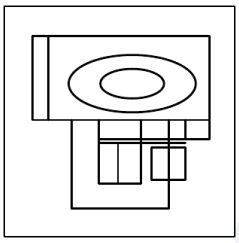
(b)



(c)



(d)



Q31. Select the option in which the numbers in the set share the same relationship as that shared by the numbers of the given set.

(14, 18, 42)

(a) (40, 23, 94)
(b) (20, 15, 100)
(c) (16, 21, 56)
(d) (22, 18, 74)

Q32. Select the option in which the numbers are related in the same way as are the numbers of the following set.

(2, 3, 62)

(a) (8, 5, 225)
(b) (5, 9, 288)
(c) (7, 4, 226)
(d) (6, 5, 122)

Q33. In a code language, TOUCH is written as UTOHC. How will PLANT be written in that language?

(a) TPANM
(b) TPNLA
(c) QMBOU
(d) ALRPT

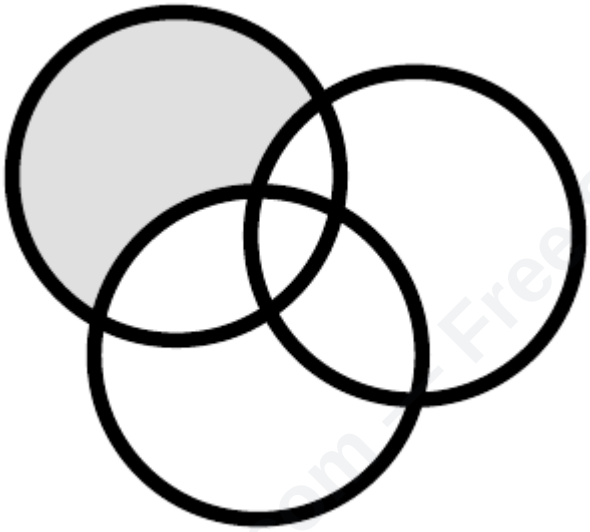
Q34. Select the correct combination of mathematical signs to sequentially replace the * signs to balance the following equation.

40 * 15 * 3 * 72 * 9 = 77

(a) +, ÷, −, ×, =
(b) ×, ÷, +, −, =
(c) +, ×, ÷, −, =
(d) +, ×, −, ÷, =

Q35. Select the set of classes the relationship among which is best illustrated by the following Venn diagram.

YourMockTest.com — Free Study Material

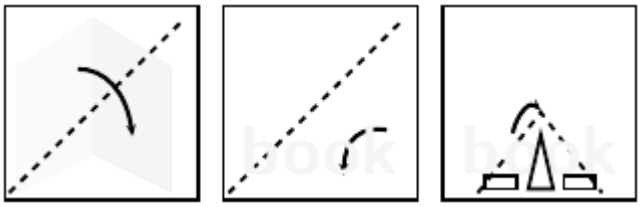


(a) Doctors, Fathers, Brothers
(b) Mothers. Engineers, Women
(c) Stationery, Pens, Pencils
(d) Owls, Mammals, Reptiles

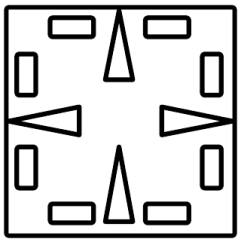
Q36. Four number-pairs have been given, out of which three are alike in some manner and one is different. Select the number-pair that is different.

(a) 19 : 324
(b) 5 : 35
(c) 7 : 63
(d) 13 : 195

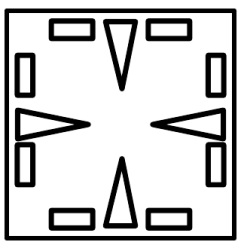
Q37. A piece of paper is folded and cut as shown below in the question figures. Select from the option figures, how it will appear when unfolded.



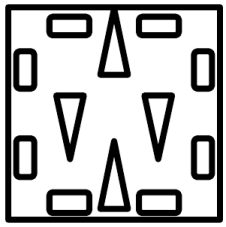
(a)



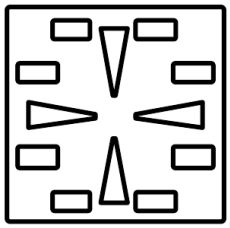
(b)



(c)



(d)



Q38. Select the combination of letters that when sequentially placed in the blanks of the given series will complete the series.

c k _ g k c _ t _ k _ k t g _ c k _ g k

(a) t, k, g, c, c, t
(b) t, k, c, g, k, t
(c) t, k, g, c, k, t
(d) t, g, k, c, k, t

Q39. In a class of 68 students, 34 students participated only in Debate and 8 students participated in both Quiz and Debate. If every student of the class has participated in at least one of these two competitions, how many students participated in Quiz?

(a) 22
(b) 30
(c) 34
(d) 26

Q40. Select the option that is related to the fourth number in the same way as the first number is related to the second number and the fifth number is related to the sixth number.

127 : 11 :: ? : 16 :: 367 : 19

(a) 280
(b) 248
(c) 216
(d) 262

Q41. Select the option in which the words share the same relationship as that shared by the given pair of words.

Astronomy : Stars

(a) Philology : Texture
(b) Seismology : Theatre
(c) Numismatics : Coins
(d) Psychology : Cells

Q42. Four letter-clusters have been given, out of which three are alike in some manner and one is different. Select the letter-cluster that is different.

(a) HNTZ
(b) IPVA
(c) VBHN
(d) AGMS

YourMockTest.com — Free Study Material

Q43. If 'A & B' means 'A is the father of B' and 'A @ B' means 'A is the sister of B', then which of the following expressions means 'H is the father of M'?

(a) H @ K @ P & M
(b) K & H @ P @ M
(c) M & K @ P @ H
(d) H & K @ P @ M

Q44. Select the correct option that indicates the arrangement of the given words in the order in which they appear in an English dictionary.

1. Industry
2. Indent
3. Indoor
4. Indolent
5. Index

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

Q45. Two statements are given, followed by three conclusions numbered I, II and III. Assuming the statements to be true, even if they seem to be at variance with commonly known facts, decide which of the conclusions logically follow(s) from the statements.

Statements:

No field is a house.

All fields are parks.

Conclusions:

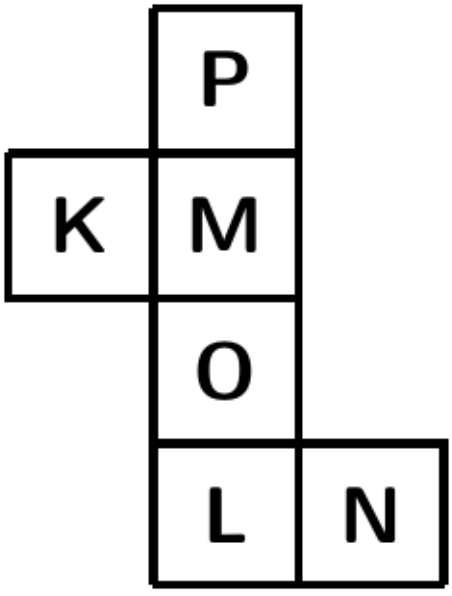
I. No house is a field.

II. Some parks are fields.

III. Some houses are fields

(a) Only conclusion II follows
(b) Only conclusions I and II follow
(c) Only conclusions II and III follow
(d) All the conclusions follow

Q46. A cube is made by folding the given sheet. In the cube so formed, what would be the letter on the opposite side of 'K'?



(a) P
(b) O
(c) N
(d) L

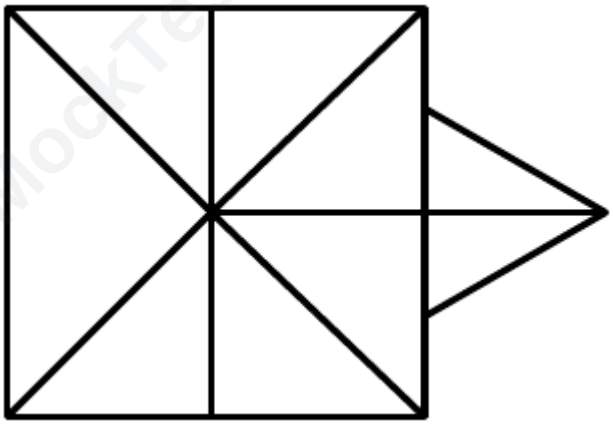
Q47. 'East' is related to 'Direction' in the same way as 'Summer' is related to '_____'.

(a) Room Cooler
(b) Temperature
(c) Heat
(d) Season

Q48. Three of the following four words are alike in a certain way and one is different. Select the odd one.

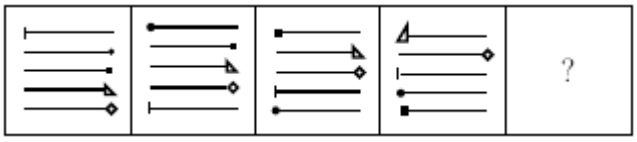
(a) Lungs
(b) Heart
(c) Liver
(d) Nose

Q49. How many triangles are there in the given figure?

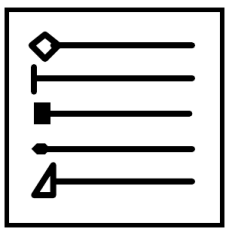


(a) 17
(b) 15
(c) 16
(d) 14

Q50. Select the figure from among the given options that can replace the question mark (?) in the following series.

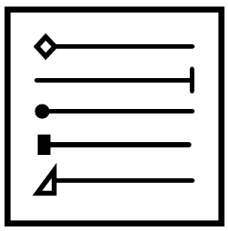


(a)

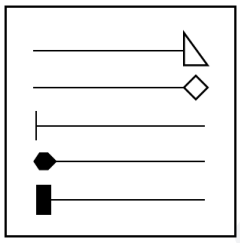


YourMockTest.com — Free Study Material

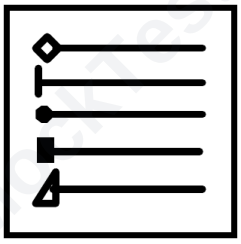
(b)



(c)



(d)



QUANTITATIVE APTITUDE

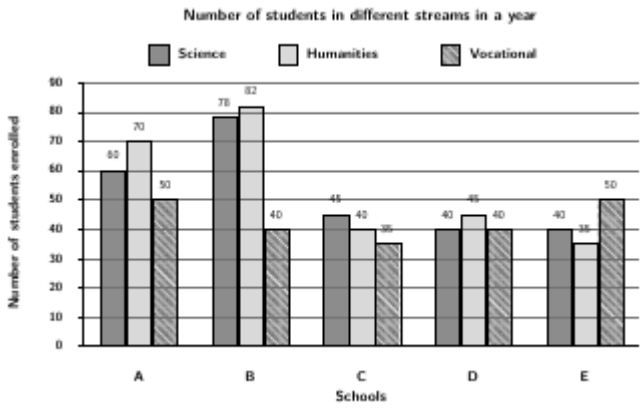
Q51. Two circles with centres O and P and radii 17 cm and 10 cm, respectively, intersect each other at A and B. The length of the common chord AB is 16 cm. What is the perimeter of the triangle OAP (in cm)?

(a) 40
(b) 48
(c) 25
(d) 33

Q52. If $x^2+1/(x^2)=83$, $x > 0$, then the value of $x^3-1/(x^3)$ is:

(a) 675
(b) 576
(c) 756
(d) 746

Q53. The number of students enrolled in different streams at Senior Secondary level in five schools is shown in the given bar graph.



What is the total number of students enrolled in the Science stream in all the schools?

(a) 263
(b) 267
(c) 257
(d) 268

Q54. Two equal circles of radius 8 cm intersect each other such that each passes through the centre of the other. The length of the common chord is:

(a) 8√3 cm
(b) 8 cm
(c) 8√2 cm
(d) 4√3 cm

Q55. If sec θ - cosec θ = 0 and θ is an acute angle, then what is the value of $\sec^2 \theta + \operatorname{cosec}^2 \theta$?

(a) 1
(b) 2
(c) 0
(d) 4

Q56. What will be the selling price of an article if two successive discounts of 15% and 12% are offered on its marked price of Rs. 25,500?

(a) Rs. 19,074
(b) Rs. 25,041
(c) Rs. 21,165
(d) Rs. 18,615

Q57. Simplify the following expression.

51/3÷[7-3÷(1-1/4)×2/3+1]-3÷1+2

(a) 7/41
(b) 0
(c) 15
(d) -4

Q58. A man invests an amount of Rs. 1,05,750 at simple interest in the name of his son, daughter and his wife in such a way that they get the same interest after 3, 4 and 5 years, respectively. If the rate of interest is 5% per annum. then the amount invested for the wife is:

(a) Rs. 30,000
(b) Rs. 25,000
(c) Rs. 28,000
(d) Rs. 27,000

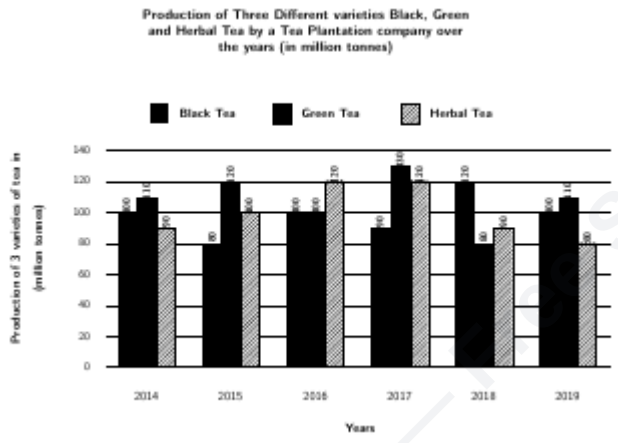
Q59. A shopkeeper sold an article for Rs. 3,750. If he had charged 24% less, even then he would have earned a profit of 14%. What is the original cost of the article?

(a) Rs. 2,500
(b) Rs. 2,850
(c) Rs. 2,717
(d) Rs. 3,289

Q60. Study the given bar graph and answer the question that follows.

A tea plantation company produces three varieties of tea-black tea, green tea, and herbal tea. The production of three varieties (in million tonnes) over a period of six years from 2014 to 2019, has been shown in the bar graph here. The X-axis represents the years and the Y-axis displays the production of the three varieties in million tonnes.

YourMockTest.com — Free Study Material



The average production of black tea in 2014, 2015, and 2018 is how much more or less (in million tomes) than the average production of green tea in 2016, 2017, and 2019?

(a) Less, 12.33
(b) Less, 13.33
(c) More, 12.33
(d) More, 13.33

Q61. If a triangle ABC is right-angled at A, then what is the value of sin (B+C)/2cos (B+C)/2 ?

(a) √3/4
(b) 1/2
(c) 1/4
(d) √2

Q62. A,B, C and D are four positive numbers such that A is 3/4 times of B, B is 4/5 times of C, and C is 3/8 times of D. If the average of 4 times of A and 7 times of D is 316, then the average of all the four numbers A, B, C and D is:

(a) 36
(b) 38
(c) 28
(d) 34

Q63. Anu can complete a piece of work in 22 days. Shama is 60% more efficient than Anu. How many days does Shama alone take to complete the same piece of work?

(a) 133/4
(b) 131/5
(c) 351/3
(d) 362/3

Q64. If $x^2 + (4 - \sqrt{3})x - 1 = 0$, then what is the value of $x^2+1/(x^2)$?

(a) $21 - 8\sqrt{3}$
(b) $17 - 8\sqrt{3}$
(c) $9 - 8\sqrt{3}$
(d) $21 - 12\sqrt{3}$

Q65. A car takes 50 minutes to cover a certain distance at a speed of 54 km/h. If the speed is increased by 25%, then how long will it take to cover three-fourth of the same distance?

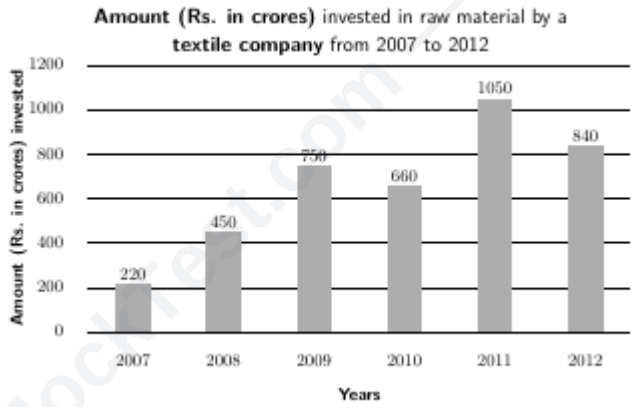
(a) 40 minutes
(b) 30 minutes
(c) 35 minutes
(d) 25 minutes

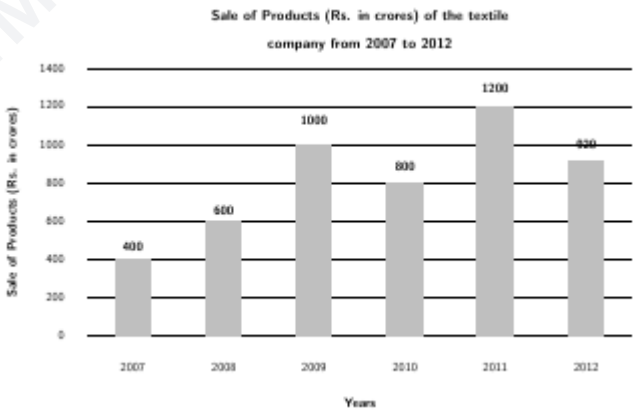
Q66. Two numbers A and B are in the ratio 13 : 17. If A is increased by 15% and B is increased by 30%, then the new ratio of A to B will be:

(a) 21 : 29
(b) 23 : 34
(c) 23 : 33
(d) 21 : 31

Q67. Study the given bar graphs and answer the question that follows.

The bar graphs represent the amount invested in raw materials (in Rs. crore) and the sale of the products, by a textile company in the years 2007- 2012. The X-axis represents the years. The Y-axis represents the amount invested in raw materials (in Rs, crore) in figure 1 and the sale of products in figure 2, respectively.



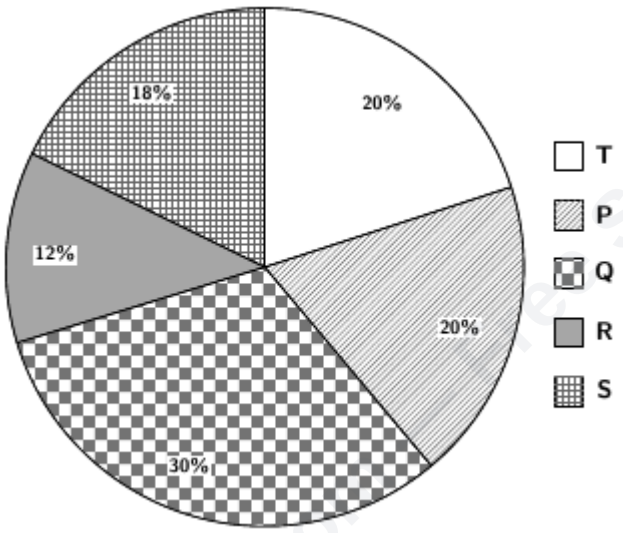


In which year was there a maximum percentage increase in the sales of products as compared to the previous year?

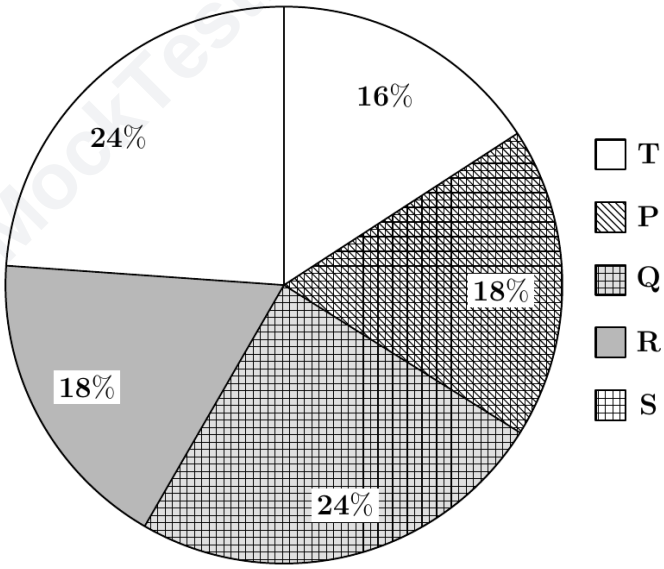
(a) 2009
(b) 2011
(c) 2008
(d) 2010

Q68. The given pie charts represent the distribution of candidates who enrolled for a bank clerical examination and the candidates (out of those enrolled) who passed the examination, from five different institutes P, Q. R, S and T. Study the pie charts and answer the question that follows.

(i) Total number of candidates who enrolled for the examination from five institutes = 5500



(ii) Total number of candidates who passed the examination from five institutes = 3300



Which institute(s) has/have the highest percentage of candidates passed to the candidates enrolled?

(a) P
(b) R
(c) Q and T
(d) S

Q69. The sum of all the three sides of an equilateral triangle is 15√3 cm. The height of the triangle is:

(a) 7.5 cm
(b) 7 cm
(c) 9 cm
(d) 8 cm

Q70. In Δ ABC, AC = BC, and the length of the base AB is 10 cm. If CG = 8 cm, where G is the centroid, then what is the length of AC?

(a) 12 cm
(b) 13 cm
(c) 15 cm
(d) √91 cm

Q71. If $x+1/x=\sqrt{13}$, then one of the values $x^3-1/(x^3)$ is:

(a) 36
(b) 32
(c) $4\sqrt{13}$
(d) $4\sqrt{11}$

Q72. If tan A + sec A = 3/2 and A is an acute angle, then the value of (10cot A+13cos A)/(12 tan A + 5 cosec A) is:

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

Q73. A rectangle with perimeter 50 cm has its sides in the ratio 1 : 4. What is the perimeter of a square whose area is the same as that of the rectangle?

(a) 36 cm
(b) 50 cm
(c) 40 cm
(d) 45 cm

Q74. If the nine-digit number '8475639AB' is divisible by 99, then what is the value of A and B?

(a) A = 3, B = 9
(b) A = 5, B = 3
(c) A = 4, B = 6
(d) A = 4, B = 8

Q75. 24% of Reena's salary is equal to 38% of Sunita's salary. Veena's salary is two-third of the total salary of Reena and Sunita. If Veena's salary is Rs. 62,000, then Sunita's salary is:

(a) Rs. 32,000
(b) Rs. 35,000
(c) Rs. 36,000
(d) Rs. 38,000

GENERAL AWARENESS

Q76. In September 2020, who was appointed as Executive Director of Asian Development Bank, Manila?

(a) Rajesh Khullar
(b) Jason Chung
(c) Sameer Khare
(d) Warotai Kosolpisitkul

Q77. National Rifle Association of India was founded in:

(a) 1964
(b) 1956
(c) 1951
(d) 1948

Q78. Where was the Patrika Gate inaugurated by Prime Minister Narendra Modi in September 2020?

(a) Bhopal
(b) Ranchi
(c) Raipur
(d) Jaipur

YourMockTest.com — Free Study Material

Q79. According to the fundamental rights provided by the Constitution of India, the state is bound to provide free and compulsory education to all children from the age of:

(a) 3 to 18 years
(b) 6 to 14 years
(c) 4 to 18 years
(d) 4 to 15 years

Q80. As of January 2021, GMR Group was associated with which of the following franchises in the Indian Premier League (IPL) cricket tournament?

(a) Chennai Super Kings
(b) Delhi Capitals
(c) Mumbai Indians
(d) Rajasthan Royals

Q81. Which of the following is NOT an example of an optical disk?

(a) PROM
(b) DVD
(c) Blue Ray Disk
(d) CD ROM

Q82. With which of the following states is the ‘Mand’ or ‘Maand' style of singing associated?

(a) Rajasthan
(b) Gujarat
(c) Uttar Pradesh
(d) Madhya Pradesh

Q83. Swollen bluish veins resulting from the valves that do not close properly are called _____.

(a) superficial veins
(b) varicose veins
(c) systemic veins
(d) deep veins

Q84. Which of the following Articles of the Constitution of India is related to the oath or affirmation by the President?

(a) Article 66
(b) Article 60
(c) Article 57
(d) Article 54

Q85. Who among the following foreign travellers is NOT correctly matched with their respective country they hail from?

(a) Al-Biruni – Uzbekistan
(b) Peter Mundy – China
(c) Ibn Battuta – Morocco
(d) Marco Polo – Italy

Q86. With which country did India hold its 14^(th) Defence Policy Dialogue via video conferencing in August 2020?

(a) Japan
(b) China
(c) Singapore
(d) The US

Q87. Who among the following was NOT included in the ICC Hall of Fame in August 2020?

(a) Jacques Kallis
(b) Zaheer Abbas
(c) Lisa Sthalekar
(d) Graeme Smith

YourMockTest.com — Free Study Material

Q88. Where is the Sariska Tiger Reserve located?

(a) Rajasthan
(b) Gujarat
(c) Haryana
(d) Karnataka

Q89. The total liability of the monetary authority of the country, Reserve Bank of India, is called:

(a) Grey money
(b) Cold cash
(c) High powered money
(d) Hot money

Q90. The mutual funds industry in India is regulated by which of the following organisations?

(a) IRDA and IFCI
(b) SEBI and RBI
(c) NITI Aayog and IIFCL
(d) Ministry of Commerce and SIDBI

Q91. Which of the following states was popularly known as the 'Land of Gods'? It got a separate identity as a state on 9 November 2000.

(a) Goa
(b) Uttarakhand
(c) Telangana
(d) Karnataka

Q92. Rickets and night-blindness are caused by the deficiency of ____ and ____, respectively.

(a) Vitamin D, Vitamin C
(b) Vitamin B1, Vitamin C
(c) Vitamin E, Vitamin A
(d) Vitamin D, Vitamin A

Q93. Who among the following was responsible for the partition of Bengal in 1905?

(a) Lord Ripon
(b) Lord Curzon
(c) Lord Mayo
(d) Lord Canning

Q94. Which of the following gases is released in the process of photosynthesis?

(a) Oxygen
(b) Nitrogen
(c) Nitrous dioxide
(d) Carbon dioxide

Q95. Dogri language is mainly spoken in which of the following states/union territories?

(a) Jammu and Kashmir
(b) Uttarakhand
(c) Lakshadweep
(d) Assam

Q96. Which of the following factors is NOT responsible for soil formation?

(a) Topography
(b) Parent material
(c) Biotic agents
(d) Cattle grazing

YourMockTest.com — Free Study Material

Q97. Who among the following was honoured with the long-overdue record title for 'fastest human computation' by Guinness World Records on 30 July 2020?

(a) Shakuntala Devi
(b) Vashishtha Narayan Singh
(c) Shreeram Shankar Abhyankar
(d) Vijay Kumar Patodi

Q98. 'Pradhan Mantri Awas Yojana (Urban)-PMAY (U)'s mission is to achieve the goal of Housing for All in urban areas by:

(a) 2022
(b) 2023
(c) 2021
(d) 2020

Q99. Which of the following statements is NOT correct about alluvial soil?

(a) Old alluvial is called 'bangar' and new alluvial is called 'khadar'.
(b) Deltas of Mahanadi, the Godavari and the Krishna are made from alluvial soil
(c) Northern plains are made of alluvial soil
(d) In the Himalayan region we find alluvial soil.

Q100. A device or program that enables a computer to transmit data over telephone or cable lines is called:

(a) Monitor
(b) mouse
(c) motherboard
(d) modem

ANSWER KEY

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

SOLUTIONS

Q1. Answer: (c) To think of something

The correct answer is 'To think of something'

Key Points

• The meaning of the idiom 'to cross one's mind' is- occur to one, especially transiently or to be thought of by someone Losing never crossed her mind.

• Let's see an example-

• It never crossed my mind (= I never thought) that she might be married.

• Hence, the correct answer is Option 3.

YourMockTest.com — Free Study Material

Q2. Answer: (b) investigating

The solution is in Hindi. Read it online.

Q3. Answer: (c) Repulsive

The solution is in Hindi. Read it online.

Q4. Answer: (b) Tendansy

The incorrect spelling is- Tendansy.

Key Points

• The correct spelling of the given word is- Tendency.

• The meaning of the given words is- something that someone often does, or something that often happens

• The synonyms for the given words are- Propensity, Proclivity, Inclination, likelihood, etc.

Hence, the correct answer is Option 2.

Q5. Answer: (c) Prohibit

The solution is in Hindi. Read it online.

Q6. Answer: (d) carried

The correct answer is 'Carried'

Key Points

The meaning of the sentence is that the course teacher is checking the answer papers.

• The meaning of the phrase 'carried out' is- to put a threat, promise, or order into action.

• Example- I was elected to carry out a program, the governor said, and I have every intention of carrying it out.

So the correct sentence is- The marking of answer papers is carried out by the course teacher.

Q7. Answer: (a) disgusting

The solution is in Hindi. Read it online.

Q8. Answer: (a) invite

The correct answer is 'invite'

Key Points

• In the given sentence, the usage of 'will invite' is incorrect instead of it use 'invite'

• According to grammar, whenever we have a main clause and subordinate clause in the conditional sentence, the usage of will is incorrect in the subordinate clauses hence, we need to omit 'will' from the subordinate clause.

• Let's see an example-

• Unless you call me to say you're not coming, I'll see you at the theatre (= I will see you there if you do not call to say you are not coming).

Hence, the correct sentence is- He won't come to the party unless you invite him personally.

Confusion Points

• The word "invited" is in the past tense, and using it in this context would imply that the invitation would have already occurred in the past. However, the sentence is speaking about a future event (the party) and a condition that must be met in the future (the personal invitation).

• The verb tenses in the two parts of this conditional sentence need to match. If the first part is in the future tense ("He won't come to the party"), then the second part also needs to be in a tense that refers to future action. The base form of the verb ("invite") is used here to express a condition in the present or future.

• If we were talking about a past event, "invited" could be correct. For example: "He didn't come to the party unless you invited him personally."

• So, "invite" is the correct option in this context.

Q9. Answer: (c) DBAC

The correct sequence is- DBAC

Key Points

• On reading the sentences, we can comprehend that the passage is giving a detailing of a person who has picked up a child who is younger than the person.

• Sentence D will be the first sentence as it introduces the speaker.

• Sentence B will be the second sentence as it tells that the speaker is picked up and made to sit on a tombstone.

YourMockTest.com — Free Study Material

• Sentence A will be the third sentence as it tells about the person who has picked up the child.

• Sentence C will be the fourth sentence as it is the only sentence left.

So the correct passage is- I was only a child, and small for my age. Suddenly I was picked up, whirled through the air, and made to sit on a tombstone. The man who had caught me was a dreadful sight. He was about forty years old, hard-faced and fierce.

Q10. Answer: (b) leave behind

The erroneous part is- 'Leave behind'

Key Points

• In the given sentence, the usage of 'leave' is incorrect instead of it use 'leaving'

• In the given sentence, the subject of the sentence is- Cyclone Amphan and the main verb is 'roared' 'into West Bengal' is a prepositional phrase 'on Wednesday' is also a prepositional phrase hence, we don't want a verb as the verb is already given.

• We need a participle as 'roar' is an intransitive verb so there is no need to use an object in the given sentence. The present participle will define the prepositional phrases because they are adverb phrases.

• Hence, the correct sentence is- Cyclone Amphan roared into West Bengal on Wednesday leaving behind a trail of devastation across a large area of the State.

Q11. Answer: (b) as kind as

The correct answer is as kind as

Key Points

• In the given sentence, the usage of 'kind as' is incorrect instead of this we need to use 'as kind as'

• The given sentence using a simile to compare the two persons i.e. Mr. Sharma and His father.

• Hence, we can use a simile for this 'as...as' strucure.

• Example- He is as busy as a bee

• Hence, the correct sentence is- Mr. Sharma is as kind as his father.

Q12. Answer: (d) weighted

The solution is in Hindi. Read it online.

Q13. Answer: (b) more better if

The erroneous part is- 'more better if'

Key Points

• In the given sentence, the usage of 'more better' is incorrect instead of it use 'better'

• According to grammar, 'better' is used as a comparative degree of the positive degree of adjective 'good'. Hence, we can't use one more comparative degree before 'better'

• Let's see an example-

• The book was better than I expected.

Hence, the correct sentence is- It would be better if she sang with an orchestra.

Q14. Answer: (a) boomerang

The solution is in Hindi. Read it online.

Q15. Answer: (b) The plants are watered in the evening.

The correct answer is 'The plants are watered in the evening.'

Key Points

• The given sentence is in the active voice and the main verb of the sentence is 'water'

• 'water' can be used as a verb that means 'to pour water on to plants or the soil that they are growing in'

• The subject of the sentence is- 'we' and the object of the sentence is 'the plants'

• Hence, the object becomes the subject and we need to use a plural verb.

So the correct sentence is- The plants are watered in the evening.

Q16. Answer: (d) Modern

The solution is in Hindi. Read it online.

Q17. Answer: (c) rockiry

The incorrect spelling is- rockiry.

Key Points

• The correct spelling of the word is- rockery.
• The meaning of the word is- a garden or an area within a garden that has plants growing between piles of stones
• Hence, the correct answer is Option 3.

Additional InformationLet's look at the meaning of other options-
• Rogue- An unprincipled, deceitful, and unreliable person
• Roaster- A list of people's names, often with the jobs they have been given to do

Q18. Answer: (d) Not according to one’s interest

The correct answer is 'Not according to one’s interest'

Key Points

• The meaning of the idiom 'Not one's cup of tea' is- not what one likes or is interested in.
• Let's see an example-
• War films are not really my cup of tea.
• Hence, the correct answer is Option 4.

Q19. Answer: (d) She said that their teacher had returned from Mumbai the previous month.

The correct answer is 'She said that their teacher had returned from Mumbai the previous month.'

Key Points

• The given sentence is in Direct speech.
• The tense of the sentence is 'past tense' hence, it is going to be changed into the past perfect tense.
• The pronoun 'our' will be changed into 'their' as the girl is saying on behalf of every student.
• Also, 'last month' will be changed into 'the previous month'
• So the correct indirect speech is- She said that their teacher had returned from Mumbai the previous month.

Q20. Answer: (c) DACB

The correct sequence is- DACB

Key Points

• On reading the sentences we can comprehend that the passage is talking about a garden that looks like Wonderland.
• The first sentence will be sentence D as it tells us about the garden that it has a vast area and there are a lot of things that we can explore.
• The second sentence will be sentence A as it does the comparison between the garden and a garden shown in Alice in Wonderland.
• The third sentence will be sentence C as it gives further information that the world of children is not all about playing games.
• The fourth sentence will be sentence B as it is the only sentence left.

So the correct sequence is- There are several different attractions in this vast area and there is a lot to see and do. The whole area has been designed like a garden from Alice in Wonderland. But ‘The World of Children’ isn’t just about playing games and having joy rides. It’s about having fun and learning, too; all the activities help to explain the modern world of technology to the young visitors.

Q21. Answer: (c) to buy

The correct answer is 'to buy'

Key Points

• Every Monday, on his way back from work, Bepin Chaudhury would drop in at KaliCharan’s in New Market (1)_____ books.
• We need to use an infinitive in the blank because the action of the verb has yet not been happened. Hence, we need to use an infinitive the main verb is 'drop'
• So the correct sentence is- Every Monday, on his way back from work, Bepin Chaudhury would drop in at KaliCharan’s in New Market to buy books.

Q22. Answer: (d) He

The correct answer is 'He'

Key Points

• Crime stories, ghost stories, and thrillers. (2)_____ had to buy at least five
• In the given sentence, we need to use a noun that represents the masculine gender because as we know that Bepin Chaudhury is a male.

• So the correct sentence is- Crime stories, ghost stories, and thrillers. He had to buy at least five

Q23. Answer: (d) through

The correct answer is 'through'

Key Points

• He had to buy at least five at a time to last him (3)_____ the week.

• Here in the sentence, to last him means 'to be enough for the needs of him' he had to buy at least five books which fulfill his needs and last him through or throughout the week.

• Example- The supplies will last them a week.

• Hence, the correct sentence is- He had to buy at least five at a time to last him through the week.

Q24. Answer: (c) friends

The correct answer is 'friends'

Key Points

• He lived alone, was not a good mixer, had few (4)_____, and didn't like spending time in idle chat.

• The subject is- Bepin Chaudhury (He) as the passage till now has not talked about Bepin's students, servants, and followers. Hence, we need to use 'friends' according to the context of the passage. Because we generally do chat with friends.

• So the correct sentence is- He lived alone, was not a good mixer, had few friends, and didn't like spending time in idle chat.

Q25. Answer: (a) feeling

The correct answer is 'feeling'

Key Points

• Today, at KaliCharan's, Bepin Babu had a (5)_____ that somebody was observing him from close quarters.

• Let's see the meanings of the given words-

• Feeling- an emotional state or reaction.

• Intuition- the ability to understand something instinctively, without the need for conscious reasoning.

• Perception- the ability to see, hear or become aware of something through the senses.

• Connotation- an idea or feeling that a word invokes for a person in addition to its literal or primary meaning.

• Hence, according to the meanings of the given words, the correct answer is Option 1 i.e. feeling.

• So the correct sentence- Today, at KaliCharan's, Bepin Babu had a feeling that somebody was observing him from close quarters.

Q26. Answer: (c) 3206

The logic followed here is:

25 × 1 + 1 = 26

26 × 2 + 1 = 53

53 × 3 + 1 = 160

160 × 4 + 1 = 641

641 × 5 + 1 = 3206

Hence, the correct answer is "3206".

Q27. Answer: (d) [figure]

The mirror image of the given figure is as shown below :

Hence, the correct answer is "Option 4".

Q28. Answer: (d) 360

The logic followed here is :-

'FROZEN' is coded as '504'

Sum of alphabet positional values × Number of letters in the given word

• 6 + 18 + 15 + 26 + 5 + 14 = 84

Number of letter in word FROZEN = 6

• 84 × 6 = 504

And

'TONSILS' is coded as '756'

Sum of alphabet positional values × Number of letters in the given word

• 20 + 15 + 14 + 19 + 9 + 12 + 19 = 108

Number of letter in word TONSILS = 7

• 108 × 7 = 756

Similarly,

'MARINE' will be coded as :

Sum of alphabet positional values × Number of letters in the given word

• 13 + 1 + 18 + 9 + 14 + 5 = 60

Number of letter in word MARINE = 6

• 60 × 6 = 360

Hence, the correct answer is "360".

Q29. Answer: (c) RYS

The logic followed here is :-

AZW : GFC

Similarly,

LSM : ?

Hence, the correct answer is "RYS".

Q30. Answer: (b) [figure]

The figure (X) is which is embedded in a figure is shown below :

Hence, the correct answer is "Option 2".

Q31. Answer: (c) (16, 21, 56)

The logic followed here is :-

Third number = (First number × Second number) ÷ 6

• (14, 18, 42) → (14 × 18) ÷ 6 = 252 ÷ 6 = 42

Similarly,

• (16, 21, 56) → (16 × 21) ÷ 6 = 336 ÷ 6 = 56

Hence, the correct answer is "(16, 21, 56)".

Q32. Answer: (c) (7, 4, 226)

The Logic here is as follows:

{(1^(st) number)² + (2^(nd) number)³} × 2 = 3^(rd) number

In (2, 3, 62)

= $(2^2 + 3^3) \times 2$

= (4 + 27) × 2

= 31× 2

= 62 = 3^(rd) Number

Now check the all options,

Option (1) (8, 5, 225)

= $(8^2 + 5^3) \times 2$

= (64 + 125) × 2

= 189 × 2

= 378 ≠ 3^(rd) Number

Option (2) (5, 9, 288)

= $(5^2 + 9^3) \times 2$

= (25 + 729) × 2

= 754 × 2

= 1508 ≠ 3rd Number

Option (3) (7, 4, 226)

= $(7^2 + 4^3) \times 2$

= (49 + 64) × 2

= 113 × 2

= 226 = 3^(rd) Number

Option (4) (6, 5, 122)

= $(6^2 + 5^3) \times 2$

= (36 + 125) × 2

= 161 × 2

= 324 ≠ 3^(rd) Number

Hence, the correct answer is "(7, 4, 226)".

Q33. Answer: (b) TPNLA

The logic followed here is :-

TOUCH is written as UTOHC

Similarly,

PLANT will be written as :

Hence, the correct answer is "TPNLA".

Q34. Answer: (d) +, ×, −, ÷, =

By using BODMAS RULE :

Option 1) : +, ÷, −, ×, =

Given : 40 * 15 * 3 * 72 * 9 = 77

By replacing the symbols in given equation the equation followed is : 40 + 15 ÷ 3 - 72 × 9 = 77

=> 40 + 15 ÷ 3 - 72 × 9 = 77

=> 40 + 5 - 72 × 9 = 77

=> 40 + 5 - 648 = 77

=> 45 - 648 = 77

=> - 603 ≠ 77

LHS ≠ RHS

Option 2) : ×, ÷, +, −, =

Given : 40 * 15 * 3 * 72 * 9 = 77

By replacing the symbols in given equation the equation followed is : 40 × 15 ÷ 3 + 72 - 9 = 77

=> 40 × 15 ÷ 3 + 72 - 9 = 77

=> 40 × 5 + 72 - 9 = 77

=> 200 + 72 - 9 = 77

=> 272 - 9 = 77

=> 263 ≠ 77

LHS ≠ RHS

Option 3) : +, ×, ÷, −, =

Given : 40 * 15 * 3 * 72 * 9 = 77

By replacing the symbols in given equation the equation followed is : 40 + 15 × 3 ÷ 72 - 9 = 77

=> 40 + 15 × 3 ÷ 72 - 9 = 77

=> 40 + 15 × 0.041 - 9 = 77

=> 40 + 0.625 - 9 = 77

=> 40.625 - 9 = 77

=> 31.625 ≠ 77

LHS ≠ RHS

Option 4) : +, ×, −, ÷, =

Given : 40 * 15 * 3 * 72 * 9 = 77

By replacing the symbols in given equation the equation followed is : 40 + 15 × 3 - 72 ÷ 9 = 77

=> 40 + 15 × 3 - 72 ÷ 9 = 77

=> 40 + 15 × 3 - 8 = 77

=> 40 + 45 - 8 = 77

=> 85 - 8 = 77

=> 77 = 77

YourMockTest.com — Free Study Material

LHS = RHS

Hence, the correct answer is "+, ×, −, ÷, =".

Q35. Answer: (a) Doctors, Fathers, Brothers

The relationship for this least possible Venn diagram is as shown below :

Here, for Venn diagram

• Some Brothers are Fathers and Doctors.

• Some Fathers are Brothers and Doctors.

• Some Doctors are Fathers and Brothers.

Hence, the correct answer is "Doctors, Fathers, Brothers".

Q36. Answer: (a) 19 : 324

The logic followed here is :-

Second number = First number^2 + (First number × 2)

1) 19 : 324 → 19^2 + (19 × 2) = 361 + 38 = 399 ≠ 324

2) 5 : 35 → 5^2 + (5 × 2) = 25 + 10 = 35

3) 7 : 63 → 7^2 + (7 × 2) = 49 + 14 = 63

4) 13 : 195 → 13^2 + (13 × 2) = 169 + 26 = 195

Here, 19 : 324 is different from other three alternatives

Hence, the correct answer is "19 : 324".

Alternate Method2) 5 : 35 → $(5 + 1)^2$→ 6^2 - 1 → 36 - 1 = 35

3) 7 : 63 → $(7 + 1)^2$ → 8^2 - 1 → 64 - 1 = 63

4) 13 : 195 → $(13 + 1)^2$ → 14^2 - 1 = 196 - 1 = 195

Whereas,

1) 19 : 324 → $(19 + 1)^2$ → 20^2- 1 → 400 - 1 → 399 ≠ 324

Q37. Answer: (b) [figure]

The image obtained when the paper is unfolded is,

Hence, option 4 is the correct answer.

Q38. Answer: (c) t, k, g, c, k, t

Given :- c k _ g k c _ t _ k _ k t g _ c k _ g k

By checking options and substituting accordingly.

1) t, k, g, c, c, t → c k t g k / c k t g k / c k t g c / c k t g k

2) t, k, c, g, k, t → c k t g k / c k t c k / g k t g k / c k t g k

3) t, k, g, c, k, t → c k t g k / c k t g k / c k t g k / c k t g k

4) t, g, k, c, k, t → c k t g k / c g t k k / c k t g k / c k t g k

Option (3) gives a pattern of cktgk - cktgk - cktgk - cktgk

• Here the option (3) represents the pattern as : c k t g k / c k t g k / c k t g k / c k t g k

Hence, the correct answer is "t, k, g, c, k, t".

Q39. Answer: (c) 34

Given Total number of students = 68

Number of students participated only in Debate = 34

Number of students participated in both Quiz and Debate = 8

If every student of the class has participated in at least one of these two competitions

Number of students participated only in Quiz = Total number of students - (Number of students participated only in Debate + Number of students participated in both Debate and Quiz)

• Number of students participated only in Quiz = 68 - (34 + 8)

• Number of students participated only in Quiz = 68 - 42 = 26

Number of students participated in quiz = Number of students participated only in Quiz + Number of students participated in both Quiz and Debate

Therefore Number of students participated in quiz = 26 + 8 = 34

Hence, the correct answer is "34".

Q40. Answer: (d) 262

The logic followed here is :-

First number = Second number² + 6

Third number = Fourth number² + 6

Fifth number = Sixth number² + 6

127 : 11 → 11² + 6 = 121 + 6 = 127

and

367 : 19 → 19² + 6 = 361 + 6 = 367

Similarly,

? : 16 → 16² + 6 = 256 + 6 = 262

Therefore The relation so formed is : 127 : 11 :: 262 : 16 :: 367 : 19

Hence, the correct answer is "262".

Q41. Answer: (c) Numismatics : Coins

The logic followed here is :-

Astronomy is the study of Stars and universe everything in universe beyond earth's atmosphere.

Similarly,

Numismatics : Coins → Numismatics is the study of collection of 'Coins'.

Hence, the correct answer is "Numismatics : Coins".

Important Points1) Philology → Philology is study of language of oral and written historical sources.

2) Seismology → Seismology is study of earthquakes and seismic waves that moves through and around earth.

4) Psychology → Psychology is scientific study of mind and behavior.

Q42. Answer: (b) IPVA

The logic follows here is :-

1) HNTZ

2) IPVA

3) VBHN

4) AGMS

Therefore IPVA is different from the other three alternatives.

Hence, the correct answer is "IPVA".

Q43. Answer: (d) H & K @ P @ M

Family Chart :

'A & B' → 'A is the father of B'

'A @ B' → 'A is the sister of B'

Family tree:

1) H @ K @ P & M

Here H is the aunt of M.

2) K & H @ P @ M

Here H is the sister of M.

3) M & K @ P @ H

Here gender of H is not confirmed so H can male or female.

Thus H is either son or daughter of M.

4) H & K @ P @ M

Here, H is the father of M.

Hence, the correct answer is "H & K @ P @ M".

Q44. Answer: (a) 2, 5, 4, 3, 1

The arrangement of the given words in the order in which they appear in an English dictionary is as follows :

2. Indent

5. Index

4. Indolent

YourMockTest.com — Free Study Material

3. Indoor

1. Industry

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

Q45. Answer: (b) Only conclusions I and II follow

The least possible Venn diagram for the given statements is as shown below :

Conclusions:

I. No house is a field → True (As No field is a house so, No house is a field is definitely true)

II. Some parks are fields → True (As All fields are parks so, Some parks are fields is true)

III. Some houses are fields → False (As No field is a house so, No definite relation is given hence, it is definitely False).

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

Q46. Answer: (c) N

Opposite surface of the open dice can be found by the below method:-

• Alternate surfaces are opposite to each other.

• No two opposite surface are touched by side or by corners

So, by using the above rule we can find the opposite surface of open dice.

In the given figure, Opposite faces are :

Alphabets	Opposite
P	O
M	L
K	N

Thus, opposite face of K is "N".

Hence, the correct answer is "N".

Q47. Answer: (d) Season

The logic followed here is :-

East represents one of the direction.

Similarly,

Summer represents one of the 'Season'

Hence, the correct answer is "Season".

Q48. Answer: (d) Nose

The logic follows here is :-

Lungs, Heart, Liver are internal parts of human body.

But,

Nose is an external part of human body it is different from other three alternatives.

Hence, the correct answer is "Nose".

Q49. Answer: (b) 15

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

Therefore Here there are 15 triangles in given figure.

Hence, the correct answer is "15".

Q50. Answer: (d) [figure]

The pattern followed here is:

• 1st position line went to fifth position and 2nd position line is rotated 1800 and moves to 1st position, 3rd position line moves to 2nd position, 4th position line moves to 3rd position and 5th position line moves to 4th position in each figure.

Therefore All the line with symbols facing right side are rotated 1800 and faces left side in figure 5.

Figure 1 to figure 2 → 1st position line went to fifth position and 2nd position line is rotated 1800 and moves to 1st position, 3rd position line moves to 2nd position, 4th position line moves to 3rd position and 5th position line moves to 4th position.

Figure 2 to figure 3 → 1st position line went to fifth position and 2nd position line is rotated 1800 and moves to 1st position, 3rd position line moves to 2nd position, 4th position line moves to 3rd position and 5th position line moves to 4th position.

YourMockTest.com — Free Study Material

Figure 3 to figure 4 → 1st position line went to fifth position and 2nd position line is rotated 1800 and moves to 1st position, 3rd position line moves to 2nd position, 4th position line moves to 3rd position and 5th position line moves to 4th position.

Figure 4 to figure 5 → 1st position line went to fifth position and 2nd position line is rotated 1800 and moves to 1st position, 3rd position line moves to 2nd position, 4th position line moves to 3rd position and 5th position line moves to 4th position.

Hence, the correct answer is "Option 4".

Q51. Answer: (b) 48

Shortcut Trick

The common chord AB is bisected by the line of centres OP at M, so AM = 8 cm.

Using Pythagorean triplets for right-angled triangles ΔAMO and ΔAMP:

For ΔAMO (hypotenuse 17, leg 8): OM = √(172 − 82) = 15 cm.

For ΔAMP (hypotenuse 10, leg 8): PM = √(102 − 82) = 6 cm.

Distance between centres OP = OM + PM = 15 + 6 = 21 cm.

Perimeter of ΔOAP = OA + AP + OP = 17 + 10 + 21 = 48 cm.

Therefore The correct answer is 48 cm.

Alternate Method

Given:

Radius of first circle (centre O), OA = 17 cm

Radius of second circle (centre P), PA = 10 cm

Length of common chord, AB = 16 cm

Formula Used:

The line joining the centres of two intersecting circles is the perpendicular bisector of their common chord.

Pythagoras Theorem: Hypotenuse2 = Base2 + Perpendicular2

Perimeter of triangle = Sum of all three sides

Calculations:

Let the line joining the centres O and P intersect the common chord AB at point M.

=> AM = MB = AB ÷ 2

=> AM = 16 ÷ 2 = 8 cm

Since OP is perpendicular to AB, ΔAMO and ΔAMP are right-angled triangles at M.

In right-angled ΔAMO, using Pythagoras theorem:

=> OA2 = OM2 + AM2

=> 172 = OM2 + 82

=> 289 = OM2 + 64

=> OM2 = 289 − 64 = 225

=> OM = √225 = 15 cm

In right-angled ΔAMP, using Pythagoras theorem:

=> PA2 = PM2 + AM2

=> 102 = PM2 + 82

=> 100 = PM2 + 64

=> PM2 = 100 − 64 = 36

=> PM = √36 = 6 cm

Now, the distance between the centres OP is:

=> OP = OM + PM

=> OP = 15 + 6 = 21 cm

We need to find the perimeter of ΔOAP:

=> Perimeter of ΔOAP = OA + AP + OP

=> Perimeter of ΔOAP = 17 + 10 + 21 = 48 cm

Why other options are incorrect:

=> Option (1) 40 cm: This value does not correspond to any valid geometric configuration of the given circles.

=> Option (3) 25 cm: This is incorrect as the sum of the two radii alone is 17 + 10 = 27 cm, so the perimeter of the triangle must be greater than 27 cm (since OP > 0).

=> Option (4) 33 cm: This does not match either of the mathematically possible perimeters (48 cm or 36 cm) derived from the

circle properties.

Therefore The correct answer is 48 cm.

Additional Information

Perpendicular Bisector Property

The line segment connecting the centres of two intersecting circles is always the perpendicular bisector of their common chord.

Alternative Case (Centres on Same Side)

If the centres of the circles lie on the same side of the common chord, the distance between the centres is OP = OM − PM = 15 − 6 = 9 cm. In this case, the perimeter of ΔOAP would be 17 + 10 + 9 = 36 cm.

Pythagorean Triplets

Common integer right-triangle side sets like (8, 15, 17) and (6, 8, 10) help solve competitive exam geometry questions extremely quickly without full calculation.

Q52. Answer: (c) 756

Given:

$x^2+1/(x^2)=83$

Concept used:

(x - 1/x)2 = x2 + 1/x2 - 2

$x^3 - 1/x^3 = (x - 1/x)^3 + 3(x - 1/x)$

Calculation:

$x^2+1/(x^2)=83$

$\Rightarrow x^2 + 1/x^2 - 2 = 81$

$\Rightarrow (x - 1/x)^2 = 81$

$\Rightarrow (x - 1/x) = 9$

$x^3-1/(x^3) = 9^3 + 3(9)$

$\Rightarrow 729 + 27 = 756$

Therefore Required answer is 756

Q53. Answer: (a) 263

Calculation:

Number of students enrolled in the Science from A = 60

Number of students enrolled in the Science from B = 78

Number of students enrolled in the Science from C = 45

Number of students enrolled in the Science from D = 40

Number of students enrolled in the Science from E = 40

Total students in student = 60 + 78 + 45 + 40 + 40 = 263

Therefore Required answer is 263

Q54. Answer: (a) 8√3 cm

Given:

Radius of the circles is 8 cm

Calculation:

According to the diagram,

AD = DB

O1O2 = 8

Again O1A = O2A = 8 [Radius of the circle]

angle ADO1 = 90°

O1D = O2D = 4

AD = √(64 - 16)

$\Rightarrow \sqrt{48} = 4\sqrt{3}$

$AB = 2 \times 4\sqrt{3} = 8\sqrt{3}$

Therefore The length of the common chord is $8\sqrt{3}$ cm

YourMockTest.com — Free Study Material

Q55. Answer: (d) 4

Shortcut Trick

If sec θ = cosec θ, then θ = 45° (since sin θ = cos θ only at 45° for acute angles).

Substitute θ = 45° in the given expression: sec² 45° + cosec² 45°.

Value = (√2)² + (√2)² = 2 + 2 = 4.

Therefore The correct answer is 4.

Alternate Method

Given: sec θ − cosec θ = 0, where θ is an acute angle.

Formula Used: sec θ = 1/cos θ | cosec θ = 1/sin θ | tan θ = sin θ/cos θ.

=> sec θ − cosec θ = 0

=> sec θ = cosec θ

=> 1/cos θ = 1/sin θ

=> sin θ = cos θ

=> sin θ / cos θ = 1

=> tan θ = 1

=> θ = 45°

Now, calculate sec² θ + cosec² θ:

=> sec² 45° + cosec² 45°

=> (√2)² + (√2)²

=> 2 + 2 = 4

Therefore The correct answer is 4.

Additional Information

Complementary Angle Property

Trigonometric functions satisfy sec θ = cosec (90° − θ). If sec α = cosec β, then α + β = 90°.

Square Identities

Fundamental identities: 1 + tan² θ = sec² θ and 1 + cot² θ = cosec² θ.

Special Value: 45°

For θ = 45°, sin θ = cos θ = 1/√2 and sec θ = cosec θ = √2.

Q56. Answer: (a) Rs. 19,074

Given:

Marked price of the article = Rs. 25,500

Two successive discounts are 15% and 12%

Concept used:

SP = MP - MP × Discount%

Calculation:

Price after 1st discount = 25500 × 85/100

=> 21675

Price after 2nd discount = 21675 × 88/100

=> 19074

Therefore Required selling price after discounts is Rs. 19074

Q57. Answer: (b) 0

Given:

51/3÷[7-3÷(1-1/4)×2/3+1]-3÷1+2

Concept used:

Calculation:

51/3÷[7-3÷(1-1/4)×2/3+1]-3÷1+2

=> 16/3 ÷ [7 - 3 ÷ 3/4 × 2/3 + 1] - 3 ÷ 1 + 2

=> 16/3 ÷ [7 - 3 × 4/3 × 2/3 + 1] - 3 ÷ 1 + 2

=> 16/3 ÷ [7 - 8/3 + 1] - 3 ÷ 1 + 2

=> 16/3 ÷ [(21 - 8 + 3)/3] - 3 ÷ 1 + 2

YourMockTest.com — Free Study Material

=> 16/3 ÷ 16/3 - 3 ÷ 1 + 2
=> 1 - 3 + 2
=> 0
Therefore Required answer is 0

Q58. Answer: (d) Rs. 27,000

Given:
Total amount = Rs. 105750
Rate of interest = 5%
Concept used:
S.I = PTR/100
Calculation:
Let share of his son, daughter, wife be x, y, z
According to the question,
x × 3 × 5/100 = y × 4 × 5/100 = 5 × z × 5/100
=> 3x = 4y = 5z
LCM of 3, 4, 5 = 60
So, Ratio of x : y : z = 20 : 15 : 12
Now,
20 + 15 + 12 = 47
Here 47 = 105750
1 = 2250
12 = 27000
So, his wife got Rs. 27000
Therefore The amount invested for the wife is Rs. 27000

Q59. Answer: (a) Rs. 2,500

Given:
A shopkeeper sold an article for Rs. 3,750
Profit = 14%
Concept used:
SP = CP + CP × Profit %
Calculation:
SP = Rs. 3750
Conditional SP = 3750 × 76/100
=> 2850
Now CP = 2850 × 100/114
=> 2500
Therefore The original cost of the article is Rs. 2500

Q60. Answer: (b) Less, 13.33

Calculation:
Total production of black tea in 2014, 2015, 2018 = 100 + 80 + 120 = 300
Average = 300/3 = 100
Total production of green tea in 2016, 2017, 2019 = 100 + 130 + 110 = 340
Average = 340/3 = 113.33
So, amount of less production of black = 113.33 - 100 = 13.33
Therefore Required answer is option 2

Q61. Answer: (b) 1/2

Given:
Triangle ABC is right-angled at A
Concept used:

YourMockTest.com — Free Study Material

Sum of three angle of a triangle is 180°
Calculation:
angle A = 90°
So, angle B + angle C = 180 - 90 = 90°
So, (B + C)/2 = 45°
Now,
sin45°.cos45° = (1/√2)(1/√2)
=> 1/2
Therefore Required answer is 1/2

Q62. Answer: (b) 38

Given:
A = 3/4 B
B = 4/5 C
C = 3/8 D
Calculation:
Let A and D be 9x, 40x
So, 9x × 4 + 40x × 7 = 36x + 280x = 316x
According to the question,
316x/2 = 316
=> x = 2
So, Numbers are 18, 24, 30, 80
Total = 18 + 24 + 30 + 80 = 152
Average = 152/4 = 38
Therefore Required answer is 38

Q63. Answer: (a) 133/4

Given:
Anu can complete a piece of work in 22 days
Shama is 60% more efficient than Anu
Concept used:
Time × Efficiency = Total work
Calculation:
Shama is 60% more efficient than Anu
So, the ratio of efficiency of Anu and Shama = 5 : 8
Let total work be x units
According to the concept,
x/22 = 5
=> x = 110
Now Shama will take = 110/8
=> 133/4
Therefore Shama alone takes 133/4 days to complete the same piece of work

Q64. Answer: (a) 21 - 8√3

Given:
x2 + (4 - √3)x - 1 = 0
Concept used:
(x - 1/x)2 = x2 + 1/x2 - 2
Calculation:
x2 + (4 - √3)x - 1 = 0
=> x + 4 - √3 - 1/x = 0
=> x - 1/x = √3 - 4
=> $(x - 1/x)^2 = (√3 - 4)^2$

YourMockTest.com — Free Study Material

=> $x^2 + 1/x2 - 2 = 3 + 16 - 8\sqrt{3}$

=> $x2 + 1/x2 = 21 - 8\sqrt{3}$

Therefore Required answer is $21 - 8\sqrt{3}$

Q65. Answer: (b) 30 minutes

Shortcut Trick

Speed ratio = 100 : 125 = 4 : 5

Time ratio (for same distance) = inverse of speed ratio = 5 : 4

Initial time 5 units = 50 minutes => 1 unit = 10 minutes

Time for full distance at new speed = 4 units = 40 minutes

Time for 3/4 distance = 3/4 × 40 minutes = 30 minutes

Therefore The correct answer is 30 minutes.

Alternate Method

Given:

Initial speed (S1) = 54 km/h

Initial time (T1) = 50 minutes = 50/60 hours

Formula used: Distance = Speed × Time

Start

End

Total Distance (D)

3/4 of Distance

Speed 1: 54 km/h

Speed 2: 54 + 25% = 67.5 km/h

=> Total Distance = 54 × (50/60) = 45 km

=> New Speed = 54 + (25/100) × 54 = 54 + 13.5 = 67.5 km/h

=> New Distance = 3/4 × 45 = 33.75 km

=> New Time = New Distance ÷ New Speed

=> New Time = 33.75 ÷ 67.5 = 0.5 hours

=> New Time in minutes = 0.5 × 60 = 30 minutes

Therefore The correct answer is 30 minutes.

Additional Information

Speed-Time Relationship

For a constant distance, speed is inversely proportional to time (S1/S2 = T2/T1).

Average Speed

Average Speed = Total Distance ÷ Total Time. For two equal distances with speeds x and y, Average Speed = 2xy/(x+y).

Unit Conversion

To convert km/h to m/s, multiply by 5/18. To convert m/s to km/h, multiply by 18/5.

Q66. Answer: (b) 23 : 34

Given:

Two numbers A and B are in the ratio 13 : 17

Calculation:

Let numbers be 13x and 17x

Now after increasing new numbers,

13 × 23/20 : 17 × 13/10

=> 23 × 10 : 17 × 20

=> 23 : 34

Therefore Required ratio is 23 : 34

Q67. Answer: (a) 2009

Calculation:

Sales in 2008 = 600

Percentage increase = (200/400) × 100 = 50%

Sales in 2009 = 1000
Percentage increase = (400/600) × 100 = 66.67%
Sales in 2011 = 1200
Percentage increase = (400/800) × 100 = 50%
So, In 2009 the increase is the highest
Therefore Required answer is 2009

Q68. Answer: (b) R

Calculation:
Candidates enrolled from T = 5500 × 20/100 = 1100
Candidates passed from T = 3300 × 16/100 = 528
Required percentage = 528/1100 × 100 = 48%
Candidates enrolled from P = 5500 × 20/100 = 1100
Candidates passed from P = 3300 × 18/100 = 594
Required percentage = 594/1100 × 100 = 54%
Candidates enrolled from Q = 5500 × 30/100 = 1650
Candidates passed from Q = 3300 × 24/100 = 792
Required percentage = 792/1650 × 100 = 48%
Candidates enrolled from R = 5500 × 12/100 = 660
Candidates passed from R = 3300 × 18/100 = 594
Required percentage = 594/660 × 100 = 90%
Candidates enrolled from S = 5500 × 18/100 = 990
Candidates passed from S = 3300 × 24/100 = 792
Required percentage = 792/990 × 100 = 80%
Therefore Required answer is R

Q69. Answer: (a) 7.5 cm

Given:
The sum of all the three sides of an equilateral triangle is 15√3 cm
Concept used:
Height of an equilateral triangle = √3/2 × a
Here a = side of the triangle
Calculation:
Sum of three sides = 15√3
So, one side = 5√3
Now,
Height = √3/2 × a = √3/2 × 5√3
=> 15/2 = 7.5
Therefore The height of the trinagle is 7.5 cm

Q70. Answer: (b) 13 cm

Given:
AC = BC, and the length of the base AB is 10 cm.
CG = 8 cm
Concept used:
The medians are divided into a 2 :1 ratio by the centroid
Calculation:
In the given figure,
CD is median,
So, GD = 4 cm
AD = BD = 5 cm
As ΔABC is an Isosceles triangle
So, median will make 90° on AB

YourMockTest.com — Free Study Material

So, AC = $\sqrt{(12^2 + 5^2)}$

=> AC = $\sqrt{(144 + 25)}$

=> AC = $\sqrt{169}$

=> AC = 13

Therefore Required length of AC is 13 cm

Q71. Answer: (a) 36

Shortcut Trick

If $x + 1/x = k$, then $x - 1/x = \sqrt{(k^2 - 4)}$.

Here, $k = \sqrt{13}$, so $x - 1/x = \sqrt{(13 - 4)} = \sqrt{9} = 3$.

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

Substituting $a = 3$, we get: $3^3 + 3 \times 3 = 27 + 9 = 36$.

Therefore The correct answer is 36.

Alternate Method

Given:

$x + 1/x = \sqrt{13}$

Formula Used:

$(a - b)^2 = (a + b)^2 - 4ab$

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

Calculations:

=> $(x - 1/x)^2 = (x + 1/x)^2 - 4(x)(1/x)$

=> $(x - 1/x)^2 = (\sqrt{13})^2 - 4$

=> $(x - 1/x)^2 = 13 - 4 = 9$

=> $x - 1/x = \pm 3$

Taking $x - 1/x = 3$ (since the positive value matches the given options):

=> $x^3 - 1/x^3 = (x - 1/x)^3 + 3(x)(1/x)(x - 1/x)$

=> $x^3 - 1/x^3 = 3^3 + 3 \times 3$

=> $x^3 - 1/x^3 = 27 + 9 = 36$

Therefore The correct answer is 36.

Additional Information

Sum of Squares Identity

If $x + 1/x = k$, then $x^2 + 1/x^2 = k^2 - 2$. This is derived directly from expanding the whole square formula $(x + 1/x)^2$.

Difference of Squares Transition

The relationship between the sum and difference of reciprocal terms is given by the identity $(x + 1/x)^2 - (x - 1/x)^2 = 4$.

Sum of Cubes Identity

If $x + 1/x = k$, then $x^3 + 1/x^3 = k^3 - 3k$. This comes from rearranging the expansion of $(x + 1/x)^3$.

Difference of Cubes Identity

If $x - 1/x = k$, then $x^3 - 1/x^3 = k^3 + 3k$. This is an essential shortcut for quickly solving differences of cubed terms in algebra.

Q72. Answer: (a) 2

Given:

$\tan A + \sec A = 3/2$

Concept used:

$\sec^2 A - \tan^2 A = 1$

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

Calculation:

$\sec A + \tan A = 3/2$ ----(i)

So, $\sec A - \tan A = 2/3$ ----(ii)

So,

From Eq (i) and (ii)

$2\sec A = 13/6$

$\sec A = 13/12$

YourMockTest.com — Free Study Material

So, H/B = 13/12
So, P = 5 [5, 12, 13 are triplets]
(10cot A+13cos A)/(12 tan A + 5 cosec A)
=> (10 × 12/5 + 13 × 12/13)/(12 × 5/12 + 5 × 13/5)
=> (24 + 12)/(5 + 13)
=> 36/18 = 2
Therefore Required answer is 2

Q73. Answer: (c) 40 cm

Given:
Perimeter = 50 cm
Ratio of sides = 1 : 4
Concept used:
Perimeter of rectangle = 2(l + b)
Area of a rectangle = l × b
Area of a square = a^2
Perimeter of square = 4a
Calculation:
Let sides of the rectangle x and 4x
Now,
2(x + 4x) = 50
=> 5x = 25
=> x = 5
So, area of the rectangle = $4x^2 = 4 \times 25 = 100$
$a^2 = 100$
=> a = 10
So,
Perimeter = 4 × 10 = 40 cm
Therefore The perimeter of the square 40 cm

Q74. Answer: (d) A = 4, B = 8

Given:
'8475639AB' is divisible by 99
Concept used:
Divisibility law of 11 & Divisibility law of 9
Calculation:
=> 8 + 4 + 7 + 5 + 6 + 3 + 9 + A + B = 42 + A + B
=> A + B can be 3 or 12
From options,
only options 1 and 4 are satisfying as A + B = 12
=> 8 + 7 + 6 + 9 + 9 - 4 - 5 - 3 - 3 = 24 not multiple of 11
=> 8 + 7 + 6 + 9 + 8 - 4 - 5 - 3 - 4 = 22 multiple of 11
Therefore The required answer is option 4.

Q75. Answer: (c) Rs. 36,000

Shortcut Trick
Ratio of Salaries Reena (R) : Sunita (S) = 38 : 24 = 19 : 12
Total units (R + S) = 19 + 12 = 31 units
Veena's salary = 2/3 × 31 units = 62,000
31 units = 62,000 × 3/2 = 93,000 => 1 unit = 3,000
Sunita's salary (12 units) = 12 × 3,000 = 36,000
Therefore The correct answer is Rs. 36,000.
Alternate Method

YourMockTest.com — Free Study Material

Given:

24% of Reena's salary (R) = 38% of Sunita's salary (S)

Veena's salary (V) = 2/3 × (R + S) = 62,000

Formula Used:

Ratio = Value1 / Value2

Reena (19 units) Sunita (12 units) Total (R + S) = 31 units Veena = 2/3 of Total = Rs. 62,000 Sunita (12 units) = ?

=> 24% × R = 38% × S

=> R / S = 38 / 24 = 19 / 12

=> Let R = 19x and S = 12x

=> V = (2/3) × (19x + 12x) = 62,000

=> (2/3) × 31x = 62,000

=> 31x = 62,000 × (3 / 2)

=> 31x = 93,000

=> x = 93,000 / 31 = 3,000

=> Sunita's salary = 12x = 12 × 3,000 = 36,000

Therefore The correct answer is Rs. 36,000.

Additional Information

Percentage Equality to Ratio

If a% of X = b% of Y, then the ratio X : Y is always b : a. This helps in directly assigning units to variables.

Base Change in Percentage

Percentage is always calculated on a base value. In this problem, the salaries of Reena and Sunita serve as the base for their respective percentage calculations.

Ratio Unitary Method

To find a specific value when a sum or a fraction of the sum is given, divide the total value by the total number of ratio units to find the value of 1 unit.

Q76. Answer: (c) Sameer Khare

The correct answer is Sameer Khare.

Key Points

• Sameer Kumar Khare will be the new executive director at Asian Development Bank.

• Rajesh Khullar has been appointed to the World Bank as executive director.

• Both the appointments are for a period of three years.

• The Appointments Committee of the Cabinet (ACC) has approved the appointments of new executive directors for the World Bank and Asian Development Bank (ADB).

Additional Information

• ADB:

• Headquarters - Mandaluyong, Philippines.

• President - Masatsugu Asakawa.

• Founded On - 19 December 1966.

Q77. Answer: (c) 1951

The correct answer is 1951.

Key Points

• The National Rifle Association of India was founded in 1951.

• It is to promote and popularize shooting sports in India.

• The first speaker of Lok Sabha, Sh. G.V. Mavlankar was the founder.

Additional Information

• The National Rifle Association of India (NRAI) has nominated rifle ace Anjum Moudgil for the Khel Ratna - the country's highest sporting honour.

• NRAI also recommended Jaspal Rana for the Dronacharya Award for the second year in a row.

YourMockTest.com — Free Study Material

Q78. Answer: (d) Jaipur

The correct answer is Jaipur.

Key Points

• Prime Minister Narendra Modi inaugurated the Patrika Gate in Jaipur through video conferencing on 8 September 2020.

• The iconic gate is built by the Patrika Group of Newspapers on the Jawaharlal Nehru Marg in Jaipur.

• On this occasion, the Prime Minister also launched two books - Samvad Upanishad and Akshar Yatra - authored by Editor-in-Chief of Rajasthan Patrika Group Gulab Kothari.

Additional Information

• Patrika Gate:

• It is located in Jaipur at Jawahar Circle.

• It was virtually inaugurated by prime minister Narendra Modi.

• This was constructed by Jaipur Development Authority under mission Anupam Yojana.

• It reflects the architectural style and cultural heritage of the state.

• The Patrika gate incorporates the art and culture of all corners of Rajasthan.

Q79. Answer: (b) 6 to 14 years

The correct answer is 6 to 14 years.

• The Right of Children to Free and Compulsory Education Act or Right to Education Act (RTE), describes the modalities of the importance of free and compulsory education for children between 6 and 14 in India.

Additional Information

• The Constitution (Eighty-sixth Amendment) Act, 2002 inserted Article 21-A in the Constitution of India to provide free and compulsory education of all children in the age group of six to fourteen years as a Fundamental Right.

• Article 21-A and the RTE Act came into effect on 1 April 2010. The title of the RTE Act incorporates the words ‘free and compulsory.

• ‘Free education means that no child, other than a child who has been admitted by his or her parents to a school which is not supported by the appropriate Government, shall be liable to pay any kind of fee or charges or expenses which may prevent him or her from pursuing and completing elementary education.

Q80. Answer: (b) Delhi Capitals

The correct answer is Delhi Capitals.

Key Points

• The Delhi Capitals is a franchise cricket team that represents the city of Delhi in the Indian Premier League (IPL).

• It is established in 2008 as Delhi Daredevils (DD), the franchise is owned by the GMR Group and JSW Group.

Additional Information

• Chennai Super Kings beat Kolkata Knight Riders by 27 runs in the 14th Indian Premier League 2021 final to win their fourth title.

• The final match was held in Dubai on 15 October 2021.

• The team had last won the title in the year 2010, 2011, and 2018.

• The Indian Premier League is a professional Twenty20 cricket league, contested by eight teams based in eight Indian cities

Q81. Answer: (a) PROM

The correct answer is PROM.

Key Points

• PROM stands for Programmable Read-Only Memory.

• Read-only memory (ROM) is a type of memory that is used in electronics and computers.

• It is a non-volatile memory, that is, information stored in such memory is permanent and cannot be changed.

• DVD:

• It stands for Digital Versatile Disc or Digital Video Disc.

• It is a digital optical disc storage format invented and developed in 1995 and released in late 1996.

• The medium can store any kind of digital data and is widely used for software and other computer files.

• It offers 4.7 GB (single-sided, single-layer – common), 8.5 GB (single-sided, double-layer), 9.4 GB (double-sided, single-layer), 17.08 GB (double-sided, double-layer) storage capacity.

• Blu-ray Disc (BD):

• It is a digital optical disc data storage format.

• It can store several hours of video in high-definition (HDTV 720p and 1080p).

• The main application of Blu-ray is as a medium for video material such as feature films and for the physical distribution of video games for the PlayStation 3, Xbox One etc.

• CD:

• It stands for Compact Disc.

• It is a digital optical disc data storage format that was co-developed by Philips and Sony and released in 1982.

• It offers a storage capacity of 700 MB.

Hence PROM is not an example of Optical Disk.

Q82. Answer: (a) Rajasthan

The correct answer is Rajasthan.

• Mand or Maand is the famous style of singing in Rajasthan.

• It is well recognized in classical circles and this style is very important in folk songs of Rajasthan.

• This is neither accepted as a full-fledged Raga nor is it reckoned among the freely rendered folk songs.

• It is very near the Thumri or the Ghazal.

Additional Information

• Mand singers include:

• Allah Jilai Bai from Bikaner (awarded Padma Shri -1982 and Sangeet Natak Akademi Award - 1988 in Folk Music).

• Mangi Bai Arya from Udaipur (awarded Sangeet Natak Akademi Award-2008 in Folk Music).

• Gavari Bai from Jodhpur (awarded by Sangeet Natak Akademi Award in 1975-76 and 1986 in Folk Music).

Q83. Answer: (b) varicose veins

The correct answer is varicose veins.

Key Points

• Varicose veins are abnormally dilated, tortuous superficial veins caused by incompetent venous valves.

• They almost always affect the legs and feet.

• Veins have cup-like valves alternately open to allow blood flow towards the heart then close to prevent backflow.

• In varicose veins, the valves do not work properly allowing blood to pool in the vein, increasing venous pressure and like the hood of congestion, vein bulge, and twist.

Additional Information

• Prevention from varicose veins:

• Lose weight

• Daily exercise

• Avoid standing for extended periods of time

• Should avoid injury

• Use compression socks

Q84. Answer: (b) Article 60

The correct answer is Article 60.

• Article 60: Oath or affirmation by the president.

• The Oath or affirmation is given to the President by the Chief Justice of India and in his absence by the Senior-most judge of the Supreme Court.

Additional Information

• Important articles related to President:

Articles	Provisions
Article 52	The President of India
Article 53	The executive power of the Union
Article 54	Election of President
Article 55	Manner of election of President
Article 56	Term of office of President
Article 57	Eligibility for re-election

YourMockTest.com - Free Study Material

Article 58	Qualifications for election as President
Article 59	Conditions of the President's office
Article 60	Oath or affirmation by the President
Article 61	Procedure for impeachment of the President
Article 62	Time of holding election to fill vacancy in the office of President
Article 65	Vice-President to act as President or to discharge his functions

Q85. Answer: (b) Peter Mundy – China

The correct answer is Peter Mundy – China.

Key Points

• Peter Mundy belonged to England (1600-67).

• Marco polo was from Italy (1254-1323).

• Ibn Battuta full name Muhammad Ibn Battuta was a Moroccan traveller who left his home at the young age of 21 back in the 13th century to travel across the world.

• Al-Biruni was from Khwarizm in present-day Uzbekistan.

• He was well versed in several languages: Syriac, Arabic, Persian, Hebrew and, Sanskrit.

• Hence Peter Mundy is the correct answer.

Q86. Answer: (c) Singapore

The correct answer is Singapore.

Key Points

• The 14th India-Singapore Defence Policy Dialogue (DPD) was held via video conferencing.

• It was co-chaired by Defence Secretary Dr Ajay Kumar and Permanent Secretary (Defence), Singapore Mr Chan Heng Kee.

• Both sides held discussions on a number of issues of bilateral defence engagements between India and Singapore.

• The Implementing Arrangement on Humanitarian Assistance & Disaster Relief (HADR) between India and Singapore was also signed.

Q87. Answer: (d) Graeme Smith

The correct answer is Graeme Smith.

• The International Cricket Council (ICC) inducted into the ICC Cricket Hall of Fame:

• South Africa's Jacques Kallis,

• Australia's Lisa Sthalekar, and

• Pakistan's Zaheer Abbas,

• Hence Graeme Smith is the correct answer.

Additional Information

• Indian Crickets Inducted in ICC Hall of Fame

Cricketer	**Inducted in the Hall of Fame in the year**
Bishen Singh Bedi	2009
Kapil Dev	2009
Sunil Gavaskar	2009
Anil Kumble	2015
Rahul Dravid	2018
Sachin Tendulkar	2019

Q88. Answer: (a) Rajasthan

The correct answer is Rajasthan.

Key Points

• Sariska Tiger Reserve is located in Aravali hills and forms a part of the Alwar District of Rajasthan.

• Sariska was declared a wildlife sanctuary in 1955 and was declared a tiger reserve later in 1978, making it a part of India's Project Tiger.

• Sariska Tiger Reserve is immensely rich in flora and fauna and is famous for Royal Bengal Tiger.

Additional Information

• There are a total of 53 tiger reserves throughout India.

• Project Tiger was launched by the Government of India in the year 1973 to save the endangered species of tiger in the country.

• Starting from nine (9) reserves in 1973-to 2016 the number is grown up to fifty-three (53).

• Guru Ghasidas National Park is the 53rd Tiger Reserve In India as of 2023

Q89. Answer: (c) High powered money

The correct answer is High powered money.

Key Points

• High-powered money

• Determination of the money supply is currently expressed in terms of the monetary base or high-powered money.

• High-powered money is the sum of commercial bank reserves and currency (notes and coins) held by the Public.

• The total liability of the monetary authority of the country, the Reserve Bank of India, is called High powered money.

• High-powered money is the base for the expansion of bank deposits and the creation of a money supply.

Additional Information

• Hot money signifies currency that quickly and regularly moves between financial markets, which ensures investors lock in the highest available short-term interest rates.

• Hot money continuously shifts from countries with low-interest rates to those with higher rates.

Q90. Answer: (b) SEBI and RBI

The correct answer is SEBI and RBI.

Key Points

• SEBI and RBI regulate the mutual fund's industry in India.

• A trust that pools together the savings of many individuals and then invests in capital market instruments are referred to as Mutual Fund.

• Custodians of the Mutual Funds should be registered with SEBI.

• Mutual Funds can invest in debt securities and other securities depending on the financial requirements of the investors.

• In India, mutual Fund industry started in 1963, with the formation of Unit Trust of India as an initiative of the Government of India and the Reserve Bank of India.

Additional Information

• Insurance Regulatory and Development Authority of India is a statutory body formed under an Act of Parliament, i.e., Insurance Regulatory and Development Authority Act, 1999 (IRDAI Act 1999) for the overall supervision and development of the Insurance sector in India.

• IFCI (Industrial Finance Corporation of India) is the first most developmental financial institution set up by the Government of India on July 1, 1948. IFCI is a Non-Banking Financial Company in the public sector.

• NITI Aayog is that the premier policy ‘Think Tank’ of the govt of the Republic of India, providing each directional and policy inputs. Whereas coming up with strategic and long-run policies and programs for the Govt of the Republic of India, NITI Aayog conjointly provides relevant technical recommendations to the Centre and States.

• IIFCL is a wholly-owned Government of India company set up in 2006 to provide long term finance to viable infrastructure projects through the Scheme for Financing Viable Infrastructure Projects through a Special Purpose Vehicle called India Infrastructure Finance Company Ltd (IIFCL).

• Small Industries Development Bank of India (SIDBI) was formed in the year 1990, It is the apex regulatory body for the licensing and regulation of micro, small and medium enterprise finance companies in India.

Q91. Answer: (b) Uttarakhand

The correct answer is Uttarakhand.

Key Points

• Uttarakhand is called “The Land of Gods” and "Devbhoomi" because of the presence of many temples and pilgrimage centres.

• Uttarakhand 9 November 2000, which was later renamed Uttarakhand, was created out of the mountainous districts of northwest Uttar Pradesh.

• The formation of Uttarakhand fulfilled the long-voiced demands of the tribes of Kumaon and Garhwal.

• Uttarakhand was formed out of the 11 hill districts and 2 plains districts.

Additional Information

• About Uttarakhand

• Capital: Dehradun (winter) Gairsain (summer)

• Governor: Gurmit Singh

• Chief minister: Pushkar Singh Dhami

• Rajya Sabha Seats: 3

• Lok Sabha Seats: 5

• Flower: Bramha Kamal

Q92. Answer: (d) Vitamin D, Vitamin A

The correct answer is Vitamin D, Vitamin A.

Key Points

• Night Blindness and Xerophthalmia are caused due to the deficiency of Vitamin A.

• Rickets is caused due to deficiency of Vitamin D.

Additional Information

Vitamin	Function	Source	Deficiency
Vitamin A	Regulate Growth, Promotes Healthy Skin, Helps eye adapt a dim light, Maintenance healthy Tissue.	Diary product, Egg yolk, carrots, green vegetables.	Night Blindness, Retired Growth
Vitamins D	Absorption And lying down of calcium And phosphorous in bones and teeth.	Sunlight, Fish, Diary product, Fish liver oils.	Osteoporosis Bones, Dental Caries.
Vitamin E	Helps in Red blood cell Formation, protects Tissue against damage.	Wheat, nuts, whole cereals.egg yolk.	It is very rare but it could affect CNS.
Vitamin K	Needed for blood clotting, which means heap properly.	Green leafy, vegetable, cereals.	Preventing excess bleeding.
Vitamin B1(Thiamine)	Essential for releasing energy from carbohydrates, Help for normal functioning of the nervous system.	Meat, Oatmeal, Milk,	Fatigue, Beri-Beri, depression, disease of the nervous system.
Vitamin B2(Riboflavin)	Growth repair of body tissue, healthy eyes, and skin.	Milk, cheese, yeast extract.	Loss of appetite, swollen Tongue, cracked lips, eyes Infection.

Q93. Answer: (b) Lord Curzon

The correct answer is Lord Curzon.

Key Points

• Partition of Bengal was announced on 19 July 1905 by Lord Curzon, the then Viceroy of India, and implemented on 16 October 1905.

• Lord Curzon was the then Viceroy of India and he announced the partition of Bengal.

• The stated reason was to ease the administration but the actual reason was to weaken the growing nationalism in Bengal.

• As per Curzon, after the partition, the two provinces would be Bengal (including modern West Bengal, Odisha, and Bihar) and Eastern Bengal and Assam.

Additional Information

• Annulment of Bengal

• The partition of Bengal was annulled in 1911.

• Partition of Bengal was cancelled by Lord Hardinge II.

• The capital of British India was moved to Delhi from Calcutta in 1911.

• Despite the annulment, the partition already succeeded in making a communal divide between Muslims and Hindus of Bengal.

YourMockTest.com — Free Study Material

Q94. Answer: (a) Oxygen

The correct answer is Oxygen.

• In the presence of sunlight Carbon dioxide + water + sunlight → Carbohydrate + oxygen.

• So Carbon dioxide is absorbed while Oxygen gas is released in the process.

Additional Information

• Photosynthesis:

• The leaves have a green pigment called chlorophyll.

• It helps leaves to capture the energy of the sunlight.

• This energy is used to synthesise food from carbon dioxide and water.

• Since the synthesis of food occurs in the presence of sunlight, it is called photosynthesis.

• Some plants, green algae, and cyanobacteria can perform photosynthesis.

• Photosynthesis occurs in the chloroplasts specifically, in the grana and stroma regions.

• The process of photosynthesis is commonly written as:

$6CO_2 + 6H_2O \rightarrow$ (Sunlight, Chlorophyll) $C_6H_{12}O_6 + 6O_2$

• The following events occur in plant cells during photosynthesis.

• Absorption of light energy.

• Conversion of light energy into Chemical Energy.

• Storage of chemical energy in Sugars.

Q95. Answer: (a) Jammu and Kashmir

The correct answer is Jammu and Kashmir.

Key Points

• Dogri language, member of the Indo-Aryan group within the Indo-European languages.

• Dogri is spoken by approximately 2.3 million people, most commonly in the Indian state of Jammu and Kashmir.

Additional Information

• Dogri was added by the 92nd Amendment Act of the Constitution of India, officially known as The Constitution (Ninety-second Amendment) Act, 2003.

• The act amended the Eighth Schedule of the Constitution so as to include Bodo, Dogri, Maithili, and Santali (Santhali) languages, thereby raising the total number of languages listed in the schedule to 22.

• Ram Nath Shastri was born on 15 April 1914. He is known as the "Father of Dogri" for his pivotal role in the revival and resurgence of the Dogri language in Jammu and Kashmir.

Q96. Answer: (d) Cattle grazing

The correct answer is Cattle grazing.

Key Points Soil formation is heavily dependent on the climate of a region.

• The speed of weathering of parent rock,

• and thereby the mineral composition and

• concentration of organic matter,

• topography,

• biotic agents

• temperature and precipitation.

• Temperature fluctuations are responsible for the faster physical weathering of rocks.

• Hence Cattle grazing is not a factor in soil formation.

Additional Information

• Pedogenesis is the process of formation of soil regulated by the influence of place, environment, and history.

• Soil is a mixture of organic matter, minerals, gases, liquids, and organisms that support life.

• The Pedosphere is the Earth's body of soil.

Q97. Answer: (a) Shakuntala Devi

The correct answer is Shakuntala Devi.

Key Points

• Shakuntala Devi was honored with the long-overdue record title for ‘fastest human computation’ by Guinness World Records on

30 July 2020.

• She was born in Bangalore, was born on the 4th of November, 1929.

• At the age of three, she played cards with her father and it was discovered by the family that she was special while remembering numbers.

• By the age of five, she became an expert in resolving mathematical queries. Ms. Devi showcased her mathematical gifts around the globe, at multiple colleges, several theaters, and even on radio as well as television.

• In the year 1977, she visited the Southern Methodist University located in Dallas.

• She also wrote several books-

• Figuring: The Joy of Numbers.

• The World of Homosexuals.

• Astrology for You.

• Math ability: Awaken the Math Genius in Your Child.

• Perfect Murder

Additional Information

• Shreeram Shankar Abhyankar:

• He was an Indian American mathematician known for his contributions to algebraic geometry.

• He, at the time of his death, held the Marshall distinguished professor of mathematics chair at Purdue University and was also a professor of computer science and industrial engineering.

• Vashishtha Narayan Singh:

• He was an Indian academic and a child prodigy, completing his PhD in 1969.

• He taught mathematics at various institutes in the 1960s and 1970s.

• Vijay Kumar Patodi:

• He was an Indian mathematician who made fundamental contributions to differential geometry and topology.

• He was the first mathematician to apply heat equation methods to the proof of the index theorem for elliptic operators.

• He was a professor at Tata Institute of Fundamental Research, Mumbai.

Q98. Answer: (a) 2022

The correct answer is 2022.

Key Points

• Pradhan Mantri Awas Yojana (Urban) Mission was launched on 25th June 2015.

• Pradhan Mantri Awas Yojana's (Urban) aim is to provide housing for all in urban areas by the year 2022.

Additional Information

• The Mission provides Central Assistance to the implementing agencies through States/Union Territories (UTS) and Central Nodal Agencies (CNAS) for providing houses to all eligible families/ beneficiaries against the validated demand for houses for about 1.12 cr.

• As per PMAY(U) guidelines, the size of a house for the Economically Weaker Section (EWS) could be up to 30 sq. mt. carpet area, however, States/UTs have the flexibility to enhance the size of houses in consultation and approval of the Ministry.

• The Mission addresses urban housing shortage among the EWS/LIG and MIG categories including the slum dwellers by ensuring a pucca house to all eligible urban households by the year 2022 when the nation completes 75 years of its Independence.

• The Mission covers the entire urban area consisting of Statutory Towns, Notified Planning Areas, Development Authorities, Special Area Development Authorities, Industrial Development Authorities, or any such authority under State legislation that is entrusted with the functions of urban planning & regulations.

Q99. Answer: (d) In the Himalayan region we find alluvial soil.

The correct answer is In the Himalayan region we find alluvial soil.

Key Points

• Alluvial soil is not found In the Himalayan region.

• Alluvial soils:

• These soils are called transported soil because although they are formed near the water bodies, these soils get transported from their origin to several other places by various natural agents, especially by gravity.

• The alluvial soil is made up of particles like silt, sand, and clay and has an adequate amount of phosphoric acid, potash, and lime.

• It is of two types:

YourMockTest.com — Free Study Material

• The older alluvial soil is known as Bhangar.
• The newer alluvial soil is known as Khadar.
• The alluvial soil covers a total of 40% of the land.
• These soils are found in the northern plains beginning from Punjab to West Bengal and Assam.
• It is also found in deltas of rivers like Krishna, Godavari, Kaveri, and Mahanadi in peninsular India.
• The main crops cultivated are wheat, rice, maize, sugarcane, pulses, and oilseeds.

Additional Information

• On the basis of genesis, color, composition, and location, the soils of India have been classified into:
• (1) Alluvial soils (ii) Black soils (iii) Red and Yellow soils (iv) Laterite soils (V) Arid soils (vi) Saline soils (vii) Peaty soils (viii) Forest soils.
• On the basis of the size of the particles that make up a soil defines its gardening characteristics:
• (1) Clay soil (ii) Silty soil (iii) Sandy soil (iv) Stones (v) Chalky soils
• Saline soil:
• It refers to Arid soil.
• These are derived from the disintegration of adjacent rocks and are largely blown from coastal regions and the Indus valley.
• They are developed in western Rajasthan. Due to the dry climate, high temperature and accelerated evaporation, they lack moisture and humus.
• Calcerous soil:
• They are also known as chalky soils.
• These soils contain calcium carbonate or lime.
• They are very alkaline and may be light or heavy.

Q100. Answer: (d) modem

The correct answer is Modem.

Key Points

• A modem is a device or program that enables a computer to transmit data over, for example, telephone or cable lines.
• Computer information is stored digitally, whereas information transmitted over telephone lines is transmitted in the form of analog waves.
• A modem is a hardware device that allows a computer to send and receive data over a telephone line or a cable or satellite connection.
• MODEM stands for modulator-demodulator.
• A modem is used for transmitting and receiving data over a communication channel, such as twisted-pair telephone lines, coaxial cables, and optical fibers.
• At the source, the modulation technique is used to convert the analog signal to digital.
• At the receiver, demodulation is used to convert the digital signal back to analog.

Additional Information

• A motherboard:
• It is also called mainboard, main circuit board, system board, baseboard, planar board, logic board, or mobo and is the main printed circuit board (PCB) in general-purpose computers.
• The monitor:
• It is the output device that helps to display soft copy.
• A computer mouse:
• It is an input device used to control/operate a computer.
• Douglas Engelbart invented the computer Mouse.
• A mouse tracks the 2-D movement on the surface it is kept/used and correspondingly moves the pointer on the monitor.
• Engelbart has also founded a separate field, human-computer interaction (HCI).
• A human using the mouse to interact with a computer would come under the ambit of HCI.

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