SSC CHSL Previous Paper 4 (Held On: 2 July 2019 Shift 3) (Previous Year Paper)

SSC Combined Higher Secondary Level (CHSL) • 2019 • 100 questions • 60 minutes • Answer key and solutions

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ENGLISH LANGUAGE

Q1. Select the correct indirect form of the given sentence.

I asked the shopkeeper, "What is the price of this bike?"

(a) I asked the shopkeeper what is the price of this bike.
(b) I asked the shopkeeper that what the price of this bike was.
(c) I asked the shopkeeper what the price of that bike was.
(d) I asked the shopkeeper what was the price of that bike.

Q2. Select the most appropriate antonym of the given word.

MOROSE

(a) mournful
(b) cheerful
(c) unsatisfied
(d) sullen

Q3. Select the most appropriate meaning of the given idiom.

Spill the beans

(a) reveal a secret
(b) create difficulty
(c) frighten someone
(d) make an excuse

Q4. Select the most appropriate antonym of the given word.

CORROBORATE

(a) verify
(b) confirm
(c) contradict
(d) approve

Q5. Select the wrongly spelt word.

(a) Emolument
(b) Emporium
(c) Emmision
(d) Emphasis

Q6. Given below are four jumbled sentences. Out of the given options pick the one that gives their correct order.

A. In a small town in England, there lived a poor little girl.
B. She was very excited but her right shoe was worn out.
C. So, she went to a cobbler to get it mended.
D. Her friend invited her to come to her birthday party.

(a) ADBC
(b) CBAD
(c) DCAB
(d) ACBD

Q7. Select the most appropriate option to substitute the underlined segment in the given sentence. If there is no need to substitute it, select No improvement.

The children are too young to sit up a long lecture.

(a) sit through
(b) sit across
(c) No improvement
(d) sit away

Q8. Select the word which means the same as the group of words given.

A large impressive house

(a) cabin
(b) shack
(c) mansion
(d) fort

Q9. Select the wrongly spelt word.

(a) Booty
(b) Blosom
(c) Brood
(d) Boast

Q10. Select the most appropriate word to fill in the blank.

The thick smoke _____ out of the landfill site is making the city's polluted air even more toxic.

(a) tossing
(b) rocking
(c) burning
(d) billowing

Q11. Select the word which means the same as the group of words given.

That which cannot be taken by force

(a) immutable
(b) inapprehensible
(c) impregnable
(d) inaccessible

Q12. In the sentence identify the segment which contains the grammatical error.

The Cannes Film Festival attract some of the world's most famous people.

(a) the world's
(b) most famous people
(c) The Cannes Film Festival
(d) attract some of

Q13. Select the most appropriate synonym of the given word.

EMBED

(a) bury
(b) pull
(c) dig up
(d) rise

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Q14. Select the most appropriate option to substitute the underlined segment in the given sentence. If there is no need to substitute it, select No improvement.

I try to avoid travel in the rush hour.

(a) travelling on
(b) travelling in
(c) to travel at
(d) No improvement

Q15. Select the most appropriate word to fill in the blank.

Financial institutions that had their premises in the World Trade Centre were crippled by the loss of _____ and hardware.

(a) personnel
(b) person
(c) individual
(d) group

Directions

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

Bill Gates is the second-richest (1) ____ in the world. He is (2) __ an estimated 103 billion. His wealth (3) __ only by Jeff Bezos, (4) __ has a current net worth of 116 billion. Gates is (5) ____ rich that an average American spending $1 is similar to Gates spending $ 1.06 million.

Q16. Select the most appropriate option for blank No. 1.

(a) person
(b) character
(c) personnel
(d) human

Q17. Select the most appropriate option for blank No. 2.

(a) classed
(b) worth
(c) valuable
(d) cost

Q18. Select the most appropriate option for blank No. 3.

(a) is surpassed
(b) surpasses
(c) surpassed
(d) is surpassing

Q19. Select the most appropriate option for blank No. 4.

(a) whose
(b) who
(c) which
(d) whom

Q20. Select the most appropriate option for blank No. 5.

(a) such
(b) as
(c) too
(d) so

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Q21. Select the most appropriate meaning of the given idiom. "As clear as mud"

(a) completely suitable for someone
(b) impossible to understand
(c) honest and legal
(d) extremely dirty

Q22. Select the correct passive form of the given sentence.

Bill Gates has given away twenty seven percent of his wealth in charity.

(a) Twenty seven percent of his wealth has been given away by Bill Gates in charity.
(b) Twenty seven percent of his wealth had been given away by Bill Gates in charity.
(c) Bill Gates has been given away by twenty seven percent of his wealth in charity.
(d) Twenty seven percent of his wealth has given away Bill Gates in charity.

Q23. Identify the segment in the sentence which contains the grammatical error.

Different-coloured natural foods not only put a smile on children's faces and also benefit their overall growth.

(a) put a smile on children's faces
(b) and also benefit
(c) benefit their overall growth
(d) Different-coloured natural foods

Q24. Given below are four jumbled sentences. Out of the given options pick the one that gives their correct order.

A. Early on Christmas morning, Pip returns to the graveyard with the file, a pie, and brandy.

B. On Christmas Eve, Pip, an orphan who is about seven years old, encounters an escaped convict in the village graveyard.

C. The convict scares Pip into stealing food and a file.

D. Pip, who lives with his elder sister and her husband Joe Gargery, a blacksmith, steals a file and some food.

(a) BDCA
(b) DCAB
(c) CBAD
(d) BCDA

Q25. Select the most appropriate synonym of the given word.

COMBUSTIBLE

(a) fragile
(b) inflammable
(c) unbreakable
(d) non-flammable

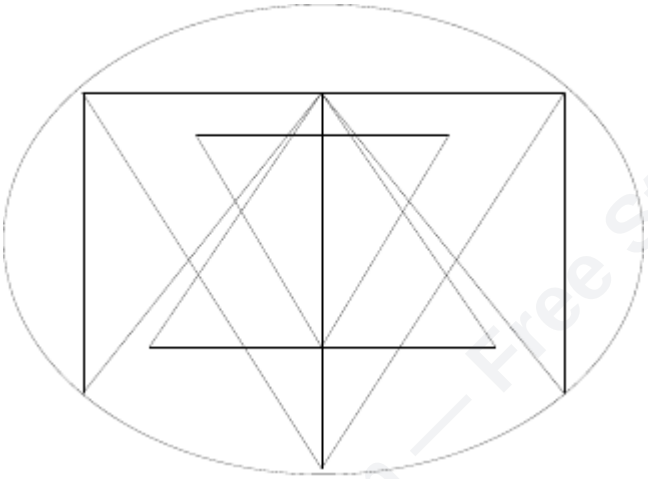
GENERAL INTELLIGENCE

Q26. Select the word-pair in which the two words are related in the same way as are the two words in the following word-pair.

Myopic : Farsighted

(a) Postpone : Suspend
(b) Trouble : Grief
(c) Confusion : Chaotic
(d) Famous : Obscure

Q27. How many triangles are present in the following?



(a) 27
(b) 29
(c) 23
(d) 25

Q28. Which number will replace the question mark (?) in the following series?

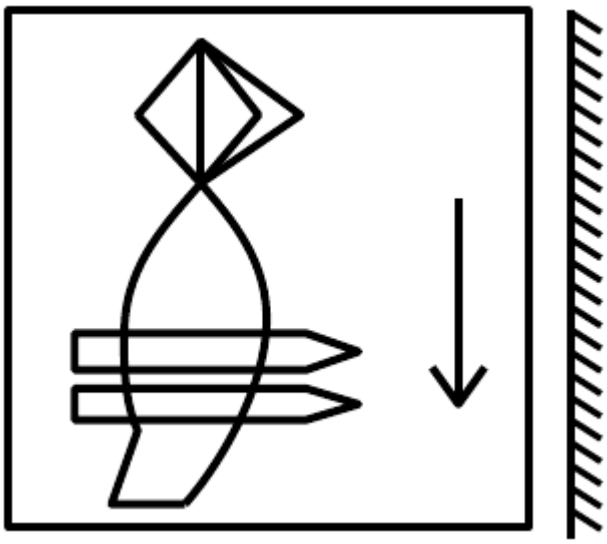
89, 90, 82, 109, 45, ?

(a) 170
(b) -80
(c) 125
(d) 109

Q29. Three of the following four words are alike in a certain way and one is different. Pick the odd word out.

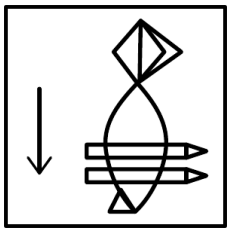
(a) Singapore
(b) Italy
(c) Germany
(d) Austria

Q30. Select the correct mirror image of the given figure when the mirror is placed to the right of the figure

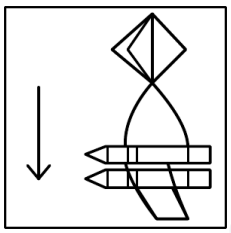


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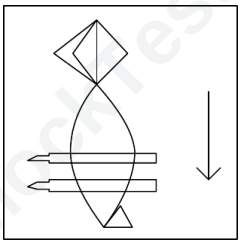
(a)



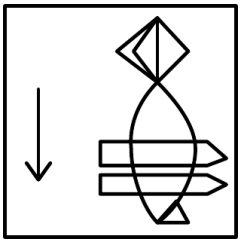
(b)



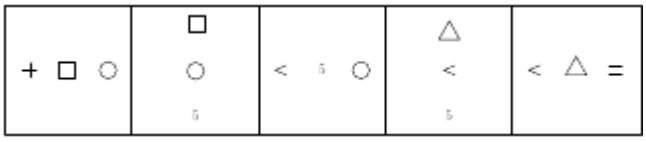
(c)



(d)



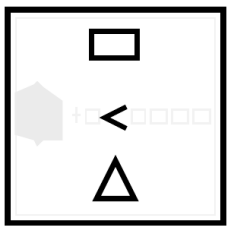
Q31. Select the figure that will come next in the following figure series.



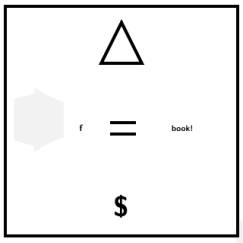
(a)



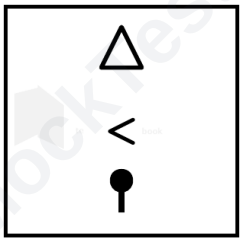
(b)



(c)



(d)



Q32. 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.

BANK : WXLJ :: IDOL : _____

(a) ADMK
(b) DAKM
(c) DAMK
(d) DAMJ

Q33. Arrange the following words in a logical and meaningful order.

1. Lustrum
2. Century
3. Year
4. Millennium
5. Decade

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

Q34. In a code language, CONSULTANCY is written as QOJKYOUYJWP. How will MASTERMINDS be written as in that language?

(a) APOWHIOZJEI
(b) APOWJIOZJEI
(c) APOWIIOZJEI
(d) APOWIHOZJEI

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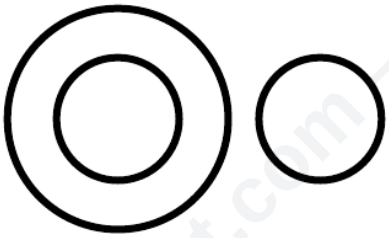
Q35. Ranga got thrice as many sums wrong as he got right in a mathematics assignment. If he attempted 72 sums in all, how many did he solve correctly in his mathematics assignment?

(a) 18
(b) 16
(c) 20
(d) 14

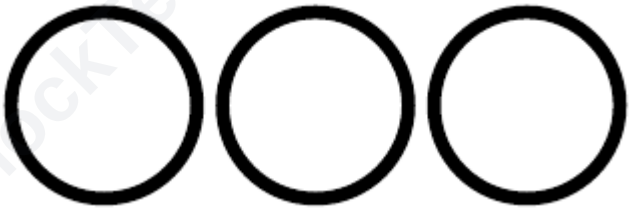
Q36. Select the Venn diagram that best illustrates the relationship between the following classes.

Nurses, Doctors, Pharmacists

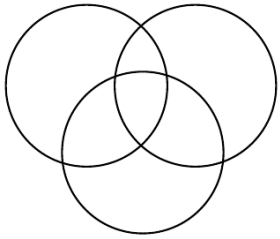
(a)



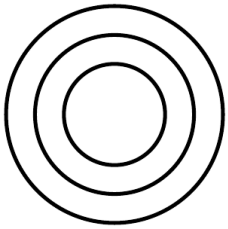
(b)



(c)

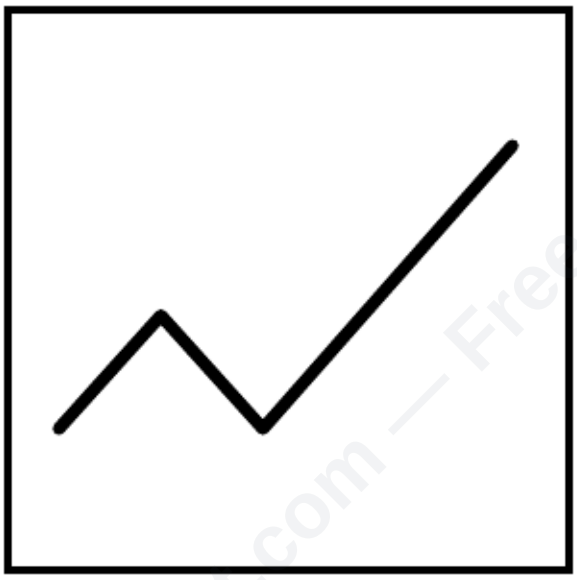


(d)

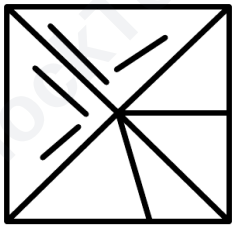


Q37. Select the option in which the given figure is embedded

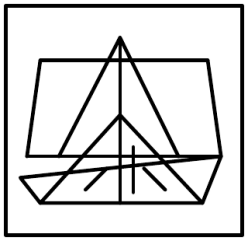
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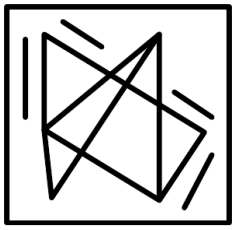
(a)



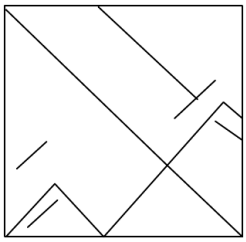
(b)



(c)



(d)



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Q38. Rs. 2100 is divided among P, Q and R in such a way that P's share is half of the combined share of Q and R, and Q's share is one-fourth of the combined share of P and R. By what amount is R's share more than that of P?

(a) Rs. 280
(b) Rs. 250
(c) Rs. 200
(d) Rs. 500

Q39. T is the sister of D. D is married to P. P is the son of M. T is the mother of J. Y is the father of U. Y has only one son and only one daughter. U is the daughter of T. Q is the son of D. If M is the wife of W, then how is Q related to W?

(a) Son
(b) Nephew
(c) Grandson
(d) Son-in-law

Q40. Which number will replace the question mark (?) in the following series?

2, 4, 16, 52, 132, 282, ?

(a) 572
(b) 534
(c) 527
(d) 512

Q41. If 'FORTUNE' is coded as '6521347' and 'PREY' is coded as '8279' then how will 'NEPTUNE' be coded as?

(a) 4781347
(b) 4781343
(c) 4781342
(d) 4782347

Q42. In a code language, ' CERTAIN ' is written as 'XVIGZRM'. How will 'CLIMATE' be written as in that language?

(a) XONRZGV
(b) XRONZGV
(c) XORNZGV
(d) XORNZVG

Q43. 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:

All women are engineers.

Some singers are engineers.

Conclusions:

I. All women are singers

II. All singers are women

III. Some engineers are women.

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

Q44. Select the set in which the numbers are related in the same way as are the numbers of the following set.

(15, 102, 313)

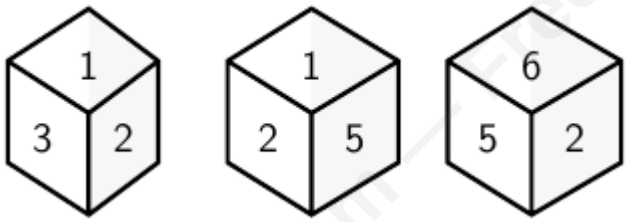
(a) (8, 53, 164)
(b) (5, 32, 121)
(c) (9, 60, 185)
(d) (11, 74, 229)

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Q45. Three of the following four numbers are alike in a certain way and one is different. Pick the number that is different from the rest.

(a) 54215
(b) 12347
(c) 83115
(d) 43217

Q46. Three different positions of the same dice are shown. Find the number on the face opposite to the one having 1.



(a) 4
(b) 2
(c) 6
(d) 3

Q47. From the given alternatives select the numbers that must be interchanged to make the following equation correct.

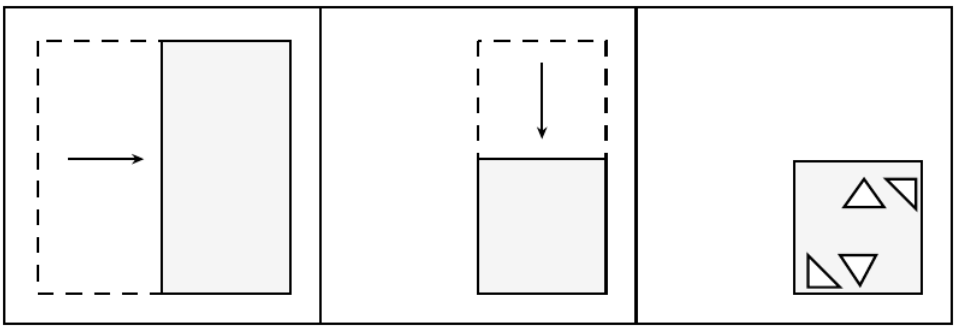
16 - 6 + 12 × 3 ÷ 4 = 18

(a) 6 and 4
(b) 16 and 3
(c) 6 and 3
(d) 12 and 4

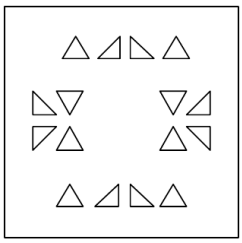
Q48. 'Cone' is related to 'Ice-cream' in the same way as 'Bowl' is related to '_____'.

(a) Sip
(b) Drink
(c) Soap
(d) Soup

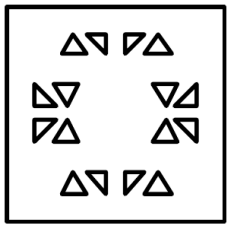
Q49. A paper is folded and cut as shown in the following figures. How will it appear when unfolded?



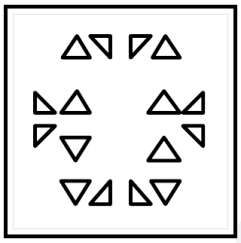
(a)



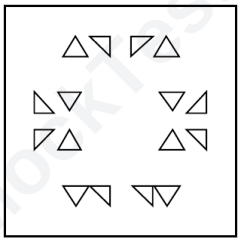
(b)



(c)



(d)



Q50. Select the combination of letters that when sequentially placed in the gaps of the given letter series will complete the series.

ab_ ba_ db_ bd_ ac_ ba_ db_ cdbabd_

(a) dcabdbab
(b) dcdabbab
(c) cdabdbba
(d) dcadbbab

QUANTITATIVE APTITUDE

Q51. A circle is inscribed in a quadrilateral ABCD, touching sides AB, BC, CD and DA at P, Q, R and S, respectively. If AS = 8 cm, BC = 11 cm, and CR = 5 cm, then the length AB is equal to:

(a) 14 cm
(b) 13 cm
(c) 16 cm
(d) 12 cm

Q52. The radius of the base of a cylinder is 7 cm and its curved surface area is 4400 cm^2. Its volume (in Cm^3) will be:

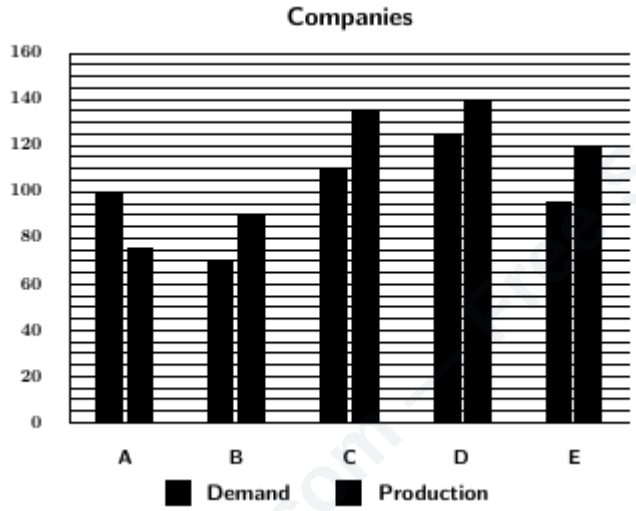
Take $\pi = 22/7$

(a) 16500
(b) 15400
(c) 17600
(d) 14300

Q53. A simplified value of $\sin\theta + \cos\theta + 1 + \cos\theta\sin\theta\tan\theta + \cos^2\theta - \sin\theta$ is:

(a) $2\sin\theta$
(b) $\cos\theta$
(c) $2 + \cos\theta$
(d) $\sin\theta$

Q54. The given Bar Graph presents the demand and Production of motorcycles of five companies (in lakhs).



What is the ratio of the total Demand of motorcycles of companies A and D taken together to the Production of motorcycles of company C?

(a) 14 : 9
(b) 9 : 7
(c) 5 : 3
(d) 8 : 5

Q55. If $3 - 2\sin^2\theta - 3\cos\theta = 0$, $0° < \theta < 90°$, then find the value of $(2\text{cosec}\theta + \tan\theta)$

(a) $7\sqrt{3}$
(b) $5\sqrt{3}$
(c) $5\sqrt{3}/3$
(d) $7\sqrt{3}/3$

Q56. If $a + b + c = 5$, and $a^2 + b^2 + c^2 = 33$, then find the value of $a^3 + b^3 + c^3 - 3abc$

(a) 192
(b) 185
(c) 180
(d) 195

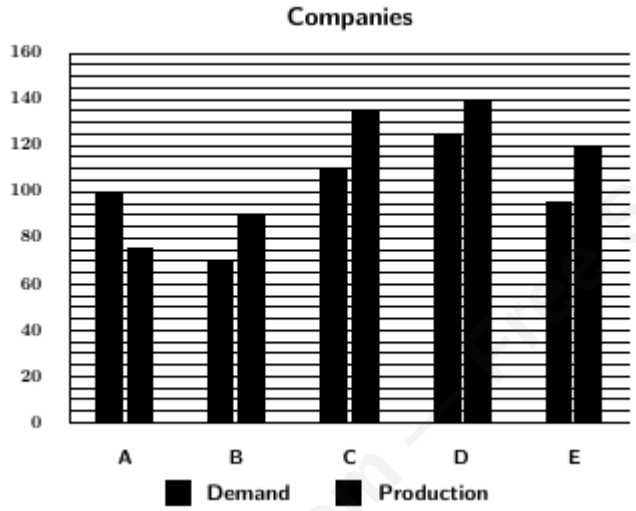
Q57. If $a^3 + b^3 = 110$ and $a + b = 5$, then $(a + b)^2 - 3ab$ is equal to:

(a) 52
(b) 32
(c) 22
(d) 42

Q58. The total number of students in class A and B is 96. The number of students in A is 40% more than that in B. The average weight (in kg) of the students in B is 50% more than that of the students in A. If the average weight of all the students in A and B taken together is 58 kg, then what is the average weight of the students in B?

(a) 48 kg
(b) 60 kg
(c) 66 kg
(d) 72 kg

Q59. The given Bar Graph presents the demand and Production of motorcycles of five companies (in lakhs).



The total Production of motorcycles of companies B and D taken together is what percent of the Demand of motorcycles of all the companies taken together?

(a) 38%
(b) 40%
(c) 48%
(d) 46%

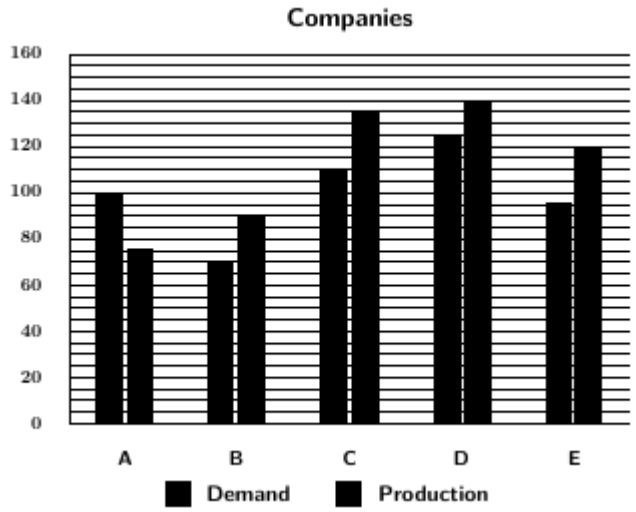
Q60. A and B, working together, can be complete a work in 16 days, C and A together can complete in 32 days, B and C together can complete it in 24 days. They worked together for 12 days. In how many days will C alone complete the remaining work?

(a) 40
(b) 32
(c) 36
(d) 45

Q61. In ΔABC, angle A = 90°. If BL and CM are the medians, then:

(a) $3(BL^2 + CM^2) = 4BC^2$
(b) $4(BL^2 + CM^2) = 3BC^2$
(c) $5(BL^2 + CM^2) = 4BC^2$
(d) $4(BL^2 + CM^2) = 5BC^2$

Q62. The given Bar Graph presents the demand and Production of motorcycles of five companies (in lakhs).



The average production of motorcycles of companies B, C and E taken together is what percent less than the demand of motorcycles of D?

(a) 8.7%

(b) 9.3%
(c) 8%
(d) 6%

Q63. In a circle, AB and CD interest each other at E. If CD = 18 cm and AE = 18 cm, ED = 6 cm, then BE = ?
(a) 3 cm
(b) 4 cm
(c) 8 cm
(d) 6 cm

Q64. The value of [{(cos9° + sin81°)(sec9° + cosec81°)} / {(sin56°sec34°) + (cos25°cosec65°)}] is:
(a) 2
(b) 4
(c) 1
(d) 12

Q65. If $3\cos^2A + 6\sin^2A = 3$, $0° \leq A \leq 90°$, then the value of A is:
(a) 0°
(b) 30°
(c) 90°
(d) 45°

Q66. If $40\sqrt{5}x^3 - 3\sqrt{3}y^3 = (2\sqrt{5}x - \sqrt{3}y)(Ax^2 + Bxy + cy^2)$, then what is the value of $\sqrt{(B^2 + C^2 - A)}$?
(a) 11
(b) 9
(c) 8
(d) 7

Q67. Let $\Delta ABC \sim \Delta QPR$ and area of ΔABC = area of ΔQPR = 914. If AB = 12 cm, BC = 6 cm and AC = 9 cm, then QP is equal to:
(a) 9 cm
(b) 8 cm
(c) 16 cm
(d) 12 cm

Q68. Anu spends 90% of her income. If her expenditure increase by 25% and saving increase by 30%, then by what percent does her salary increase?
(a) 20%
(b) 22.5%
(c) 24%
(d) 25.5%

Q69. In an examination, the success to failure ratio was 5 : 2, if the number of failures been 14 more, then the success to failure ratio would have been 9 : 5. The total number of candidates, who appeared for the examination, was:
(a) 210
(b) 196
(c) 203
(d) 126

Q70. What is the compound interest on a sum of Rs. 4, 096 at 15% p.a. for 21/2 years, if the interest is compound 10 - monthly?
(a) Rs. 1, 726
(b) Rs. 1, 636
(c) Rs. 1, 763
(d) Rs. 1, 736

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Q71. In ΔABC, AD ⊥ BC at D and AE is the bisector of angle A. If angle B = 72° and angle C = 26°, then what is the measure of angle DAE?

(a) 25°
(b) 23°
(c) 49°
(d) 37°

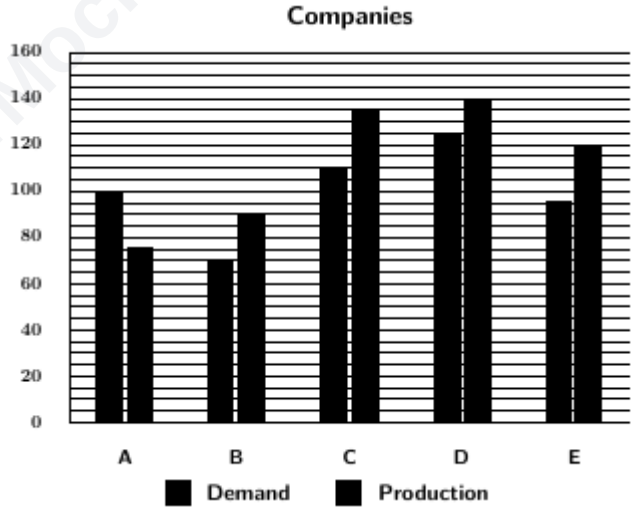
Q72. In $x^2 + 1 = 3x$, then the value of $4[(x^2 + x^{(-2)})(x^2 + 5x + 1)]/x$ is:

(a) 213
(b) 412
(c) 224
(d) 312

Q73. Abhi sold two articles for Rs. 5, 220 each. On one, he gained 16% and on the other, he lost 10%. His profit or loss on the whole transaction was:

(a) Loss Rs. 125
(b) Profit Rs. 140
(c) Loss Rs. 130
(d) Profit Rs. 180

Q74. The given Bar Graph presents the demand and Production of motorcycles of five companies (in lakhs).



The company in which the Production of motorcycles is approximately 23% more than the Demand is:

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

Q75. Train x running at 84 km/h crosses another train y running at 52 km/h in opposite direction in 12 seconds. If the length of train y is two-third that of x then find the length of train x.

(a) 250 m
(b) 408 m
(c) 272 m
(d) 242 m

GENERAL AWARENESS

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Q76. The 'World Blood Donor Day' was celebrated around the world on _____ 2019 with the theme 'Safe blood for all'.

(a) 25th May
(b) 29th April
(c) 14th June
(d) 16th March

Q77. Former Flipkart executive Sandeep Patil was appointed as India Managing Director of which company in May 2019?

(a) Amazon
(b) Snapdeal
(c) TrueCaller
(d) Paytm

Q78. In Lok Sabha 2019 Elections, Congress won _____ seats out of the 13 Lok Sabha seats of Punjab.

(a) 8
(b) 5
(c) 6
(d) 10

Q79. In which year was Satya Shodhak Samaj founded by Jyotirao Phule?

(a) 1870
(b) 1861
(c) 1865
(d) 1873

Q80. Which one of the following Union Territories has been granted with partial statehoodship?

(a) Puducherry
(b) Dadra and Nagar Haveli
(c) Daman and Diu
(d) Lakshadweep

Q81. In which state is the Mundra Power Plant located?

(a) Madhya Pradesh
(b) Chhattisgarh
(c) Gujarat
(d) Odisha

Q82. Hertz is the SI unit of _____.

(a) Energy
(b) Pressure
(c) Frequency
(d) Force

Q83. Financial Literacy Week 2019 is an initiative by which bank to promote awareness on key topics every year through a focused campaign?

(a) Reserve Bank of India
(b) Indian Bank
(c) State Bank of India
(d) ICICI Bank

Q84. In May 2019, which of the following companies announced that it would stop selling its smartphones in India?

(a) Apple
(b) OnePlus
(c) Sony
(d) Samsung

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Q85. What is the name of the Young Scientist Programme inaugurated by the Chairman of ISRO in May 2019?

(a) Yuvika-2019
(b) Youth-2019
(c) Young India-2019
(d) Yuva-2019

Q86. Which eminent novelist and poet of the 20^(th)century is the author of 'Pinjar'?

(a) Amrita Pritam
(b) Harivansh Rai Bachchan
(c) Bhawani Prasad Mishra
(d) Prabhakiran Jain

Q87. Which State Government increased the financial aid given to girls under the 'Aapki Beti' scheme in May 2019?

(a) Rajasthan
(b) Odisha
(c) Sikkim
(d) Assam

Q88. Which of the following countries hosted the Asian Cup Football tournament in 2019?

(a) UAE
(b) South Korea
(c) China
(d) Singapore

Q89. Who among the following clinched a gold medal in the women's 25m pistol event at the 2019 ISSF World Cup?

(a) Devanshi Rana
(b) Manu Bhaker
(c) Rahi Sarnobat
(d) Heena Sidhu

Q90. Pivot Table is a feature of which of the following softwares?

(a) Microsoft PowerPoint
(b) Microsoft Excel
(c) Microsoft Access
(d) Microsoft Word

Q91. In which state is Sambhar, the largest inland salt water lake of India located?

(a) Maharashtra
(b) Rajasthan
(c) Andhra Pradesh
(d) Odisha

Q92. Soorya Festival is associated to which of the following cities?

(a) Jaipur
(b) Thiruvananthapuram
(c) Chennai
(d) Hyderabad

Q93. The quote "The shots that hit me are the last nails to the coffin of British rule in India." belongs to which of the following freedom fighters?

(a) Ram Prasad Bismil
(b) Bhagat Singh
(c) Lala Lajpat Rai
(d) Chandrashekhar Azad

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Q94. The National Institute of Nutrition is located in _____.

(a) Hyderabad
(b) Indore
(c) Shillong
(d) Mumbai

Q95. In the solar system, among the planets listed below, which planet is farthest from the Sun?

(a) Jupiter
(b) Venus
(c) Mars
(d) Neptune

Q96. The winners of the 2019 ICC men's World Cup will earn a cash award of _____ which is the highest prize money on offer in the history of the tournament.

(a) $5 million
(b) $6 million
(c) $4 million
(d) $2 million

Q97. The Himalayas belong to which of the following categories of mountains?

(a) Fold Mountain
(b) Plateau Mountain
(c) Fault-block Mountain
(d) Dome Mountain

Q98. In the field of Information & Communication Technology, what is the full form of EEPROM?

(a) Electrically Erasable Programmable Read-Only Memory
(b) Electrically Efficient Portable Read-Only Memory
(c) Electrically Efficient Programmable Read-Only Memory
(d) Enhanced Electrical Portable Read-Only Memory

Q99. Who among the following was elected to the board of the International Air Transport Association (IATA) in June 2019?

(a) Bhaskar Bhat
(b) Ajay Singh
(c) Rahul Bhatia
(d) Naresh Goyal

Q100. The investment and financial services major Goldman Sachs has sanctioned $250 million to construct one of its largest global workspaces in _____.

(a) Gurugram
(b) Chennai
(c) Bengaluru
(d) Pune

ANSWER KEY

1	c	2	b	3	a	4	c	5	c	6	a	7	a	8	c	9	b	10	d
11	c	12	d	13	a	14	b	15	a	16	a	17	b	18	a	19	b	20	d
21	b	22	a	23	b	24	d	25	b	26	d	27	a	28	a	29	a	30	b
31	c	32	c	33	a	34	c	35	a	36	b	37	d	38	a	39	c	40	b
41	a	42	c	43	b	44	d	45	c	46	c	47	a	48	d	49	d	50	a
51	a	52	b	53	c	54	c	55	d	56	b	57	c	58	d	59	d	60	c

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61	d	62	c	63	b	64	a	65	a	66	d	67	d	68	d	69	b	70	d
71	b	72	c	73	b	74	a	75	c	76	c	77	c	78	a	79	d	80	a
81	c	82	c	83	a	84	c	85	a	86	a	87	a	88	a	89	c	90	b
91	b	92	b	93	c	94	a	95	d	96	c	97	a	98	a	99	b	100	c

SOLUTIONS

Q1. Answer: (c) I asked the shopkeeper what the price of that bike was.

The correct answer is option 3) i.e. I asked the shopkeeper what the price of that bike was.

• The reporting speech in the given sentence is in the past tense, hence, while changing it into indirect speech the whole sentence will be in the past sentence.

• 'Wh' – Question (beginning with – who / what / how / where / when / why, etc.) then before the Reported Speech i.e., Interrogative word, there

will be no usage of any Conjunction.

• 'that' is not used as a conjunction when we have 'wh' family word in the sentence, like, in this sentence we have 'what'.

• Indirect: 'I asked the shopkeeper what..'

• And the interrogative sentence will be changed into an assertive sentence by:

• the order of Verb + Subject is changed into Subject + Verb- changed

• Indirect: I asked the shopkeeper what the price of the bike(Subject) + was (Verb)

Correct Indirect: I asked the shopkeeper what the price of that bike was.

Q2. Answer: (b) cheerful

The correct answer is option 2) i.e. cheerful.

• morose: sullen and ill-tempered or the one who is sad.

• cheerful: noticeably happy and optimistic. Hence, this is the most appropriate antonym of the given word.

• mournful: feeling, expressing, or inducing sadness, regret, or grief.

• unsatisfied: not satisfied.

• sullen: bad-tempered and sulky.

Q3. Answer: (a) reveal a secret

The correct answer is option 1) i.e. reveal a secret.

• Spill the beans: reveal secret information unintentionally.

Q4. Answer: (c) contradict

The correct answer is option 3) i.e. contradict.

• corroborate: confirm or give support to a statement, theory, or finding.

• contradict: deny the truth of (a statement) by asserting the opposite, hence, this is opposite in meaning to the given word.

• verify: make sure or demonstrate that something is true, accurate, or justified.

• confirm: state with assurance that a report or fact is true.

• approve: officially agree to or accept as satisfactory.

Q5. Answer: (c) Emmision

The correct answer is "Emmision".

Key Points

• The spelling given in option 3 "Emmision" is incorrect.

• The correct spelling is emission which means the production and discharge of something, especially gas or radiation.

• emolument: a salary, fee, or profit from employment or office.

• emporium: a large retail store selling a wide variety of goods.

• emphasis: special importance, value, or prominence given to something.

• Hence option 3 is the correct answer.

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Q6. Answer: (a) ADBC

The correct answer is option 1) ADBC.

• The only independent sentence from the given sentences is sentence 'A', hence, it will be the first sentence.

• In the sentence 'D' the pronoun 'her' has been been used for the little girl. This sentence is most suitable for using after sentence 'A'.

• The sentence 'D' talks about a birthday party and the sentence 'B' the excitement of the girl, hence, we can say that the girl is excited about the birthday party. So, the sentence 'B' will follow the sentence 'D'.

• So, we have got the sequence i.e. ADB, hence, the last sentence will be 'C'.

Q7. Answer: (a) sit through

The solution is in Hindi. Read it online.

Q8. Answer: (c) mansion

The solution is in Hindi. Read it online.

Q9. Answer: (b) Blosom

The solution is in Hindi. Read it online.

Q10. Answer: (d) billowing

The solution is in Hindi. Read it online.

Q11. Answer: (c) impregnable

The correct answer is "impregnable".

Key Points

• "Impregnable" is an adjective that describes something so strong or well-constructed that it cannot be taken by force or broken into.

• This definition directly aligns with the given phrase "that which cannot be taken by force".

• For instance, in the sentence, "The fortress was impregnable, resisting all attempts at invasion," the word "impregnable" illustrates a structure that can't be conquered or taken by force.

• Synonyms of "impregnable" include "invincible", "unassailable", "invulnerable", and "indestructible".

• Hence, the correct answer will be Option 3.

Additional Information

• Option 1: "Immutable" means unchanging over time or unable to be changed. It's typically used to describe abstract concepts rather than physical objects.

• For example: "The laws of physics are immutable."

• This doesn't fit with the original phrase, as something can be immutable but still be taken by force.

• Option 2: "Inapprehensible" means not able to be understood or comprehended. It's often used to describe complex ideas or abstractions.

• For example: "The philosophy lecture was inapprehensible to most of the students."

• This also doesn't fit with the original phrase, as it pertains more to understanding than physical force.

• Option 4: "Inaccessible" describes something that cannot be reached, accessed, or easily obtained.

• For example: "The remote island was inaccessible due to rough seas."

• While this could imply a kind of protection, it doesn't necessarily mean that the thing or place can't be taken by force. It simply might be difficult to get to it.

Q12. Answer: (d) attract some of

The correct answer is option 4) i.e. attract some of.

• In the given sentence the verb 'attract' has been used which is wrong here.

• In the given sentence the subject is singular i.e. film festival, hence, a singular verb i.e. attracts will be used.

• So, the correct sentence will be: The Cannes Film Festival attracts some of the world's most famous people.

Q13. Answer: (a) bury

• The correct answer is Option 1.

• The meaning of the given words:

• Embed: To enclose something, to lay in surrounding matter.

• Bury: To place in the ground, to put an end to.

• Pull: To apply a force to an object.

• Dig up: To excavate something.

• Rise: To move upwards, to begin; to develop.

• Therefore, out of given alternatives, the word 'bury' has the nearest meaning to the given word as both mean 'to place or enclose something'.

Q14. Answer: (b) travelling in

• The correct answer is Option 2.

• Rule: A verb can be followed by another verb. The second one usually needs to change into the -ing form or the to + infinitive form. Which form you need depends on what the first verb is. There are certain verbs, when they are followed by another verb, it must be in the -ing form.

• In the given sentence there are two verbs 'avoid & travel', the verb 'avoid' follows another verb with -ing form, therefore, 'travel' must be replaced by 'travelling'.

• The correct preposition to be used is 'in' which is used to mention the unspecific times.

• Therefore, the correct sentence is 'I try to avoid travelling in the rush hour.'

Q15. Answer: (a) personnel

• The correct answer is Option 1.

• The given sentence is talking about the damage caused to the financial institutions by the loss of hardware and so on. Therefore, the blank should contain a word which is related to the company.

• The word 'Personnel' fits the blank correctly which means 'employees or office staff'.

Q16. Answer: (a) person

• The correct answer is option 1) i.e. person.

• The given passage talks about 'Bill Gates' and we use the 'person' for talking about human beings.

• Hence, 'person' is the most appropriate word to be used in blank 1.

• All the other words do not fit in the context of the given sentence, hence, they cannot be used in the given blank.

Q17. Answer: (b) worth

• The correct answer is option 2) i.e. worth.

• Worth is used to show the value of something especially in terms of money.

• The given sentence talks about the money that Bill Gates has.

• Hence, 'worth' is the most appropriate word to be used in the blank 2.

Q18. Answer: (a) is surpassed

• The correct answer is option 1) i.e. is surpassed.

• The given sentence is in present indefinite tense.

• And it is in passive voice also, and while making the passive voice of present indefinite tense is/am/are + v3 is used.

• In the given sentence the subject is singular, hence, helping verb 'is' will be used here.

• So, 'is surpassed' is the correct word to be used here.

Q19. Answer: (b) who

• The correct answer is option 2) i.e. who.

• In the given blank we need a relative pronoun for the noun 'Jeff Bezos'.

• 'who' is the most appropriate relative pronoun to be used here because 'who' is used as a relative pronoun when the subject is doing the action.

• Hence, the most appropriate word to be used in the given blank is 'who'.

Q20. Answer: (d) so

• The correct answer is option 4) i.e. so.

• 'So-that' is the pair of conjunction that can be used to compare two things, persons or situations

• In the given sentence the spending of Bill Gates and an average American is being compared.

• Hence, 'so' is the correct word to be used in the given blank.

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Q21. Answer: (b) impossible to understand

• The correct answer is Option 2.

• The meaning of the given idiom 'As clear as mud' means 'Difficult to see or understand or not clear at all.'

• Therefore, Option 2 'impossible to understand' gives the same meaning as the given idiom.

Q22. Answer: (a) Twenty seven percent of his wealth has been given away by Bill Gates in charity.

• The correct answer is Option 1.

• While changing a sentence to its passive form, subject and object interchange their places.

• The given sentence is in the present perfect tense, so the passive form of this sentence will follow a structure of 'has+been+V3'.tr

• Therefore, the structure is followed correctly only by option 1 'Twenty seven percent of his wealth has been given away by Bill Gates in charity.'

Q23. Answer: (b) and also benefit

• The correct answer is Option 2).

• There is a rule that the conjunction 'Not only' is always followed by 'but also'.

• Therefore, the correct sentence is 'Different-coloured natural foods not only put a smile on children's faces but also benefit their overall growth.'

Q24. Answer: (d) BCDA

The correct answer is Option 4.

Key Points

• The correct answer begins with sentence B because it is introducing a subject called 'pip'.

• In sentence B it is said Pip encountered an escaped convict which is continued in sentence C about what the convict scares him to do.

• The sentences describe how Pip meets the convict, gets threatened by him, steals the items, and returns to the graveyard.

• The other options do not make sense as they mix up the sequence of actions.

• Therefore, the correct sequence is followed in Option 4 'BCDA'.

Q25. Answer: (b) inflammable

The correct answer is Option 2.

The meaning of the given words:

• Combustible: Capable of burning.

• Fragile: Easily broken or destroyed.

• Inflammable: Capable of burning, easily set on fire.

• Unbreakable: Difficult to break, rough.

• Non-flammable: something which doesn't burn easily.

Therefore, it is obvious that the word 'inflammable' gives the same meaning as the given word.

Q26. Answer: (d) Famous : Obscure

Myopic means Short-sighted.

Farsighted means long-sighted.

Thus, Myopic and Farsighted are a pair of antonyms.

Similarly,

The word famous means something or someone who is well-known.

The word obscure means something which is concealed or hidden.

Therefore, famous and obscure are a pair of antonyms.

Hence, the correct answer is Famous : Obscure.

Q27. Answer: (a) 27

The triangles are ABC, ADC, BCD, DEF, DEI, DIF, GHI, GJI, IJH, DKJ, DJL, DKL, GKM, LHN, AOD, BDP, INF, IME, ROE, PQF, CIR, CIQ, CRQ, IMD, IND, COD, CPD.

Thus, there are total 27 triangles.

Hence, 27 is the correct answer.

Q28. Answer: (a) 170

The pattern followed here is:

$89 + 1^3 = 90$

$90 - 2^3 = 82$

$82 + 3^3 = 109$

$109 - 4^3 = 45$

Similarly,

$45 + 5^3 = 170$

Hence, the correct answer is 170.

Q29. Answer: (a) Singapore

Italy, Germany, and Austria are countries in the European continent except for Singapore.

Hence, the correct answer is Singapore.

Q30. Answer: (b) [figure]

The mirror image of the question figure is as follows:

Hence, option 2 is the correct answer.

Q31. Answer: (c) [figure]

The figure (all the shapes together) is rotating clockwise at an angle of 90°.

The following changes occur during the rotation:

From the first to the second term: square replaces +, circle replaces square, and 5 is introduced in the place of circle.

From the second to the third term: circle replaces square, 5 replaces circle, and < is introduced in the place of 5.

From the third to the fourth term: 5 replaces circle, < replaces 5, and a triangle is introduced in the place of <.

From the fourth to the fifth term: < replaces 5, triangle replaces <, and = is introduced in the place of triangle.

Therefore, from the fifth to the sixth term we should get the following: triangle replaces <, = replaces triangle, and a new symbol must be introduced in the place of =.

We do not have = in options 2 and 4. So, they get eliminated.

Option 1 does not have a new symbol and hence gets eliminated.

Option 3 satisfies the required conditions.

Solution figure:

Hence, the figure in option 3 is the correct answer.

Q32. Answer: (c) DAMK

The pattern followed here is:

Similarly,

Hence, the correct answer is DAMK.

Q33. Answer: (a) 3, 1, 5, 2, 4

These years have been written in ascending order.

Year - Period of twelve months

Lustrum - Period of five years

Decade - Period of ten years

Century - Period of hundred years

Millennium - Period of thousand years

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

Q34. Answer: (c) APOWIIOZJEI

The pattern followed here is:

Similarly,

Hence, APOWIIOZJEI is the correct answer.

Q35. Answer: (a) 18

Let the correct number of questions attempted by Ranga = X

Then, the wrong number of questions attempted by Ranga would be 3X.

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Total number of questions = X + 3X = 4X
According to the given information, 4X = 72
=> X = 18
Hence, the correct answer is 18.

Q36. Answer: (b) [figure]

There is no relation between Nurses, Doctors, and Pharmacist.
Hence, the correct answer is option 2.

Q37. Answer: (d) [figure]

The question figure is embedded in the below figure.
Hence, the figure in option 4 is the correct answer.

Q38. Answer: (a) Rs. 280

Total share = P + Q + R = 2100
P's share is half of the combined share of Q and R.
P = ½ (Q + R)
=> 2P = Q + R ...(i)
Q's share is one-fourth of the combined share of P and R.
Q = ¼ (P + R)
=> 4Q = P + R …(ii)
Now,
P + Q + R = 2100
=> P + 2P = 2100 from (i)
=> 3P = 2100
=> P = 700 …(iii)
Again,
Q + P + R = 2100
=> Q + 4Q = 2100 from (ii)
=> 5Q = 2100
=> Q = 420 …(iv)
From (iii) and (iv),
P + Q + R = 2100
=> 700 + 420 + R =2100
=> 1120 + R = 2100
=> R = 2100 - 1120
=> R = 980
Now,
R - P = 980 -700
R - P = 280
Hence, R's share is 280 more than that of P.

Q39. Answer: (c) Grandson

Using the symbols in the below table, we can draw a family tree.
The possible family tree is as follows:
Hence, Q is the grandson of W.

Q40. Answer: (b) 534

The pattern followed here is:
Hence, 534 is the correct answer.

Q41. Answer: (a) 4781347

The pattern followed here is:
and

Now, combining the codes from the above two words, we get the code for NEPTUNE.
Hence, NEPTUNE is coded as 4781347.

Q42. Answer: (c) XORNZGV

The pattern followed here is:
Each letter and its respective code is a reverse letter-pair.
Similarly,
Hence, the code for CLIMATE is XORNZGV.

Q43. Answer: (b) Only conclusion III follows.

The least possible Venn diagram is as follows:
Explanation:
I. All women are singers → False (it is possible but not definite)
Possibility diagram:
II. All singers are women → False (it is possible but not definite)
III. Some engineers are women → True (All women are engineers)
Hence, only conclusion III follows.

Q44. Answer: (d) (11, 74, 229)

The pattern followed here is:
(15, 102, 313) → (15, 15 × 7 - 3, 15 × 21 - 2)
Let's check each option:
1) (8, 53, 164) → (8, 8 × 7 - 3, 8 × 21 - 4)
2) (5, 32, 121) → (5, 5 × 7 - 3, 5 × 21 + 16)
3) (9, 60, 185) → (9, 9 × 7 - 3, 9 × 21 - 4)
4) (11, 74, 229) → (11, 11 × 7 - 3, 11 × 21 - 2)
Hence, (11, 74, 229) is the correct answer.

Q45. Answer: (c) 83115

The pattern followed here is:
Sum of all digits = 17
Let's check each option.
1)5 + 4 + 2 + 1 + 5 = 17
2)1 + 2 + 3 + 4 + 7 = 17
3)8 + 3 + 1 + 1 + 5 = 18
4)4 + 3 + 2 + 1 + 7 = 17
Hence, 83115 is the correct answer.

Q46. Answer: (c) 6

In the first position of the dice, the faces containing 1 and 2 are adjacent to that containing 3.
In the second position of the dice, the faces containing 1 and 2 are adjacent to that containing 5.
Therefore, 3 is on the face opposite to the face containing 5. ...(i)
Combining the first and third positions of the dice, we can see that 1, 3, 5, and 6 are adjacent to 2.
Now, the only number left is 4.
Therefore, 4 is on the face opposite to the face containing 2. ...(ii)
From (i) and (ii), we obtain the following pairs of opposite faces:
a) 3 - 5
b) 2 - 4
The only pair of numbers left is 1 - 6.
Hence, 6 must be on the face opposite to the one having 1.

Q47. Answer: (a) 6 and 4

16 - 6 + 12 × 3 ÷ 4 = 18
Interchanging 6 and 4:

16 - 6 + 12 × 3 ÷ 4
= 16 - 4 + 12 × 3 ÷ 6
= 16 - 4 + 12 × 0.5
= 16 - 4 + 6
= 22 - 4
= 18
Hence, the correct answer is '6 and 4'.

Q48. Answer: (d) Soup

Ice cream is usually served in a cone.
Similarly, soup is usually served in a bowl.
Hence, soup is the correct answer.

Q49. Answer: (d) [figure]

When unfolded, the paper will look like the following figure:
Hence, the figure in option 4 is the correct answer.

Q50. Answer: (a) dcabdbab

Let's check each option.
1) abdbacdb/abdbacdb/abdbacdb/abdb → follows a pattern i.e., abdbacdb.
2) abdbacdb/dbdaacbb/abdbacdb/abdb → doesn't follow a pattern
3) abcbaddb/abdbacdb/abdbbcdb/abda → doesn't follow a pattern
4) abdbacdb/abddacbb/abdbacdb/abdb → doesn't follow a pattern
Hence, the correct answer is 'dcabdbab'.

Q51. Answer: (a) 14 cm

Given:
AS = 8 cm, BC = 11 cm and CR = 5 cm,
Concept used:
If from one external point, two tangents are drawn to a circle then they have equal tangent segments.
Formula used:
AB + CD = AD + BC
Calculation:
=> CR = CQ = 5 cm
=> BQ = BC - CQ = 11 - 5 = 6 cm
=> BQ = BP = 6 cm ----(1)
=> AS = AP = 8 cm ----(2)
Therefore,
AB = AP + BP = 8 + 6 = 14

Q52. Answer: (b) 15400

Given:
Radius of cylinder = 7cm
Curved surface area = 4400cm²
Formula used:
Curved surface area of the cylinder = 2πrh
The volume of cylinder = πr²h
where r → radius
h → height of the cylinder
Calculation:
Curved surface area = 2πrh
=> 2πrh = 4400
=> πrh = 2200
Volume = πr²h

=> πrh × r = 2200 × 7 = 15400 cm³

Q53. Answer: (c) 2 + cosθ

Given:

sinθ + cosθ + 1 + cosθ.sinθ.tanθ + cos²θ - sinθ

Formula used:

sin2θ + cos2θ = 1

Tan θ = sinθ/cosθ

Calculation:

sinθ + cosθ + 1 + cosθ.sinθ.tanθ + cos2θ - sinθ

=> sinθ + cosθ + 1 + cosθ.sinθ(sinθ/cosθ) + cos²θ - sinθ

=> sinθ + cosθ + 1 + cosθ.sin²θ/cosθ + cos²θ - sinθ

=> cosθ + 1 + sin²θ + cos²θ

=> cosθ + 2

Q54. Answer: (c) 5 : 3

Calculation:

Total Demand of motorcycles of companies A = 100

Total Demand of motorcycles of companies D = 125

Total Demand of motorcycles of companies A and D = 100 + 125 = 225

Production of motorcycles of computer C = 135

Ratio of the total Demand of motorcycles of companies A and D taken together to the Production of motorcycles of computer C = 225 : 135

=> 5 : 3

Therefore The required ratio is 5 : 3

Q55. Answer: (d) 7√3/3

Given:

3 - 2sin²θ - 3cosθ = 0

Formula:

sin2θ + cos²θ = 1

Calculation:

=> 3 - 2(1 - cos2θ) - 3cosθ = 0

=> 3 - 2 + 2cos2θ - 3cosθ = 0

=> 2cos2θ - 3cosθ + 1 = 0

=> 2cos2θ - 2cosθ - cosθ + 1 = 0

=> 2cosθ(cosθ - 1) - 1(cosθ - 1) = 0

=> (2cosθ - 1)(cosθ - 1) = 0

=> cosθ = (1/2), cosθ = 1

=> cosθ = (1/2)

=> cosθ = cos60°

=> θ = 60°

Now, (2cosecθ + tanθ)

=> 2cosec60° + tan60°

=> {2 × (2/√3)} + √3

=> (4/√3) + √3

=> (4 + 3)/√3

=> 7/√3

=> 7√3/3

Shortcut TrickSince, 0° < θ < 90°, Assume θ = 45, then we have

3 - 2sin245 - 3cos45 = 3 - 2 × 1/2 - 3 × 1/√2 = (2√2 - 3)/√2 ≠ 0

Again, take θ = 60, then

3 - 2sin260 - 3cos60 = 3 - 2 × 3/4 - 3/2 = 3 - 3 = 0 satisfied

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Now, (2cosecθ + tanθ) = 2cosec60° + tan60°
=> {2 × (2/√3)} + √3
=> 7/√3 = 7√3/3

Q56. Answer: (b) 185

Given:
a + b + c = 5
(a + b + c)² = 25
Formula used:
(a + b + c)2 = a2 + b2 + c2 + 2(ab + bc + ca)
a3 + b3 + c3 - 3abc = (a + b + c)(a2 + b2 + c2 - ab - bc - ca)
Calculation:
=> a² + b² + c² + 2(ab + bc + ca) = 25
=> 2(ab + bc + ca) = 25 - 33 = -8
=> (ab + bc + ca) = (-8)/2 = -4
a³ + b³ + c³ - 3abc = (a + b + c)(a² + b² + c² - ab - bc - ca)
=> 5 × {33 - (-4)} = 5 × 37 = 185

Q57. Answer: (c) 22

Given:
a3 + b3 = 110
a + b = 5
Formula used:
(a + b)³ = a³ + b³ + 3ab(a + b)
Calculation:
=> (5)³ = 110 + 3 × ab × (5)
=> 125 = 110 + 15ab
=> ab = 1
So, (a + b)² - 3ab = 25 - 3 = 22

Q58. Answer: (d) 72 kg

Let the number of students in class B be x.
The total number of students in class A and B = 96
The number of students in class A = the number of students in class B × 140/100
=> 1.4x + x = 96
=> x = 96/2.4 = 40
The number of students in class A = 40 × 140/100 = 56
Let the average weight of students in class A be y.
=> The average weight of students in class B = y × 150/100 = 1.5y
Total average weight of all the students in A and B taken together = 58
According to the question,
y × 56 + 1.5y × 40 = 58 × 96
=> y = 48
The average weight (in kg) of the students in B = 1.5y = 1.5 × 48
= 72
Shortcut Trick

	A	B
Average	2x	3x
No. of students	7y	5y

=> 12y = 96
=> y = 8

So, no. of students at A = 7 × 8 = 56 and B = 5 × 8 = 40
Combined average of A and B together
=> (2x × 56 + 3x × 40)/96 = 58kg
=> 2x × 7 + 3x × 5 = 58 × 12
=> 29x = 58 × 12
=> x = 24
Average of B = 3 × 24 = 72 kg

Q59. Answer: (d) 46%

Calculation:
The total Production of motorcycles of companies B and D = 230
Demand of motorcycles of all the companies taken together
=> 100 + 70 + 110 + 125 + 95 = 500
Required percentage = 100 × 230/500 = 46%

Q60. Answer: (c) 36

Given:
A + B can complete a work = 16 days
C + A can complete a work = 32 days
B + C can complete a work = 24 days
Concept used:
Total work = Efficiency × Time
Calculation:
Let the total work be 96.
(Lcm of 16, 32 and 24 is 96)
Efficiency of (A + B) = 6
Efficiency of (B + C) = 4
Efficiency of (C + A) = 3
Efficiency of 2(A + B + C) = 13
Efficiency of (A + B + C) = 6.5
Work of 12 days = 6.5 × 12 = 78
Remaining work = 96 - 78 = 18
Efficiency of C = 6.5 - 6 = 0.5
Days to complete remaining work = 18/0.5 = 36 days

Q61. Answer: (d) $4(BL^2 + CM^2) = 5BC^2$

From the theorem -
$4(BL^2 + CM^2) = 5BC^2$

Q62. Answer: (c) 8%

Calculation:
Total production of motorcycles of companies B, C and E
=> 90 + 135 + 120 = 345
The average production of motorcycles of companies B, C and E
=> 345/3 = 115
Demand of motorcycles of D = 125
Required percentage = 100 × (125 - 115)/125 = 8%

Q63. Answer: (b) 4 cm

Given:
AB and CD interest each other at E
CD = 18, AE = 18 cm, ED = 6 cm
Concept used:
If two chords AB and CD of a circle, intersect inside a circle, then AE × BE = CE × DE

Calculation:
we know that,
AE × EB = CE × ED
=> AE × EB = (CD - ED) × ED
=> 18 × EB = (18 - 6) × 6
=> EB = 4 cm

Q64. Answer: (a) 2

Given:
[{(cos9° + sin81°)(sec9° + cosec81°)} / {(sin56°sec34°) + (cos25°cosec65°)}]
Formula:
sin(90 - θ) = cosθ,
cos(90 - θ) = sinθ,
sec(90 - θ) = cosecθ,
cosec(90 - θ) = secθ
Calculation:
=> [{ cos9° sec9° + sin81° sec9° + cos9° cosec81° + sin81° cosec81°} / {(sin56°cosec56°) + (cos25°sec25°)}]
=> [{1 + sin81° cosec81° + cos9° sec9° + 1} / {1 + 1}]
=> [{2 + 1 + 1} / {1 + 1}]
=> 4/2 = 2

Q65. Answer: (a) 0°

Given:
3cos2A + 6sin2A = 3
Formula used:
$\sin^2\theta + \cos^2\theta = 1$
Calculation:
$3\cos^2A + 6\sin^2A = 3$
$\Rightarrow 3\cos^2A + 3\sin^2A + 3\sin^2A = 3$
$\Rightarrow 3 + 3\sin^2A = 3$
$\Rightarrow 3\sin^2A = 0$
$\Rightarrow A = 0°$

Q66. Answer: (d) 7

Given,
40√5x3 - 3√3y3 = (2√5x - √3y)(Ax2 + Bxy + cy2), ------(1)
Calculation:
Taking L.H.S
$\Rightarrow (2\sqrt{5}x)^3 - (\sqrt{3}y)^3 = (2\sqrt{5}x - \sqrt{3}y)(20x^2 + 2\sqrt{15}xy + 3y^2)$ ----(2)
On comparing the eq (1) and eq (2)
A = 20, B = 2√15, C = 3
put these value in $\sqrt{(B^2 + C^2 - A)}$
$\Rightarrow \sqrt{((2\sqrt{15})^2 + 3^2 - 20)} = \sqrt{49} = 7$

Q67. Answer: (d) 12 cm

Shortcut Trick
When two similar triangles have equal areas, they are congruent.
ΔABC ~ ΔQPR and Area(ΔABC) = Area(ΔQPR) => ΔABC ~= ΔQPR.
In congruent triangles, all corresponding sides are equal.
The side AB corresponds to the side QP.
Therefore QP = AB = 12 cm.
Therefore The correct answer is 12 cm.
Alternate Method

Given:

ΔABC ~ ΔQPR

Area(ΔABC) = Area(ΔQPR) = 914

AB = 12 cm, BC = 6 cm, AC = 9 cm

Formula Used:

For two similar triangles, the ratio of their areas is equal to the square of the ratio of their corresponding sides:

Area(ΔABC) ÷ Area(ΔQPR) = (AB ÷ QP)² = (BC ÷ PR)² = (AC ÷ QR)²

Calculations:

=> Area(ΔABC) ÷ Area(ΔQPR) = (AB ÷ QP)²

=> 914 ÷ 914 = (12 ÷ QP)²

=> 1 = (12 ÷ QP)²

=> √1 = 12 ÷ QP

=> 1 = 12 ÷ QP

=> QP = 12 cm

Therefore The correct answer is 12 cm.

Additional Information

Area Ratio Theorem

The ratio of the areas of two similar triangles is equal to the square of the ratio of their corresponding sides, altitudes, medians, or angle bisectors.

Similarity vs Congruence

All congruent triangles are similar, but not all similar triangles are congruent. Similarity with an area ratio of 1 implies congruence.

Corresponding Parts

In the notation ΔABC ~ ΔQPR, the order of vertices defines the correspondence: A ↔ Q, B ↔ P, and C ↔ R.

Q68. Answer: (d) 25.5%

Given:

Anu's spending = 90% of income

Increase in expenditure = 25%

Increase in saving = 30%

Formula used:

Income = Expenditure + Saving

Calculation:

Let the total income of Anu = 100

Expenditure = 90 × 100/100 = 90

Saving = 100 - 90 = 10

Now, Expenditure = 90 × 125/100 = 112.5

Saving = 10 × 130/100 = 13

=> 112.5 + 13 = 125.50

Required percentage = 25.5 × 100/100 = 25.5%

Q69. Answer: (b) 196

Given:

The success to failure ratio = 5 : 2

When the number of failures are 14 more, then the success to failure ratio would have been 9 : 5

Calculation:

Let the successful candidates be 5x and the failure candidates be 2x.

According to Question,

(5x - 14)/(2x + 14) = 9/5

=> 25x - 70 = 18x + 126

=> x = 196/7 = 28

Total number of candidates who appeared for the examination = 5x + 2x = 7x = 7 × 28 = 196

Alternate Method

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Total students = 5 + 2 = 7 units ----(1)

When 14 more failed, total students = 9 + 5 = 14 units

As the number of students are the same in both cases, (1) × 2

New ratio → 10 : 4

↓ 1 unit = 14 students

second ratio → 9 : 5

Total number of students = 14 units = 14 × 14 = 196 students

Therefore The total number of students is 196.

Additional Information

Here the total number of students will be the same so if the number of failed students increases then the passed student number will decrease.

Q70. Answer: (d) Rs. 1, 736

Month in 21/2years = 5/2 × 12 = 30 month

Interest is compound 10-monthly so,

Effective rate of interest

12 months = 15%

1 month = 15/12%

10 months = 12.5%

Effective rate of interest = 12.5% (compounded 10 monthly)

Now,

When calculated at compound interest

Amount (A) = $p(1 + r/100)^n$

Where p, r and n are principal, rate and time respectively

A = $4096(1 + 12.5/100)^3$

A = Rs.5832

Compound Interest = Amount – Principal

Compound Interest = 5832 – 4096 = 1736

Therefore , compound interest = Rs.1736

Q71. Answer: (b) 23°

Given:

angle D = 90°

angle B = 72°, angle C = 26°

Concept used:

The angle bisector is a line which divides an angle into two equal parts.

Calculation:

angle A = 180° - 72° - 26° = 82°

Because angle BAE is the bisector of angle A.

=> angle BAE = 82/2 = 41°

angle BAD = 180° - 72° - 90° = 18°

angle DAE = 41° - 18° = 23°

Q72. Answer: (c) 224

Given:

$x^2 + 1 = 3x$ ---- (1)

Calculation:

As we know that, $x + 1/x = N$, then $(x^2 + 1/x^2) = N^2 - 2$

On dividing both sides by x in eq (1)

$x + 1/x = 3$ ---- (2)

=> $x^2 + 1/x^2 = 9 - 2 = 7$ ---- (3)

The value of $4[(x^2 + x^{(-2)})(x^2 + 5x + 1)]/x$

=> $4 \times [7 \times (3x + 5x)]/x$ (Because $x^2 + 1 = 3x$)

=> 4 × [21x + 35x]/x

=> [56 × 4] = 224

Q73. Answer: (b) Profit Rs. 140

Given:

S.P. of two articles = Rs. 5220 each

Gain% on 1st article = 16%

Loss% on 2nd article = 10%

Formula used:

C.P. of an article = (S.P. × 100)/(100 + gain%)

Calculation:

Selling price of two articles = 5220 × 2 = 10440

Cost price of 1^(st) article = 5220 × 100/116 = 4500

Cost price of 2^(nd) article = 5220 × 100/90 = 5800

Cost price of two articles = 4500 + 5800 = 10300

Profit = 10440 - 10300 = Rs. 140

Q74. Answer: (a) C

Calculation:

In Company C -

Production of motorcycles = 135

Demand of motorcycles = 110

Required percentage = 25 × 100/110 = 22.72%

Q75. Answer: (c) 272 m

Given:

Length of train x = L1

Length of train y = L2

Speed of train x = 84 km/h

Speed of train y = 52 km/h

Formula used:

If two objects are running in the same direction, then

Relative speed = S1 - S2

If two objects are running in the opposite direction, then

Relative speed = S1 + S2

Calculation:

Relative speed = 84 + 52 = 136 × 5/18 m/s

Length of train x and y = time × relative speed

Length of train x and y = 12 × 136 × 5/18 = 1360/3

=> L1 + L2 = 1360/3

=> L1 + {L1× (2/3)} = 1360/3

=> 5/3 L1 = 1360/3

=> L1= 272 m

Q76. Answer: (c) 14th June

The correct answer is option 3, i.e. 14th June.

• World Blood Donor Day is celebrated each year on June 14 to raise awareness about blood donation, since its inception in 2005.

• The host country for World Blood Donor Day 2019 is Rwanda and the theme for World Blood Day 2019 is "Safe blood for all".

• The event is one of eight global public health campaigns led by the World Health Organisation (WHO) and serves to “thank voluntary, unpaid blood donors for their life-saving gifts of blood.”

• In May 2005, ministers of health from across the world made a unanimous declaration of commitment and support towards voluntary blood donation during the Fifty-Eighth World Health Assembly and designated World Blood Donor Day an annual event to be held on June 14.

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Q77. Answer: (c) TrueCaller

The correct answer is option 3, i.e. TrueCaller.

• Former Flipkart Executive Sandeep Patil was appointed as India Managing Director of Truecaller.

• He served as the head of consumer and commercial lending vertical at Flipkart until his new appointment with Truecaller.

• Sandeep Patil will be leading business strategies to expand the company and increase its revenue.

• He will be supervising the teams based in Delhi, Mumbai and Bengaluru.

• Truecaller Headquarters: Stockholm

• Founded: 2009

• Founders: Nami Zarringhalam and Alan Mamedi

Q78. Answer: (a) 8

The correct answer is option 1. i.e. 8.

• The Indian National Congress (INC) has won 8 out of the 13 seats.

• BJP has managed to win 2 seats namely Hoshiarpur and Gurdaspur.

• Punjab was among last states to vote in Lok Sabha election 2019 in the seventh phase.

• Punjab sends 13 MPs to Lok Sabha, from Anandpur Sahib, Firozpur, Khadoor Sahib, Hoshiarpur, Amritsar, Ludhiana, Fatehgarh Sahib, Gurdaspur, Bathinda, Sangrur, Patiala, Jalandhar and Faridkot.

Q79. Answer: (d) 1873

The correct answer is option 4, i.e. 1873.

• One of the most vocal amongst the “low-caste” leaders was Jyotirao Phule.

• Satya Shodhak Samaj was a social reform society founded by Jyotirao Phule in 1873

• He set out to attack the ‘Brahmans’ claim that they were superior to others since they were Aryans.

• He proposed that Shudras (labouring castes) and Ati Shudras (untouchables) should unite to challenge caste discrimination.

• In 1873, Phule wrote a book named Gulamgiri, meaning slavery.

Q80. Answer: (a) Puducherry

The correct answer is option 1) i.e. Puducherry.

• Puducherry is a Union Territory which has a Legislative assembly, Council of Ministers and a Lieutenant Governor. Therefore known as a Partial State. Delhi and Jammu and Kashmir are other UT,s which are partial states.

• On November 1, 1954, the French possessions in India were transferred to the Indian Union and Puducherry became a Union Territory.

• In 1963 Puducherry became officially an integral part of India after the French Parliament in Paris ratified the Treaty with India.

• In 1963, the Parliament enacted the Government of Union Territories Act which provides for Legislative Assemblies and Council of Ministers in the Union Territories.

• The Centre is represented by the Lt. Governor.

Q81. Answer: (c) Gujarat

The correct answer is option 3, i.e. Gujarat.

• Adani Power Mundra is located in the Kachch District in Taluka Mundra of Gujarat.

• The site of Mundra SEZ (Special Economic Zone) is located in the district of Kachch, bordered by the northern coastline of the Gulf of Kutch.

• Adani Power created history by synchronising the first super-critical technology based 660MW generating unit at Mundra.

• This is the first super-critical generating unit in India. It is a coal-based unit.

Q82. Answer: (c) Frequency

The correct answer is Frequency.

Concept:

Physical Quantity	About	SI Unit
Frequency	Number of occurrences of a repeating event per unit of time	Hertz (Hz)
Force	Any interaction which when unopposed will change the motion of an object	Newton (N)

Energy	Energy is defined as the ability to do work	Joule (J)
Pressure	The force applied is perpendicular to the surface of objects per unit area	Pascal (Pa)

Explanation:

From the above explanation, we can see that,

Hertz is the SI unit of frequency and it is represented by symbol Hz

Also 1 Hz = 1 sec^(-1)

Q83. Answer: (a) Reserve Bank of India

The correct answer is option 1, i.e. Reserve Bank of India.

• Financial Literacy Week is an initiative of RBI to promote awareness on various key topics every year through a focused campaign.

• Financial Literacy Week 2019 was observed from June 3-7 on the theme of “Farmers” and how they benefit by being a part of the formal banking system.

• In order to build awareness and disseminate financial literacy messages to the farming community, focused content in the form of posters and leaflets have been prepared for dissemination.

• Banks have been advised to display the posters and content in their rural bank branches, Financial Literacy Centers, ATMs and websites.

• RBI will undertake a centralized mass media campaign during the month of June on Doordarshan and All India Radio to disseminate essential financial awareness messages to farmers.

• It is RBI’s endeavour to reach out to the farming community and all stakeholders are requested to coordinate and make this financial literacy campaign a success.

RBI HQ- Mumbai

Q84. Answer: (c) Sony

The correct answer is option 3, i.e. Sony.

• Sony has exited the smartphone market in India as it looks to focus on its key markets in Japan, Europe, Hong Kong and Taiwan in order to drive profitability.

• It had ceased sales in India in FY18, but it has committed to continuing customer support operations including after-sales support and software updates for existing customers in India.

• Sony has ceased sales in Central and South America, West Asia, South Asia, Oceania, etc, in FY18.

• In the US and China, Sony has withdrawn from the operator business but will continue selling in the open market.

Q85. Answer: (a) Yuvika-2019

The correct answer is option 1, i.e. Yuvika-2019.

• Dr K Sivan, Chairman, ISRO inaugurated the Young Scientist Programme (Yuvika-2019) from ISRO Headquarters, Bengaluru in May 2019.

• A total of 110 students representing every State and Union Territory of India are participating in this programme.

• Yuvika Program is primarily aimed at imparting basic knowledge on Space Technology, Space Science and Space Applications to the younger ones with the intent of arousing their interest in the emerging areas of Space activities.

• While inaugurating the programme, Chairman, ISRO, mentioned that it is a very important science programme for students. He said that this programme would help in inculcating scientific temper of the student.

Q86. Answer: (a) Amrita Pritam

The correct answer is option 1, i.e. Amrita Pritam.

• Amrita Pritam was an Indian maverick writer and poet.

• She is considered the first eminent female Punjabi writer, novelist, and poet of the 20^(th) century.

• She was honoured with prestigious awards like the ‘Sahitya Akademi,’ ‘Bharatiya Jnanpith,’ and ‘Padma Vibhushan’ among many others.

• Pritam is best remembered for the poignant poem, 'Ajj aakhaan Waris Shah Nu (Today I invoke Waris Shah — "Ode to Waris Shah").

• Her work 'Pinjar' (The Skeleton) (1950) is considered to be the best literature written in the backdrop of Partition of India.

• In the novel, she created the memorable character 'Puro'. The novel was made into a film, 'Pinjar' in 2003.

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Q87. Answer: (a) Rajasthan

The correct answer is option 1, i.e. Rajasthan.

• Rajasthan government increased the amount of financial assistance given to schools girls under Aapki Beti Scheme.

• Under the Aapki Beti scheme, girls living under the Below Poverty Line (BPL) and whose mother or father or both have died, get annual financial assistance in the state.

• The amount has been increased to 2,100 from Rs 1,100 for the girls studying in class 1 to 8 and for the girls in class 9 to 12, the financial aid has been increased to Rs 2,500 from Rs 1,500.

Q88. Answer: (a) UAE

The correct answer is UAE.

Key Points

• Asian Cup Football tournament was held in the United Arab Emirates (UAE). It was a 28-day long tournament

• There were 24 teams including hosts UAE. Qatar won the tournament by defeating Japan in the final.

• Total prize money was US$14,800,000, with the winners getting $5 million.

• The runners-up got $3 million, while the losing semi-finalists received $1 million.

• All 24 participating teams had also received $200,000.

Q89. Answer: (c) Rahi Sarnobat

The correct answer is option 3, i.e. Rahi Sarnobat.

• Rahi Sarnobat claimed victory in the 25m Pistol Women's Final at the 2019 ISSF World Cup in Munich, claiming an Olympic quota place for Tokyo 2020 in the process.

• Saurabh Chaudhary also won a gold medal by setting a new world record in the 10m Air Pistol event.

• India has topped the Munich World Cup medals tally with three gold.

• China is second with one gold, one silver and three bronze medals at the season's third ISSF World Cup in Munich.

• Apurvi Chandela also won the gold in women's 10m air rifle at the ISSF World Cup in Munich.

Q90. Answer: (b) Microsoft Excel

The correct answer is option 2, i.e. Microsoft Excel.

Key Points

• In Microsoft Excel, a pivot table allows the user to summarize and analyze worksheet data by extracting pieces of data from a much larger data set.

• The Pivot Table feature allows the user to create a cross-tabulation summary of data in which heading can subsequently move to give different views of the data.

• Pivot tables are useful with large amounts of data that would be time-consuming to calculate by hand.

• It flips and sums data in seconds and allows us to perform data analysis and generating reports like periodic financial statements, statistical reports, etc.

Q91. Answer: (b) Rajasthan

The correct answer is option 2, i.e. Rajasthan.

• Sambhar Salt Lake, the largest inland salt lake in India, situated in east-central Rajasthan state, west of Jaipur.

• It represents a depression in the Aravalli Range.

• This inland lake receives water from five rivers, namely Samaod, Khari, Mantha, Khandela, Medtha, and Roopangarh.

• The area occupied by this lake differs from season to season.

Q92. Answer: (b) Thiruvananthapuram

The correct answer is option 2, i.e. Thiruvananthapuram.

• Soorya Festival, an annual cultural event organized by the Soorya Stage and Film Society.

• The festival which lasts for more than a hundred days is held in Thiruvananthapuram, the capital city of Kerala.

• Soorya Festival endeavours to achieve "Integration through Culture" and aspires to propagate the rich Indian culture around the globe.

• Nataraja Krishnamoorthy, popularly known as Soorya Krishnamoorthy is the founder of the Soorya Stage and Film Society.

• Krishnamoorthy who was a scientist at ISRO (Indian Space Research Organization) brought Thiruvananthapuram, Kerala, into the cultural and film map of India, through various cultural and film festivals.

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Q93. Answer: (c) Lala Lajpat Rai

The correct answer is option 3, i.e. Lala Lajpat Rai.

• "The shots that hit me are the last nails to the coffin of British rule in India" this quote has been quoted by Lala Lajpat Rai.

• Lala Lajpat Rai is an Indian writer and politician, outspoken in his advocacy of militant anti-British nationalism in the Indian National Congress and as a leader of the Hindu supremacy movement.

• In 1928 he introduced the legislative assembly resolution for the boycott of the British Simon Commission on constitutional reform.

• Lajpat Rai's most important writings include The Story of My Deportation (1908), Arya Samaj (1915), The United States of America: A Hindu's Impression (1916), England's Debt to India: A Historical Narrative of Britain's Fiscal Policy in India (1917), and Unhappy India (1928).

Q94. Answer: (a) Hyderabad

The correct answer is option 1, i.e. Hyderabad.

• National Institute of Nutrition (NIN) is an Indian Public health, Nutrition, and Translational research centre.

• It is located in Hyderabad.

• Under the Indian Council of Medical Research, it is one of the oldest research centres in India.

• Founded by Sir Robert McCarrison in the year 1918 as 'Beri-Beri' Enquiry Unit in a single room laboratory at the Pasteur Institute, Coonoor, Tamil Nadu.

• In 1969, it was renamed as National Institute of Nutrition (NIN).

Q95. Answer: (d) Neptune

The correct answer is option 4, i.e. Neptune.

Key Points

• Dark, cold and whipped by supersonic winds, ice giant Neptune is the eighth and most distant planet in our solar system.

• NASA's Voyager 2 is the only spacecraft to have visited Neptune up close. It flew past in 1989 on its way out of the solar system.

• Neptune's atmosphere is made up mostly of molecular hydrogen, atomic helium, and methane.

• Neptune has 13 moons (and one more awaiting confirmation of discovery), which are named after sea gods and nymphs in Greek mythology.

• Neptune has six known rings.

Q96. Answer: (c) $4 million

The correct answer is option 3, i.e. $4 million.

• The winners of the 2019 ICC men's World Cup will earn a cash award of $4 million, the highest prize money on offer in the history of the tournament.

• The total prize pot, which sits at $ 10 million, had seen the runners-up assured of $ 2 million and the losing semi-finalists $ 800,000 each at the end of the 46-day tournament being played across 11 venues.

• England and Wales have previously staged the World Cup in 1975, 1979, 1983 and 1999.

• England Defeated New Zealand on the basis of the number of boundaries each team had hit during the match after the match was ended in a tie

Q97. Answer: (a) Fold Mountain

The correct answer is Fold Mountain.

Key Points

• Fold mountains are the most common type of mountain in the world.

• The rugged, soaring heights of the Himalayas, Andes, and Alps are all active fold mountains.

• Earth's hard outer layer is called the crust. It is made up of large interlocking slabs called tectonic plates.

• Fold mountains are created where two or more of Earth's tectonic plates are pushed together.

• At these boundaries, rocks and debris are warped and folded into hills, mountains, and entire mountain ranges.

• The Himalayas stretch through the borders of China, Bhutan, Nepal, India, and Pakistan.

Q98. Answer: (a) Electrically Erasable Programmable Read-Only Memory

The correct answer is Electrically Erasable Programmable Read-Only Memory

Key Points

• EEPROM stands for Electrically Erasable Programmable Read-Only Memory.

• It is a non-volatile memory in which the information stored Is retained even after the power goes off.

• A special type of PROM in which the information stored in it can be erased by exposing it to an electrical charge at one byte at a time.

• EEPROM generally offers excellent capabilities and performance.

• EEPROMs are constructed as arrays of floating-gate transistors.

Q99. Answer: (b) Ajay Singh

The correct answer is option 2, i.e. Ajay Singh.

• SpiceJet's Chairman and MD Ajay Singh were elected to the board of the International Air transport Association (IATA).

• The new board of the global airlines' grouping would be chaired by Lufthansa Group Chief Executive Officer Carsten Spohr, who took charge after the conclusion of the IATA annual general meeting.

• Spohr will be the Chairman of the IATA Board of Governors (BoG) for a one-year.

• SpiceJet became the first Indian low-cost carrier to take membership of the IATA.

• The International Air Transport Association (IATA) is the trade association for the world’s airlines, representing some 290 airlines or 82% of total air traffic.

Q100. Answer: (c) Bengaluru

The correct answer is option 3, i.e. Bengaluru.

• New York-based investment and financial services major Goldman Sachs have pumped in $250 million to construct one of the largest global workspaces in Bengaluru.

• Goldman Sachs Group, Inc. engages in global investment banking, securities, and investment management, which provides a range of financial services to corporations, financial institutions, governments, and individuals.

• The company was founded by Marcus Goldman in 1869 and is headquartered in New York, USA.

• CEO of Goldman Sachs: David Michael Solomon.

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