NTPC CBT-II 2016 Official Paper (Held On: 18 Jan, 2017 Shift 1) (Previous Year Paper)

RRB NTPC • 2016 • 120 questions • 90 minutes • Answer key and solutions

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FULL TEST

Q1. Find out which of the following sets form co-prime numbers.

(a) (12, 7)
(b) (21, 42)
(c) (3, 9)
(d) (43, 129)

Q2. The monthly salaries of P and Q are in the ratio 4 : 3. If P and Q get an increase of 10% and 5% of their existing salaries respectively, what will be the new ratio?

(a) 88 : 63
(b) 63 : 88
(c) 45 : 60
(d) 60 : 45

Q3. The Home Rule Leagues set up in 1915-16 worked as auxiliary units of the _____.

(a) Muslim League
(b) Indian National Congress
(c) Extremists
(d) British Raj

Q4. Fill up the blank with the most appropriate option below.

Future financial transactions would be based on _____

(a) Graphics
(b) Point of Sale
(c) Robotics
(d) Wireless

Q5. _____, an Assamese wildlife biologist won the Royal Bank of Scotland (RBS) Earth Heroes Award 2016..

(a) Angoorlata Deka
(b) Aparajita Borkotoki
(c) Subrata Sharma
(d) Purnima Devi Barman

Q6. Which of the following Vedas contains treatment for diseases?

(a) Yujurved
(b) Rigved
(c) Samaved
(d) Atharvaved

Q7. HORSE : SERHO : : CURSE : ?

(a) ERCUS
(b) SECRU
(c) RCUES
(d) SERCU

Q8. K and L can do a work in 15 and 20 days respectively. They work together for 5 days and leave. Calculate the unfinished portion of the work.

(a) 7/12
(b) 5/12
(c) 1/13
(d) 1/4

Q9. Compare the Analogy.

Admiral : Navy : : ? : Indian Air Force

(a) Air Marshal
(b) Air Chief Marshal
(c) Air Vice Marshal
(d) Flight Lieutenant

Q10. A question and three statements labeled (I), (II) and (III) are given. You have to decide which statement(s) is/are sufficient to answer the question.

Can you make an overall assessment of the present level of stock market index today?

Statements :

I : Today, the stock market index has reached lower than the lowest during the last 3 years.

II : During the last year, the index fluctuated between 30,360 and 28,255.

III : The stock market index touched a low of 27,125 in the preceding 3 years.

(a) All the three statements I, II and III are insufficient.
(b) Both statements I and III are sufficient.
(c) Both statements II and III are sufficient.
(d) Both statements I and II are sufficient.

Q11. Indian Railways network connects about _____ stations.

(a) 12,000
(b) 14,000
(c) 8,000
(d) 10,000

Q12. If TEACHER is coded as 8412745, CHEATER will be coded as :

(a) 2714845
(b) 2741485
(c) 2748145
(d) 2741845

Q13. Select the number which is different from the other numbers given below :

157, 571, 599, 387

(a) 571
(b) 157
(c) 599
(d) 387

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Q14. 8 boxes of a fruit were purchased for Rs. 9,600. 5 boxes were sold at a profit of 10% and 3 boxes were sold at a loss of 10%. What is the net gain in percentage?

(a) 2.75%
(b) 2.5%
(c) 2%
(d) 2.25%

Q15. Hubble's Law is related to _____.

(a) Heat
(b) Sound
(c) Astronomy
(d) Air Pressure

Q16. In April 2016, the National Green Tribunal suspended the environmental clearance given to the proposed hydropower project in Arunachal Pradesh to save the _____.

(a) Great Hornbills
(b) Gayals
(c) Medicinal Plants
(d) Black-necked Cranes

Q17. GSAT-18 launched by India in October 2016, was essentially a _____ satellite.

(a) meteorological
(b) remote sensing
(c) communication
(d) earth observation

Q18. The river island Majuli which became "India's first and only island district" is located in _____

(a) Karnataka
(b) Jammu and Kashmir
(c) Himachal Pradesh
(d) Assam

Q19. _____ clicking on mouse selects the entire paragraph by default, while working with text document in MS Word.

(a) Alt + Single
(b) Triple
(c) Double
(d) Single

Q20. The Nobel Peace Prize 2016 was awarded to :

(a) David J. Thouless
(b) Bob Dylan
(c) Bernard L. Feringa
(d) Juan Manuel Santos

Q21. Find the least number which should be added to 1456 so that it is divisible by 6, 5 and 4 without leaving a remainder.

(a) 6
(b) 61
(c) 44
(d) 16

Q22. Choose option which is not similar to the others in the group given below :

(a) Reptile
(b) Snake
(c) Lizard
(d) Crocodile

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Q23. In a class of 135 students, the number of boys is twice that of girls. One-sixth of the boys and one-third of the girls failed in the final examination. Find the percentage of students who passed the examination.

(a) 75%
(b) 71.45%
(c) 77.78%
(d) 81.23%

Q24. If p and q are in the ratio 4 : 3 and their LCM is 36, p + q = ?

(a) 18
(b) 21
(c) 24
(d) 12

Q25. EIMQUY : CGKOSW : : BFJNRV : ?

(a) CGKOSW
(b) DHLPTX
(c) AEIMQU
(d) ZDHLPT

Q26. What is the cost price of a product, if the gain in selling it for Rs. 27,120 is 13%?

(a) Rs. 24,600
(b) Rs. 24,000
(c) Rs. 22,800
(d) Rs. 25,300

Q27. The simple interest at 10% p.a. on a deposit for 2 years is Rs. 4,000. If the interest is compounded on an annual basis, how much more will be the amount of interest?

(a) Rs. 200
(b) Rs. 240
(c) Rs. 220
(d) Rs. 190

Q28. The difference between the selling prices of an item at a profit of 9% and 7% was Rs. 190. Find the cost price of the item.

(a) Rs. 9,200
(b) Rs. 9,500
(c) Rs. 8,700
(d) Rs. 9,000

Q29. Pointing to a photograph a lady said, "he is the son of my grandfather's only son". How is the person in the photo related to the lady?

(a) Grandfather
(b) Father
(c) Son
(d) Brother

Q30. Which of the following international football stars belongs to Brazil?

(a) Neymar
(b) Gabriel Batistuta
(c) Marcos Rojo
(d) Lionel Messi

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Q31. Interchange two mathematical operators and balance the incorrect equation given below :

16 - 24 × 2 ÷ 10 + 104 = 0

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

Q32. A question and three statement labeled (I), (II) and (III) are given. You have to decide which statement(s) is/are sufficient to answer the question.

Find out the minimum number of nurses needed by the hospital.

Statements :

I : There are three shifts round the clock.

II : There are thirteen wards requiring two nurses per shift.

III : The town needs at least three nurses per thousand population.

(a) Both statements II and III are sufficient
(b) Only statement I is sufficient.
(c) Both statements I and III are sufficient.
(d) Both statements I and II are sufficient.

Q33. Complete the analogy with most suitable option :

Rice : Carbohydrate : : Sprouts : ?

(a) Water
(b) Protein
(c) Heat
(d) Fat

Q34. WWF stands for :

(a) Web World Federation
(b) World Wildlife Federation
(c) World Wildlife Fund
(d) World Web Federation

Q35. Ponzi Scheme refers to ____ Scam.

(a) coal allocation
(b) investment
(c) fodder
(d) food grain

Q36. 'Absolute zero' refers to _____.

(a) minus 273 °C
(b) minus 295 °C
(c) minus 300 °C
(d) minus 255 °C

Q37. Which one of the following islands does NOT belong to Lakshadweep?

(a) Minicoy
(b) Kavaratti
(c) Neil
(d) Amini

Q38. Read the following statements and select the option which is NOT true based on the statements:

The cost of six mangoes is equal to the cost of four apples. The cost of eight apples is equal to the cost of two jackfruits.

(a) A mango is not as costly as an apple.

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(b) An apple is cheaper than a jackfruit.
(c) Jackfruit is the costliest of all.
(d) An apple is not as costly as a mango.

Q39. 10 men and 5 women can do a work in 60 days. If one man can do the work of two women, how long will 5 men and 20 women take to complete half of the work?
(a) 25
(b) 36
(c) 40
(d) 50

Q40. In July 2016, a Russian priest set a new record of flying solo in an air balloon around the World, in just over _____ days.
(a) 17
(b) 11
(c) 15
(d) 13

Q41. _____ is NOT a common bitmap-based file type extension.
(a) ODT
(b) TIFF
(c) PNG
(d) PCX

Q42. Statements followed by some conclusions are given below.
Statements:
A. All men are mechanics.
B. All mechanics are engineers.
Conclusions:
I. Some mechanics are men
II. Some engineers are mechanics.
Find which one of the given conclusions logically follows from the given statement.
(a) Neither I nor II follows
(b) Both I and II follow
(c) Only conclusion I follows
(d) Only conclusion II follows

Q43. 15 persons can complete a work in 60 days. If the number of persons is increased by 5, how many days earlier will the work get completed?
(a) 20 days
(b) 10 days
(c) 15 days
(d) 45 days

Q44. RMSK : SLUI :: KMFZ : ?
(a) LIHB
(b) LLHX
(c) HKIB
(d) LHKX

Q45. The Rowlatt Act was passed in the year _____.
(a) 1921
(b) 1917
(c) 1919

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(d) 1915

Q46. K borrowed Rs. P at a compound interest of 20% p.a. for 2 years. Interest amount payable was Rs. 5,280. What was the value of P?

(a) 12,000
(b) 11,000
(c) 11,750
(d) 12,500

Q47. The cost price of a set of 2 pants + 4 shirts or 1 pant + 6 shirts is Rs. 5,600. A shopkeeper decided to sell them separately. He sells 10 shirts for Rs. 6,000. Find the amount of profit or loss per shirt.

(a) Profit Rs. 1000
(b) Loss Rs. 1000
(c) Profit Rs. 100
(d) Loss Rs. 100

Q48. Train P Starts from point A at 10 A. M and runs at a constant speed of 60kmph on a straight track and covers 360 km distance. Train Q starts from B at 11 AM and runs towards A at a constant speed. If it crosses P at a distance of 120 Km from B, then what is the speed of train Q ?

(a) 40 kmph
(b) 30 kmph
(c) 50 kmph
(d) 60 kmph

Q49. The minimum age limit prescribed for appointment as Governor of a State in India is _____ years.

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

Directions

Yogesh is taller than Alpesh but shorter than Dharmesh. Suresh is shorter than Rajesh. Harish is not as tall as Alpesh. Ramesh is taller than Dharmesh but shorter than Suresh.

Q50. Who is the shortest of all?

(a) Harish
(b) Ramesh
(c) Alpesh
(d) Yogesh

Q51. Height-wise, who is in the middle?

(a) Dharmesh
(b) Suresh
(c) Yogesh
(d) Ramesh

Q52. Rearrange the jumbled letters to make a meaningful English word and then select the word which is different from the rest.

(a) EVCOL
(b) LCIYHL
(c) HLTCO
(d) MIUNC

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Q53. If & means '+', $ means '-', # means '÷' and % means '×', then the value of

9 % 3 & 22 $ 52 & 85 # 17.

(a) 8
(b) 2
(c) -3
(d) 5

Q54. Which of the following sites was added to the list of UNESCO's World heritage sites in July 2016?

(a) Khangchendzonga National Park, Sikkim
(b) Mahabodhi Temple Complex at Bodh Gaya
(c) Kaziranga Wildlife Sanctuary
(d) Keibul Lamjao National Park, Manipur

Q55. 'Leader of the House' in the context of Lok Sabha refers to _____.

(a) Any designated member of the ruling party or coalition
(b) Either the Prime minister or a Minister who is nominated by the Prime Minister
(c) Leader of the Opposition
(d) The President of India

Q56. 'Tropism' mostly refers to the :

(a) Directional growth of a plant
(b) Longevity of animal species
(c) Bird migration
(d) Behavioural pattern of humans

Q57. Arrange the numbers in descending order:

$2\sqrt{11}$, $4\sqrt{3}$, $3\sqrt{5}$, $5\sqrt{2}$

(a) $5\sqrt{2}$, $4\sqrt{3}$, $3\sqrt{5}$, $2\sqrt{11}$
(b) $3\sqrt{5}$, $4\sqrt{3}$, $5\sqrt{2}$, $2\sqrt{11}$
(c) $2\sqrt{11}$, $4\sqrt{3}$, $3\sqrt{5}$, $5\sqrt{2}$
(d) $4\sqrt{3}$, $3\sqrt{5}$, $2\sqrt{11}$, $5\sqrt{2}$

Q58. A person pays Rs. 8960 per month towards loan repayment which is 28% is his monthly salary. Calculate his monthly salary.

(a) Rs. 32,000
(b) Rs. 34,000
(c) Rs. 28,000
(d) Rs. 30,000

Q59. Sam is the husband of Rosy. Geni is the mother of Rita and Rosy. Vaz is the father of Rita. What is the relation of Vaz to Sam?

(a) Brother
(b) Father-in-law
(c) Father
(d) Son

Q60. On July 25, 2012 Shri Pranab Mukherjee assumed office as the _____ th President of India.

(a) 11
(b) 12
(c) 13
(d) 14

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Q61. Which of the following activity is NOT allowed of Payment banks in India?

(a) Accepting deposit
(b) Offering remittance facility
(c) Distributing simple insurance products
(d) Lending money

Q62. The total amount of interest received on two deposits of Rs. 5,000 for 4 years and Rs. 4,000 for 5 years, made at the same simple rate of interest per annum was Rs. 2,400. Find the rate of interest per annum.

(a) 4%
(b) 7%
(c) 6%
(d) 8%

Q63. According to experts, raging forest fires that took place in Uttarakhand recently have caused the formation of _____.

(a) Phosphorous
(b) Black Carbon
(c) Carbon Nanotubes
(d) Sulphur

Q64. A pre-independence era bunker was discovered in August 2016 at the Raj Bhavan in _____.

(a) Gujarat
(b) Arunachal Pradesh
(c) Maharashtra
(d) Tamil Nadu

Q65. The escape velocity on the Earth's surface is about _____.

(a) 13.8 km/sec
(b) 11.2 km/sec
(c) 21.3 km/sec
(d) 4.3 km/sec

Q66. Indra Nooyi, an Indian origin leader, is associated with _____.

(a) IBM
(b) PepsiCo
(c) CocaCola
(d) Microsoft

Q67. Which of the following Indian States does NOT share an international border?

(a) West Bengal
(b) Haryana
(c) Himachal Pradesh
(d) Punjab

Q68. If EAR = 24 and EYE = 35, then LEG = ?

(a) 24
(b) 25
(c) 22
(d) 23

Q69. Which of the following is NOT a characteristic of the 'wave'?

(a) Wavelength
(b) Amplitude
(c) Frequency
(d) Medium

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Q70. If fire is called ice, ice is called sky, sky is called fire and water is called rain, then where do birds fly?

(a) Air
(b) Water
(c) Fire
(d) Sky

Q71. Find the increase in circumference of a circle of radius 14 cm, if the radius is increased by 7 cm. (π = 22/7)

(a) 44 cm
(b) 22 cm
(c) 66 cm
(d) 88 cm

Q72. The value of which one of the following fractions falls in between 3/5 and 7/8?

(a) 8/9
(b) 6/7
(c) 12/13
(d) 4/7

Q73. Antimatter particles corresponding to electrons are called,

(a) Neutrons
(b) Protons
(c) Antielectron
(d) Positrons

Q74. Evaluate: (sin 30°/cos 45°) × (sin 45°/cos 30°)

(a) % MathType!MTEF!2!1!+- % feaahqart1ev3aqatCvAUfeBSjuyZL2yd9gzLbvyNv2CaerbuLwBLn % hiov2DGi1BTfMBaeXatLxBI9gBaerbd9wDYLwzYbItLDharqqtubsr % 4rNCHbGeaGqiVu0Je9sqqrpepC0xbbL8F4rqqrFfpeea0xe9Lq-Jc9 % vqaqpepm0xbba9pwe9Q8fs0-yqaqpepae9pg0FirpepeKkFr0xfr-x % fr-xb9adbaqaaeGaciGaaiaabeqaamaabaabaaGcbaaeaaaaaaaaa8 % qadaWcaaWdaeaapeWaaOaaa8aabaWdbiaaikdaaSqabaaak8aabaWd % bmaakaaapaqaa8qacaaIZaaaleqaaaaaaaa!3859! (√2)/(√3) 1

(b) % MathType!MTEF!2!1!+- % feaahqart1ev3aqatCvAUfeBSjuyZL2yd9gzLbvyNv2CaerbuLwBLn % hiov2DGi1BTfMBaeXatLxBI9gBaerbd9wDYLwzYbItLDharqqtubsr % 4rNCHbGeaGqiVu0Je9sqqrpepC0xbbL8F4rqqrFfpeea0xe9Lq-Jc9 % vqaqpepm0xbba9pwe9Q8fs0-yqaqpepae9pg0FirpepeKkFr0xfr-x % fr-xb9adbaqaaeGaciGaaiaabeqaamaabaabaaGcbaaeaaaaaaaaa8 % qadaWcaaWdaeaapeWaaOaaa8aabaWdbiaaikdaaSqabaaak8aabaWd % bmaakaaapaqaa8qacaaIZaaaleqaaaaaaaa!3859! 2/(√3) 1/2

(c) % MathType!MTEF!2!1!+- % feaahqart1ev3aqatCvAUfeBSjuyZL2yd9gzLbvyNv2CaerbuLwBLn % hiov2DGi1BTfMBaeXatLxBI9gBaerbd9wDYLwzYbItLDharqqtubsr % 4rNCHbGeaGqiVu0Je9sqqrpepC0xbbL8F4rqqrFfpeea0xe9Lq-Jc9 % vqaqpepm0xbba9pwe9Q8fs0-yqaqpepae9pg0FirpepeKkFr0xfr-x % fr-xb9adbaqaaeGaciGaaiaabeqaamaabaabaaGcbaaeaaaaaaaaa8 % qadaWcaaWdaeaapeWaaOaaa8aabaWdbiaaikdaaSqabaaak8aabaWd % bmaakaaapaqaa8qacaaIZaaaleqaaaaaaaa!3859! 1/(√ 3) 1/√2

(d) 1/√3

Q75. Which of the following is NOT true with reference to a real number?

(a) All irrational numbers are real numbers
(b) A real number need not necessarily be a point on the number line
(c) A Real number is unique
(d) All rational numbers are real numbers

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Q76. If (2a/m + b/n) = 2 and (a/m - b/n) = 4, find the values of 'a' and 'b' respectively.

(a) 2n, 2m
(b) -2n, 2m
(c) 2m, 2n
(d) 2m, -2n

Q77. If two-third of three-fifth of a number is 42, then find one-third of that number.

(a) 40
(b) 45
(c) 105
(d) 35

Q78. The principle of gyroscope is NOT used in a _____.

(a) Computer mouse
(b) Smart Phone
(c) Inkjet printers
(d) Racing car

Q79. Find the mode of the following data :

100, 120, 110, 90, 120, 140, 130, 120, 110, 100, 90, 140, 120, 100

(a) 100
(b) 120
(c) 90
(d) 140

Q80. Find the discount in percentage, if a book whose marked price is Rs. 90 is sold for Rs. 76.

(a) 14.65%
(b) 15.56%
(c) 13.45%
(d) 14.75%

Directions

Study the following table and answer the questions given below.

The table contains the total number of students hired by IT companies I, II, III and the respective percentages of such hiring from colleges P, Q, R, and S.

IT Company	No. of students hired	P (%)	Q (%)	R (%)	S (%)
I	1800	24	32	28	16
II	2400	27	30	25	18
III	1500	32	20	25	23

Q81. What is the total number of students hired by Company II from Colleges P, R and S.

(a) 1752
(b) 1800
(c) 1968
(d) 1680

Q82. Find the difference between the number of students hired by Companies II and III from College R.

(a) 200
(b) 220
(c) 210
(d) 225

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Q83. How many more students did all the three companies together hire from College P in comparison with College S?

(a) 495
(b) 510
(c) 480
(d) 535

Q84. What is the difference between the number of students hired by Company III from College P and that hired by Company I from College Q?

(a) 118
(b) 96
(c) 132
(d) 124

Q85. The famous Brihadeshwara Temple is located in _____.

(a) Telangana
(b) Tamil Nadu
(c) Kerala
(d) Karnataka

Q86. _____ lake is one of the largest fresh water lakes in Asia.

(a) Vembanad
(b) Sambhar
(c) Chilika
(d) Wular

Q87. A Statement followed by some conclusions is given below.

Statement : Adversity is the best teacher.

Conclusions :

I. Poor people are learned.

II. Adversity provides opportunities to learn.

Find which of the given conclusions logically follows from the given statement.

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

Directions

In a group of 85 persons, 45 read novels and 37 read poems and 8 do not read either novels or poems.

Q88. Find the number of persons who read either novels or poems.

(a) 77
(b) 82
(c) 45
(d) 53

Q89. Find the number of persons who read both novels and poems.

(a) 6
(b) 7
(c) 8
(d) 5

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Q90. 111 Russian, 407 Chinese and 259 Japanese tourists have assembled at a place. Identical batches containing the same number of persons from each nationality has to be formed without leaving out anybody. Find the total number of persons in each batch.

(a) 18
(b) 37
(c) 10
(d) 14

Q91. _____ assumed charge as the Governor of the Reserve Bank of India in September 2016.

(a) Dr. Rakesh Panagariya
(b) Dr. Rakesh Mohan
(c) Dr. Raghuram Rajan
(d) Dr. Urjit R. Patel

Q92. The simple interest on a deposit of Rs. 8,500 for 3 years is Rs. 2,040. Find the rate of interest per annum.

(a) 8%
(b) 8.5%
(c) 9%
(d) 7.5%

Q93. The peripheral devices of a basic computer system does NOT include the :

(a) Printer
(b) Keyboard
(c) Monitor
(d) CPU

Q94. Statements :

I. All the dogs are black.

II. All the cats are white.

Study the above statements and select the appropriate answer option based of them.

(a) All the animals are either black or white.
(b) No animal is brown.
(c) Some animals are black and some are white.
(d) No animal is black and white.

Q95. Who was the Speaker of the first Lok Sabha?

(a) M. M. Kaul
(b) G. V. Mavalankar
(c) M. A. Ayyangar
(d) Sardar Hukam Singh

Q96. Which of the following group of rulers was NOT called 'Sultans'?

(a) Lodis
(b) Khiljis
(c) Mughals
(d) Tughlaqs

Q97. Which of the following species is also called the 'Kashmir Deer'?

(a) Hangul
(b) Barasingha
(c) Sangai
(d) Cheetal

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Q98. Read the given statement and conclusions carefully and select which of the conclusions logically follow(s) from the statement.

Statement -

Those who cannot appreciate music become mathematicians.

(a) Mathematics is easy to learn
(b) Majority of the mathematicians are not good musicians.
(c) No musician can become a mathematician.
(d) Music and mathematics do not go together.

Q99. Which team won the Copa America 2016 Football Championship?

(a) Argentina
(b) USA
(c) Colombia
(d) Chile

Q100. 'RailTel Corporation' is a _____.

(a) Private Sector Enterprise
(b) Public Sector Undertaking
(c) Partnership Firm
(d) Joint Sector Enterprise

Q101. A is Q's sister. C is Q's Mother. P is C's father. E is P's mother. How is Q related to P?

(a) Daughter
(b) Cannot be determined
(c) Grandson
(d) Granddaughter

Q102. Identify the professional Indian shooter from the following options.

(a) Sudha Singh
(b) Shivani Katariya
(c) Anjali Bhagwat
(d) Lalita Babar

Q103. Which of the following is the most appropriate description of INS Arihant?

(a) Submarine
(b) Indian Navy base
(c) Frigate
(d) Aircraft Carrier

Q104. The sum of two positive integers is 42 and their difference is 4. Find their product.

(a) 402
(b) 437
(c) 416
(d) 376

Q105. The length of a rectangular board is 4 times that of its breadth. If the area of the board is 256 sq. meters, find its length.

(a) 8 m
(b) 16 m
(c) 24 m
(d) 32 m

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Q106. Total solar eclipse occurs when _____.

(a) the Moon is farthest from Earth
(b) the Moon enters the Earth's shadow
(c) the Sun, Moon and Earth are in a direct line
(d) the Sun, Moon and Earth are not exactly lined up

Q107. High tide : Sea : : ? : River

(a) Dam
(b) Hydroelectricity
(c) Bank
(d) Undercurrent

Q108. Which of the following piece of literature was NOT written in Sanskrit?

(a) Thirukural
(b) Ratnavali
(c) Rajatarangini
(d) Meghdoot

Q109. Select the correct combination of mathematical signs from the options given to replace # signs in order to get a balanced equation :

14 # 9 # 3 # 19 # 6

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

Q110. Speed of a boat in still water is 12 kmph and that of the current is 3 kmph. A man rows a boat upstream up to 135 km and returns downstream to the starting point. Find the total time taken for the entire journey in hours.

(a) 24
(b) 48
(c) 36
(d) 30

Q111. Human hypothalamus gland _____.

(a) lies just below the stomach
(b) lies in the lower part of neck
(c) is present in the brain
(d) is attached to the wind pipe

Q112. Find the value of '?' in the following series.

6 : 30 :: 7 : ?

(a) 56
(b) 49
(c) 32
(d) 42

Q113. Find the area of a triangle whose sides are 5 cm, 12 cm and 13 cm.

(a) 46 sq. cm
(b) 42 sq. cm
(c) 30 sq. cm
(d) 38 sq. cm

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Q114. Indian Space Research Organization was formed in _____.

(a) 1969
(b) 1962
(c) 1971
(d) 1975

Q115. The speed of car M is twice that of car W. If car M covers 120 km in 2 hrs & 30 mins, what is the speed of car W?

(a) 36 kmph
(b) 48 kmph
(c) 24 kmph
(d) 42 kmph

Q116. 'RailWire' is related to :

(a) Brand name of a cable
(b) Fencing of railway stations
(c) Railway electrification
(d) Railway broadband service

Q117. In which of the following countries did United Kingdom's rule formally end in the year 1986?

(a) Australia
(b) Sri Lanka
(c) Maldives
(d) Canada

Q118. What will be the next number in the series?

25, 62, 123, 214, ?

(a) 341
(b) 317
(c) 334
(d) 292

Q119. Find the value of k in 26/21 : 24/9 ::k :14/13

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

Q120. Which one of the following is NOT a correct description of median?

(a) It is not affected by extreme values.
(b) For odd number of values (n), median is (n+1)/2.
(c) It is based on all observations of data.
(d) It can be determined graphically.

ANSWER KEY

1	a	2	a	3	b	4	d	5	d	6	d	7	d	8	b	9	b	10	b
11	c	12	d	13	d	14	b	15	c	16	d	17	c	18	d	19	b	20	d
21	c	22	a	23	c	24	b	25	d	26	b	27	a	28	b	29	d	30	a
31	a	32	d	33	b	34	c	35	b	36	a	37	c	38	d	39	a	40	b
41	a	42	b	43	c	44	b	45	c	46	a	47	d	48	a	49	d	50	a
51	a	52	c	53	b	54	a	55	b	56	a	57	a	58	a	59	b	60	c
61	d	62	c	63	b	64	c	65	b	66	b	67	b	68	a	69	d	70	c

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71	a	72	b	73	d	74	d	75	b	76	d	77	d	78	c	79	b	80	b
81	d	82	d	83	a	84	b	85	b	86	d	87	a	88	a	89	d	90	b
91	d	92	a	93	d	94	c	95	b	96	c	97	a	98	d	99	d	100	b
101	b	102	c	103	a	104	b	105	d	106	c	107	d	108	a	109	d	110	a
111	c	112	d	113	c	114	a	115	c	116	d	117	a	118	a	119	c	120	c

SOLUTIONS

Q1. Answer: (a) (12, 7)

Concept used:

Co-prime numbers are such no whose HCF is 1. They are also called as relatively prime.

Calculation:

in option (i) HCF (12, 7) = 1

in option (ii) HCF (21, 42) = 21

in option (iii) HCF (3, 9) = 3

in option (iv) HCF (43, 129) = 43

=> Hence (12, 7) are co-prime numbers.

Q2. Answer: (a) 88 : 63

Given:

The monthly salaries of P and Q are in the ratio 4 : 3.

Calculation:

Let the monthly salaries of P and Q be 4x and 3x respectively

=> Now P and Q get an increase of 10% and 5% of their existing salaries respectively

so, new salary of P and Q be 4x × 110/100 and 3x × 105/100 respectively

=> ratio of salary of P : Q = 440 : 315

=> required ratio of salary of P : Q = 88 : 63

Q3. Answer: (b) Indian National Congress

The correct answer is the Indian National Congress.

Key Points

• The Home Rule League is launched by Tilak in April 1916 and by Annie Besant in September 1916.

• The objective of the Home Rule League was to achieve self Government and place Indian National Congress on par with the national party.

• Tilak had six branches headquartered at Delhi including Maharashtra, Karnataka, Berar, and Central provinces.

• Annie Besant provided leadership for the rest of the country and had nearly 200 branches.

• Tilak and Annie Besant worked in close cooperation between the leagues but avoided merge.

• It was based on the lines of the Irish Home Rule League.

Important Points

• It was successful in pressurizing the government to announce concessions in the form of August offer and Montagu Chelmsford Reforms.

• It also shifted Emphasis from educated elites to masses and made Congress a tool between the moderates and extremists.

Q4. Answer: (d) Wireless

The correct answer is wireless.

Key Points

• Digital payment reached a billion monthly digital payment transactions on the Unified Payments Interface (UPI).

• About 1.2 billion Indians now have a Digital identity in the form of Aadhar.

• Aadhar is an identity rail and fintech companies to secure means of Identity.

• The National payments corporation of India played a crucial role in financial transactions.

• All future financial transactions will be based on a digital platform.

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Q5. Answer: (d) Purnima Devi Barman

The correct answer is Purnima Devi Barman.

Key Points

• Purnima Devi Burman is an Assamese wildlife biologist and conservationist.

• She won the Royal Bank of Scotland Earth heroes' award 2016.

• She was honoured for the 'safe the species for Greater adjutant Stork' which was identified as endangered species on the IUCN Red List of threatened species.

• According to an estimate by IUCN, the population of Greater adjutant stork Boss between 1200 and 1800 among which 800 birds were found in Assam only.

• She was given the award for being The Guardian Angel for the bird by the Royal Bank of Scotland.

Important Points

• The Royal Bank of Scotland Earth heroes' award was instituted in 2011 to recognize and honour individuals and institutions who work to preserve and protect the ecosystem.

Q6. Answer: (d) Atharvaved

The correct answer is Atharva Veda.

Key Points

• Atharva Veda is an Encyclopedia for medicine.

• It was a collection of spells, prayers, charms, and hymns.

• There are prayers for various purposes like to protect crops from lightning, against poisonous snakes, healing spells, love spells, versus, etc.

• The purpose of charms and spells is to ward off evils and disease.

• It contains the procedure for everyday life.

• It was mainly composed of two groups of Rishi's- Atharavanas and Angirasa.

• It contains magic spells too that's why it is called the book of Magic.

• It is also known as Brahma Dev.

• The important Brahamanas are- Gopatha Brahman and Mundan Brahman.

Q7. Answer: (d) SERCU

The pattern followed here is,

Similarly,

Hence, "SERCU" is the correct answer.

Q8. Answer: (b) 5/12

Given:

K and L can do a work in 15 and 20 days respectively. They work together for 5 days and leave.

Calculation:

=> K's one day work = 1/15 and L's one day work = 1/20

Let the total work be LCM of 15 and 20 which is 60.

=> Efficiency of K = 4 units and Efficiency of L = 3 units.

=> They work together for 5 days, so 7 × 5 = 35 unit work done out of total work 60.

=> The remaining unfinished work = (60 - 35)/60 = 25/60 = 5/12

Q9. Answer: (b) Air Chief Marshal

Admiral is the highest rank in Navy.

Similarly,

Air chief Marshal is the highest rank in Indian Air Force.

Hence, "Air Chief Marshal" is the correct answer.

Q10. Answer: (b) Both statements I and III are sufficient.

Statement 1 is saying-->Today, the stock market index has reached lower than the lowest during the last 3 years.

So, It means that if we know the last 3 years data, then we can make an overall assessment of the present level of stock market index today.

Statement 2 is saying-->During the last year, the index fluctuated between 30,360 and 28,255.

So, there is range given in the statement of the last year by which we can assess that index fluctuated between 30,360 and 28,255, but no data provided to find today's market index.

Statement 3 is saying-->The stock market index touched a low of 27,125 in the preceding 3 years.

So, in this statement, we can find that the lowest value in the last 3 years was 27,125.

So, If we combine statements 1 and 3, we can say that today's market was lower than 27,125, so statement 2 is not giving any help to find today's market index. So here we can say both statements 1 and 3 are sufficient to answer this question.

Hence, the correct option is 2.

Q11. Answer: (c) 8,000

The correct answer is 8000 stations.

Key Points

• The Indian Railways runs around 12000 trains connecting more than 8000 stations carrying nearly 23 million passengers and over 7,000 freight trains.

• 3 million tonnes of freight is transported every day.

• It transports nearly 90% of the total coal moved in the country which is the source of 50% of Indian power supply.

• Indian railway network spans more than 66030 km.

• It is the world's third-largest Railway network and the fourth largest railway freight carrier.

• The first passenger train runs over a stretch of 33 kilometres from Mumbai to Thane on 16th April 1853.

• It was nationalized in 1951 and forms the largest rail network in Asia and the world's second-largest Railway network operated under the single management.

• Four railway sites have been declared as World Heritage site by UNESCO- the Darjeeling Himalayan Railway, Mumbai CST railway, Nilgiri Mountain Railway and Kalka Shimla railway.

• The Fairy Queen between New Delhi and Alwar is the oldest functioning steam engine in the world.

Q12. Answer: (d) 2741845

The pattern for the code is as follows,

Each letter is coded to a unique number

Hence, CHEATER is coded as 2741845.

Q13. Answer: (d) 387

157, 571, 599 are prime numbers, but 387 is not prime, It is divisible by 3.

Hence, the correct answer is "387".

Q14. Answer: (b) 2.5%

Given:

8 boxes of a fruit were purchased for Rs. 9,600. 5 boxes were sold at a profit of 10% and 3 boxes were sold at a loss of 10%.

Formulae used:

Gain% = (Gain/CP) × 100; where gain = selling price - cost price

Calculation:

cost price of 8 boxes = Rs. 9600 Therefore cost price of 1 box = Rs. 1200

=> CP of 5 boxes = Rs. 6000 and CP of 3 boxes = Rs. 3600

since 5 boxes were sold at profit of 10%

=> SP of 5 boxes = 6000 × 11/10 = Rs. 6600

also, 3 boxes were sold at loss of 10%

=> SP of 3 boxes = 3600 × 9/10 = Rs. 3240

=> Total SP of 8 boxes = Rs. (6600 + 3240) = Rs. 9840

Therefore net gain% = (9840 - 9600/9600) × 100 = (240/9600) × 100 = 2.5%

Q15. Answer: (c) Astronomy

The correct answer is Astronomy.

Key Points

• Hubble’s law is an observation in physical cosmology that the Galaxies are moving away from the Earth at speeds proportional to their distances.

• It states that the velocity of recession of a galaxy is proportional to its distance from the observer.

• It proves the expansion of the Universe.

Q16. Answer: (d) Black-necked Cranes

The correct answer is black-necked cranes.

Key Points

• National green tribunal suspended the environmental clearance to the proposed 780-megawatt hydropower project in Tawang district to save black-necked cranes.

• Black-necked cranes are also known as 'trung trung karmo'.

• They migrate from Tibet and China's Xinjiang province Arunachal Pradesh during winters.

• They are protected under Schedule 1 of the Wildlife Protection Act 1972.

• They are classified as Vulnerable by IUCN in its Red List of threatened species.

Important Points

• The national green tribunal is established under the National green tribunal act 2010 for disposal of cases related to environmental protection and conservation of forest and other natural resources.

• India is the only third country in the world after Australia and New Zealand to form a specialized environmental Tribunal.

• New Delhi is the principal seat of the National green tribunal.

Q17. Answer: (c) communication

The correct answer is communication.

Key Points

• India's communication satellite, GSAT-18 was inducted into the INSAT/GSAT system on October 06, 2016, from Kourou, French Guiana by Ariane-5 VA-231.

• Weighing 3404 kg at lift-off, GSAT-18 carries 48 communication transponders to provide Services in Normal C-band, Upper Extended C-band and Ku-bands of the frequency spectrum.

• GSAT-18 is designed to provide continuity of services on operational satellites in C-band, Extended C-band and Ku-bands.

• GSAT-18 was launched into a Geosynchronous Transfer Orbit (GTO) by the Ariane-5 VA-231 launch vehicle. After its injection into GTO, ISRO's Master Control Facility (MCF) at Hassan took control of GSAT-18 and performed the initial orbit raising manoeuvres using the Liquid Apogee Motor (LAM) of the satellite, placing it in circular Geostationary Orbit.

• The designed in-orbit operational life of GSAT-18 is about 15 years.

Q18. Answer: (d) Assam

The correct answer is Assam.

Key Points

• Majuli is the largest inhabited riverine island in the world located in the Brahmaputra River.

• It is India's first Island district consisting of nearly 144 villages with a population of approximately 1.6 Lakh.

• It is a centre of Neo Vaishnavite culture initiated by Saint reformer Srimanta Sankardev in the 15th century.

• It has nearly 65 Sattras which is the religious and cultural institution.

• It is surrounded by the Subhasini river in the north, Brahmaputra river on the south, and Kherkutia islands in the northeast.

• It is mostly inhabited by the 'Mishing tribe'.

• Mishing, Assamese, and Deori are popular languages used on this Island.

• Nearly a hundred varieties of rice are grown here without any chemical fertilizers.

• it was officially declared as an Island district in June 2016.

Q19. Answer: (b) Triple

The correct answer is triple.

Key Points

• If you want to select the entire paragraph in MS Word then move the pointer to the left of the text and triple-click.

• You can also select the paragraph but placing your cursor at the start of the paragraph and press the control shift and down arrow.

• If you want to move the cursor off by one paragraph you must press the Alt + up Arrow key.

• If you want to move the cursor down by one paragraph then you need to press the alt + down arrow key.

• if you want to move the cursor left by one word you need to press Alt + left Arrow key and Alt + right Arrow key for moving the cursor right by one word.

• Clicking on a particular text you will select the entire word in MS Word.

• If you want to select a particular line in MS Word then move your cursor to the left and click when an arrow appears.

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Q20. Answer: (d) Juan Manuel Santos

The correct answer is John manual Santos.

Key Points

• Nobel Peace Prize 2016 was awarded to Colombian President John Manual Santos for his resolute efforts to bring the countries more than 50 years long Civil War to an end.

• He is the second Colombian to win Nobel Prize after Gabriel Garcia Marquez who won the 1982 Nobel Prize for literature.

• Santosh is also the second Latin American to receive Nobel Peace Prize after Guatemala's Rigoberta Manchu in 1992.

• Manuals Santos initiated the negotiation with guerrilla group Revolutionary Armed Forces of Colombia (FARC) which culminated in a peace agreement between the Colombian Government and the FARC.

• The civil war in Colombia is the longest civil war in modern times which was started in the nineteen sixties as a result of an uprising for land rights.

• The main aim of FARC was to reduce the gulf dividing rich and poor and land Reform for equality in the Andean country.

Q21. Answer: (c) 44

Formulae used:

Basic division method.

Dividend = Divisor × Quotient + Remainder.

Calculation:

Least no which is divisible by 4,5 and 6 so LCM of 4,5 and 6 is 60.

So, here we require the least no greater than 1456 which is divisible by 60

=> 1456 = 60 × 24 + 16

=> to make the number divisible, we will have to add

=> (60 - 16) = 44

Therefore required number to be added to 1456 so that it is divisible by 6, 5 and 4 without leaving a remainder is 44

Q22. Answer: (a) Reptile

Snake, Lizard, Crocodile come in the category of reptiles.

Whereas,

Reptile itself is a Category.

Hence, "Reptile" is the odd one.

So, the correct answer is "Reptile".

Q23. Answer: (c) 77.78%

Given:

In a class of 135 students, the number of boys is twice that of girls. One-sixth of the boys and one-third of the girls failed in the final examination.

Calculation:

Let the no of boys be 2x and the number of girls be x,

So, the total number of students = 3x

=> 3x = 135

=> x = 45

=> boys : girls = 90 : 45

Now, according to question

The number of boys who failed the exam = 1/6 × 90

=> 15

So, the number of boys who passed the exam = 90 - 15

=> 75

The number of girls who failed the exam = 1/3 × 45

=> 15

So, the number of girls who passed the exam = 45 - 15

=> 30

=> Percentage of passing students = [(75 + 30)/135] × 100 = (105/135) × 100 = 77.78%

Therefore Percentage of passing students is 77.78 %

Q24. Answer: (b) 21

Given:

the ratio of the p and q is 4 : 3

Formula Used:

product of two number = LCM × HCF

Calculation:

let the two numbers be 4x and 3x.

=> Lcm of two numbers be 12x = 36

=> x = 3

=> p = 12 and q = 9

Therefore p + q = 21

Q25. Answer: (d) ZDHLPT

The question figure is

similarly,

Here, we can see each alphabet is decreasing by 2 as they are in the English Alphabet series.

Hence, the correct answer is "ZDHLPT".

Q26. Answer: (b) Rs. 24,000

Given:

SP = Rs. 27,120 and the profit % = 13%

Formulae used:

SP - CP = Profit

Calculation:

let the CP of the product be 100x.

also, profit = 13% Therefore SP = 113x

=> 113x = 27120

=> x = 27120/113

=> CP = 100x = 100 × 27120/113

Therefore CP = Rs. 24000

Q27. Answer: (a) Rs. 200

Given:

The simple interest at 10% p.a. on a deposit for 2 years is Rs. 4,000.

Formula used:

simple interest = (principal × rate × time)/100

compound interest (CI) = A – P = P[(1 + R/100)^n – 1]; where A = amount, P = principal, R = rate p.a., n = time period

Concept Used:

compound interest is also successive percentage increase.

rate = 10 + 10 + (10 × 10)/100 = 21%

Solution:

Let the principal is Rs. P.

Therefore 4000 = (P × 10 × 2)/100

=> principal = Rs. 20,000

=> compound interest = 20,000 × 21/100

=> compound interest = Rs. 4200

=> increased interest = Rs. (4200 - 4000) = Rs. 200

So, compound interest rupees is 200 more than simple interest.

Shortcut Trick

Difference in rate of CI and SI for 2 years = $R^2/100 = 10^2/100 = 1\%$

Rate of SI for 2 years = 10 × 2 = 20%

According to question,

20% = 4000

=> 1% = 4000/20 = 200

Q28. Answer: (b) Rs. 9,500

Given:

The difference between the selling prices of an item at a profit of 9% and 7% was Rs. 190.

Formula Used:

selling price = (100 ± P/L) × cost price/100

Solution:

Let the cost price be Rs. x

According to question:

=> (109x/100) - (107x/100) = 190

=> (2x/100) = 190

=> x = Rs. 9500

Therefore Cost price of the item = Rs. 9500

Smart Method

9% - 7% = 2% = 190

=> 1% = 95

=> 100% = 9500.

Q29. Answer: (d) Brother

Thus, the person in the picture is brother of the lady,

Hence, "Brother" is the correct answer.

Q30. Answer: (a) Neymar

The correct answer is Neymar.

Key Points

• Neymar Da Silva Santos Junior is a Brazilian Professional football who plays as a forward for the Brazil national team.

Additional Information

• Gabriel Omar Batistuta is an Argentine footballer Nicknamed Batigol.

• Marcos Rojo is an Argentine professional footballer who plays as a defender for Manchester United and Argentina national team.

• Lionel Messi is an Argentine footballer who plays forward and captains both Barcelona and the Argentina national team.

Q31. Answer: (a) ÷ and ×

Given Equation:- 16 - 24 × 2 ÷ 10 + 104 = 0

Here we have to interchange two mathematical operators and check,

1) interchange “÷” and “×”

16 - 24 ÷ 2 × 10 + 104

= 16 - 12 × 10 + 104

= 16 - 120 + 104

= 120 - 120 = 0

Hence,"÷ and ×" is the correct answer.

Q32. Answer: (d) Both statements I and II are sufficient.

From Statement (i) There are three shifts round the clock - We get to know the total number of shifts is 3.

From Statement (ii) There are thirteen wards requiring two nurses per shift - we get to know about the minimum number of nurses required in each shift that is 2.

From Statement (iii) The town needs at least three nurses per thousand population - It is mentioning about the number of nurses required per thousand population ,which is not needed for this question.

After combining the statement I and II :- 2 × 3 = 6.

So, The first two statements are sufficient to answer.

Hence, the correct answer is "Both statements I and II are sufficient".

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Q33. Answer: (b) Protein

The way “Rice” is the source of “ Carbohydrate”

Similar,

“Sprout” is the source of “Protein”.

Hence, the correct answer is "Protein".

Q34. Answer: (c) World Wildlife Fund

The correct answer is the World Wildlife Fund.

Key Points

• World Wildlife Fund is an international non-government organization established in 1961 and headquartered at Gland, Switzerland.

• It aims at Preservation and reduction of human impact on the environment.

• It is the world's largest conservative organization.

• Its Prime objective is to conserve the world's biological diversity, ensuring the use of renewable resources and promoting the reduction of pollution and wasteful consumption.

• Its logo is a giant panda named after Chi-Chi.

Important Points

• It publishes various reports like the living planet report.

• It is also responsible for the organization of earth hour.

• The living planet report is published biennially since 1998.

Q35. Answer: (b) investment

The correct answer is investment.

Key Points

• Ponzi scheme is a fraud in which the profit interest is fostered by the payments of never return to the first investment from the money invested in later investors.

• It creates an illusion that true profits are coming from the product and trust is gained by the investors to invest even the largest sum.

• The investor, however, is in no notion to make full repayment.

• This scam was originated by Charles Ponzi in 1920.

• It is based on high investment returns with little or no risk, unregistered investment, unlicensed seller, consistent Returns, strategies, etc.

• Enforcement directorate under the prevention of money laundering act 2002 handles the Ponzi scheme.

• Moreover, SEBI also regulates investment schemes to keep and track of an illegal collective investment scheme.

Q36. Answer: (a) minus 273 °C

The correct answer is minus 273 degrees Celsius.

Key Points

• Absolute zero is the lowest possible temperature and is a point at which fundamental particles of nature have minimal vibration motion resulting in retaining only quantum mechanical zero-point energy induced particle motion.

• It is equivalent to 0 Kelvin or minus 273 degrees Celsius.

• It is practically impossible to reach out to the absolute zero temperature.

• It is the temperature at which the particles in the substance are essentially motionless which means that there is no way to slow them down further.

• Nothing can be colder than absolute zero on the Kelvin scale.

Q37. Answer: (c) Neil

The correct answer is Neil.

Key Points

• Minicoy, Kavaratti, and Amini islands belong Lakshadweep group of Islands.

• Neil Island belongs to the Andaman and Nicobar group of Islands.

• It is located in the Andaman Islands.

Additional Information

• Lakshadweep is the smallest union territory in India.

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• The word meaning of Lakshadweep is 'one hundred thousand islands'.
• It is located in the Arabian sea.
• The old name of Lakshadweep was Laccadive.
• Formed on 1st November 1956.
• Adopted the name Lakshadweep on 1st November 1973.
• Capital: Kavaratti.
• Former capital: Kozhikode.
• Official Languages: Malayalam, English
• The union territory comes under the jurisdiction of the Kerala High Court at Kochi.
• The Maldives is the country nearest to Lakshadweep.
• Current Administrator of Lakshadweep: Praful Khoda Patel.
• Agatti Airport is the only airport located in Lakshadweep.

Q38. Answer: (d) An apple is not as costly as a mango.

Given:
The cost of six mangoes is equal to the cost of four apples. The cost of eight apples is equal to the cost of two jackfruits.
Calculation:
Let the cost price of an apple is Rs. 60
According to question:
=> cost price of six mango = cost price of four apples = 4 × 60 = Rs. 240
=> cost price of a mango = 240/6 = Rs. 40
again,
=> cost price of two jackfruit = cost price of eight apples = 8 × 60 = Rs. 480
=> cost price of one jackfruit = 480/2 = Rs. 240

Q39. Answer: (a) 25

Given:
10 men and 5 women can do a work in 60 days and one man can do the work of two women
Formula Used:
m1 × d1 = m2 × d2 = total work
Solution:
10 men and 5 women can do a work in 60 days
According to question:
=> work efficiency of 1 man = work efficiency of 2 women
=> total women = 10 × 2 + 5 = 25 women
=> total work = 25 women × 60 = 1500
so, half of the work = 750
since half of the work is to be done by 5 men and 20 women
=> total women = 5 × 2 + 20 = 30 women
using the above formula, we have
=> 30 × d = 750
=> d = 25
Therefore Total days = 25 days

Q40. Answer: (b) 11

The correct answer is 11.
Key Points
• Fedor Konyukhov (65 years) registered the fastest round the world flight in a hot air balloon in a record 11 days.
• He is a Russian adventurer.
• He started his journey on 12th July 2016 and flew from Australia to New Zealand across the Pacific Ocean and then from Cape of Good Hope and finally the Southern ocean.
• Hot air balloon operates using an open frame caused by burning liquid propane.
• A gondola is a basket that carries a passenger.

• It is lighter than aircraft.

Q41. Answer: (a) ODT

The correct answer is ODT.

Key Points

• A bitmap basically describes a type of image.

• Pixels all the basic sources of information.

• BMP, GIF, JPEG, EXIF, PNG, and TIFF are bitmap file formats.

• Bitmap format commonly used raster graphic format for saving image files.

• Raster graphics are independent of display devices which means a bitmap image file can be viewed without any graphics adaptor.

• The file can store a 2D digital image in both monochrome and colour format.

Q42. Answer: (b) Both I and II follow

The least possible diagram is given below-

Conclusions :-

I. Some mechanics are men → True(As in the statement it is given that all men are Mechanics, so, some mechanics will definitely be men).

II. Some engineers are mechanics → True(As in the statement it is given that all mechanics are engineers, so, some engineers will definitely be mechanics).

Hence, "Both I and II follow".

Q43. Answer: (c) 15 days

Given:

15 persons can complete a work in 60 days and the number of persons is increased by 5

Formula used:

m1 × d1 = m2 × d2 = total work

Calculation:

According to the formula,

m1 = 15, d1 = 60 days, m2 = 20 (15 + 5), and d2 = x

=> 15 × 60 = 20 × x

=> x = 45 days

Work will completed earlier = 60 days - 45 days = 15 days.

Therefore Work get completed 15 days earlier.

Q44. Answer: (b) LLHX

Here the logic is as follows:

Similarly,

KMFZ is coded as LLHX.

Thus, the correct answer is LLHX.

Q45. Answer: (c) 1919

The correct answer is 1919.

Key Points

• The Rowlatt Act was passed to give the government enormous powers to suppress political activities by allowing the detention of political prisoners without trial for two years.

• It was recommended by the sedition committee chaired by Sir Sidney Rowlatt.

• It is also known as the Anarchical and Revolutionary crimes act of 1919.

• It invited a large-scale violent anti-British demonstration in various places special in Punjab where the situation became explosive.

• Jallianwala Bagh massacres were the result of a demonstration against the Rowlatt Act.

• On 9th April 1919, two Nationalist leaders Saifuddin kitchlew and Dr Satyapal address protest meetings which caused resentment on a large scale.

• On 13th April (Baisakhi) thousands of people assembled at the Jallianwala Bagh unaware of the prohibitory orders which resulted in open firing against thousands of people on General dyers orders.

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Q46. Answer: (a) 12,000

Given:

K borrowed Rs. P at a compound interest of 20% p.a. for 2 years. Interest amount payable was Rs. 5,280.

Formula Used:

compound interest (CI) = A – P = P[(1 + R/100)n – 1]

where A = amount, P = principal, R = rate p.a., n = time

For final rate % = a + b + a × b/100

Calculation:

=> rate = 20 + 20 + 20 × 20/100 = 44%

=> compound interest = P × 44/100

=> P × 44/100 = 5280

=> P = Rs. 12,000

Therefore required principal = Rs. 12,000

Q47. Answer: (d) Loss Rs. 100

Given:

The cost price of a set of 2 pants + 4 shirts or 1 pant + 6 shirts is Rs. 5,600. A shopkeeper decided to sell them separately. He sells 10 shirts for Rs. 6,000.

Formula used:

profit = selling price - cost price

loss = cost price - selling price

solution:

=> cost price of a set of 2 pants + 4 shirts = cost price of a set of 1 pant + 6 shirt

=> 1 pant = 2 shirt

=> 2 pants + 4 shirt = 4 shirt + 4 shirt = 8 shirt

=> cost price of 8 shirt = Rs. 5600

=> cost price of one shirt = Rs. 700

=> selling price of 10 shirt = Rs. 6000

=> selling price of one shirt = Rs. 600

=> Loss = Rs. (700 - 600) = Rs. 100

Therefore loss occurred per shirt = Rs. 100

Q48. Answer: (a) 40 kmph

Given:

Train P Starts from point A at 10 am and runs at a constant 60 Kmph on a straight track and covers a distance of 360 km. Train Q starts from B at 11 am and runs towards A at a constant speed.

Formula Used:

speed = distance/time

Solution:

Train P starts at 10 am at a speed of 60 km/h in 1 hour he travels 60 km

remaining distance = (360 - 60) Km

=> 300 km

=> both trains start at 11 am in opposite direction.

=> train Q crosses train P at a distance of 120 km from B.

So train P travels distance at that time = (300 -120) km

=> 180 Km

=> train P travels 180 km at 60 km/h

=> time = 180/60 = 3 hour

train Q also travels 3 hour

=> speed of train Q = 120/3 = 40 km/h

Therefore speed of train Q = 40 km/h

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Q49. Answer: (d) 35

The correct answer is 35.

Key Points

• Governor is the executive head of the state.

• Governor is appointed by the President.

• A governor holds office under the pleasure of the president.

• President has the power to remove a Governor.

• He may also be transferred from one state to another by the president and can also be reappointed.

• A person who is an Indian citizen and should not be less than 35 years is eligible to become a Governor.

• He must not be a member of any house or hold the office of profit.

• Every executive action is taken place in his name.

• He appoints the chief minister and other ministers on the advice of the chief minister.

• He also has the power to prorogue the state legislature or dissolve legislative assemblies.

• He nominates 1/6th of members of the Legislative Council from the fields of literature, science, art, Cooperative movement, and social services.

• He has the power to reserve a bill for Presidential recommendation.

• He can promulgate an ordinance when the houses are not in session.

• He looks over the state budget and recommends the demand for grants.

• He can pardon, reprieve, respite, remit, and commute sentences.

Q50. Answer: (a) Harish

Yogesh is taller than Alpesh but shorter than Dharmesh.

Dharmesh > Yogesh > Alpesh

Harish is not as tall as Alpesh.

Dharmesh > Yogesh > Alpesh > Harish

Ramesh is taller than Dharmesh but shorter than Suresh.

Suresh > Ramesh > Dharmesh > Yogesh > Alpesh > Harish

Suresh is shorter than Rajesh.

Rajesh > Suresh > Ramesh > Dharmesh > Yogesh > Alpesh > Harish

Harish is the shortest of all.

Thus, the correct answer is "Harish".

Q51. Answer: (a) Dharmesh

Yogesh is taller than Alpesh but shorter than Dharmesh.

Dharmesh > Yogesh > Alpesh

Harish is not as tall as Alpesh.

Dharmesh > Yogesh > Alpesh > Harish

Ramesh is taller than Dharmesh but shorter than Suresh.

Suresh > Ramesh > Dharmesh > Yogesh > Alpesh > Harish

Suresh is shorter than Rajesh.

Rajesh > Suresh > Ramesh > Dharmesh > Yogesh > Alpesh > Harish

Height-wise, Dharmesh is in the middle.

Thus, the correct answer is "Dharmesh".

Q52. Answer: (c) HLTCO

First unscramble the jumbled letters,

EVCOL-->CLOVE

LCIYHL-->CHILLY

HLTCO-->CLOTH

MIUNC-->CUMIN

Here, Clove, Chilly and Cumin are spices except Cloth.

Thus, the correct answer is HLTCO.

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Q53. Answer: (b) 2

9 % 3 & 22 $ 52 & 85 # 17

&	•
$	•
#	÷
%	×

Replacing signs with given arithmetic operators,

9 × 3 + 22 - 52 + 85 ÷ 17

= 27 + 22 -52 + 5

= 54 - 52

= 2

Thus, the correct answer is 2.

Q54. Answer: (a) Khangchendzonga National Park, Sikkim

The correct answer is Khangchendzonga National Park, Sikkim.

Key Points

• Kanchenjunga National Park was recognized as a World Heritage site by UNESCO under the mixed category containing both natural and cultural significance.

• Mount Kanchenjunga is the world's third-highest peak is situated within the park.

• It has become the 11th biosphere reserve from India which included it in the list of the designated world network of Biosphere Reserves by UNESCO.

• Zemu Glacier is a part of the biosphere reserve.

Important Points

• Mahabodhi Temple was used as a UNESCO World Heritage site in 2002.

• Kaziranga wildlife sanctuary was designated as a UNESCO World Heritage site in 1985. It is also recognized as an important bird area by BirdLife International.

• Keibul Lamjao National Park is the only floating National Park in the world. Loktak lake has been listed under the Montreux record since 1993.

Q55. Answer: (b) Either the Prime minister or a Minister who is nominated by the Prime Minister

The correct answer is Either the Prime minister or a Minister who is nominated by the Prime Minister.

Key Points

• The leader of the house is defined in the rules of procedure of the Lok Sabha as well as Rajya Sabha.

• Leader of the house means the Prime Minister if he is a member of the house or a Minister if he is the member of the house and is nominated by the Prime Minister function as the leader of the house as per Rule 2 of the Rules of Procedure and Conduct of Business.

• However, the Prime Minister is the leader of the Lok Sabha in most cases.

• The ultimate responsibility of the leader of the house is the arrangement of government business, making proposals for the dates of summoning and prorogation, fixing priorities for various items of business, etc.

Q56. Answer: (a) Directional growth of a plant

The correct answer is the Directional growth of a plant.

Key Points

• Tropism is a biological phenomenon indicating the directional growth all turning movement of a plant towards or away from an external stimulus.

• Stimuli like light, gravity, water, touch, etc. influence the plant's growth and leads to tropism.

• It is a mechanism by which plants adapt to the environmental change in the presence of a stimulus.

• It results in differential growth.

• Plant hormones (Auxin) help to regulate the differential growth.

Q57. Answer: (a) 5√2, 4√3, 3√5, 2√11

Concept Used:

$a = \sqrt{(a^2)}$

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Calculation:

$2\sqrt{11} = \sqrt{44}$

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

$3\sqrt{5} = \sqrt{45}$

$5\sqrt{2} = \sqrt{50}$

$\Rightarrow \sqrt{50} > \sqrt{48} > \sqrt{45} > \sqrt{44}$

$\Rightarrow 5\sqrt{2} > 4\sqrt{3} > 3\sqrt{5} > 2\sqrt{11}$

Therefore The descending order of numbers is $5\sqrt{2} > 4\sqrt{3} > 3\sqrt{5} > 2\sqrt{11}$.

Q58. Answer: (a) Rs. 32,000

Given:

Loan repayment = 28% of monthly salary = Rs. 8960.

Concept Used:

Total monthly salary = 100%

Calculations:

28% of salary = Rs. 8960

=> 1% of salary = Rs. 8960/28 = Rs. 320

=> 100% of salary = 320 × 100 = Rs. 32000

Therefore Total monthly salary = Rs. 32000.

Q59. Answer: (b) Father-in-law

Family Chart:-

Family Tree according to the statement:-

Sam is the husband of Rosy.

Geni is the mother of Rita and Rosy.

Vaz is the father of Rita.

Vaz is the father-in-law of Sam.

Thus, the correct answer is "father-in-law".

Q60. Answer: (c) 13

The correct answer is 13.

Key Points

• Pranab Mukherjee swore as 13th President of India.

• He was administered an Oath by the Chief Justice of India SH Kapadia.

• He was the President of India from July 25th, 2012 to July 25th, 2017.

• Article 52 to 62 defines the President of India under the Indian Constitution.

• The President of India is the head of state of the Republic of India.

• All executive power of the union shall be vested in the president.

• He shall hold office for a term of five years and may resign to the vice president of India.

• He can be Impeached for the violation of the constitution.

• A person is qualified for becoming a President of India only if he is a citizen of India, completed 35 years of age, eligible for election as a member of the house of the people, and should not hold the office of profit.

Q61. Answer: (d) Lending money

The correct answer is lending money.

Key Points

• Payment banks are differentiated banks.

• Payment banks work as a commercial bank but with certain restrictions under RBI.

• The main objective of setting up a payment bank is to ensure that financial inclusion is achieved.

• Payment Bank lends money as a commercial bank but the limit is fixed up to a maximum of rupees 100000 from a customer.

• Payment banks will be entitled to issue Indian ATM or debit cards but not a credit card.

• They will be authorized to open both savings and current accounts.

• Payment banks do not provide loans or lending services to their customers.

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• They cannot accept deposit from non-resident Indians (NRIs) but there are allowed to make personal payments and receive remittances on the current account.

Important Points

• They have to invest a minimum of 75% of their demand deposit on government securities or treasury bills with maturity up to one year and hold a maximum of 25% in current and fixed deposits with commercial banks for operational purposes.

Q62. Answer: (c) 6%

Given:

P1 = Rs. 5000

P2 = Rs. 4000

t1 = 4 years

t-2 = 5 years

A = Rs. 2400

Concept Used:

SI = Principal × time × rate/100

Calculation:

Let rate be r%.

SI1 = (p1 × t1 × r)/100 = 5000 × 4 × r/100 = 200r

SI2 = (p2 × t2 × r)/100 = 4000 × 5 × r/100 = 200r

SI = SI1 + SI2 = 200r + 200r = 400r = 2400

=> r = 6

Therefore required rate is 6% per annum.

Q63. Answer: (b) Black Carbon

The correct answer is black carbon.

Key Points

• Black carbon consists of pure carbon in several forms.

• It is formed by the incomplete combustion of fossil fuels biofuels and Biomass and is a result of anthropogenic as well as natural causes (soot).

• It is a short-lived pollutant.

• It can absorb light and is regarded as the second-largest contributor to climate change after carbon dioxide.

• India is the second-largest emitter of black carbon in the world and Indo Gangetic plains are the largest contributor to it.

• It absorbs solar energy and warms the atmosphere.

• It aggravates breathing disorders, can result in the melting of glaciers, influencing the monsoon cycle, etc.

Q64. Answer: (c) Maharashtra

The correct answer is Maharashtra.

Key Points

• A pre-independent British Era Bunker was discovered below Raj Bhavan in Malabar Hill, Mumbai.

• It was 150 meters long and opens with the 20 feet tall Gate along with a ramp on the Western side.

• It is spread over an area of 5000 square feet and has room bearing the name shell store, gun shall, cartridge store, shell lift, pump, workshop, etc.

• It has a drainage system and inlets for fresh air and light.

• An entire Barrack with 13 rooms of different sizes was also found.

Q65. Answer: (b) 11.2 km/sec

The correct answer is 11.2 km/sec.

Key Points

• Escape velocity is the lowest velocity which a body must have to escape the gravitational attraction of a particular planet or other objects.

• The escape velocity of Earth is 11.19 kilometre per second.

• The escape velocity of Venus is 10.36 km per second.

• The escape velocity of Mars is 5.03 km per second.

• The escape velocity of Saturn is 36.09 km per second.

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Q66. Answer: (b) PepsiCo

The correct answer is PepsiCo.

Key Points

• She is an Indian American business executive as well as CEO of Pepsico.
• She also serves on the boards of Amazon and the International Cricket Council.
• She has been consistently ranked among the world's 100 most powerful women.
• She was at number 13 on the Forbes list of the words powerful women in 2014.
• She was the second most powerful woman on the Fortune list in 2015.
• She was honoured with the outstanding women in Business Award by the league of women voters in February 2020.
• She was honoured with the Padma Bhushan in 2007.

Q67. Answer: (b) Haryana

The correct answer is Haryana.

Key Points

• Indian states do not share an International border or the coastline except Madhya Pradesh, Chhattisgarh, Jharkhand, Delhi, Haryana, and Telangana.
• India's longest border is with Bangladesh and the shortest border is with Afghanistan.
• It shares 3488 km long border with China along with Ladakh, Himachal Pradesh, Uttarakhand, Sikkim and Arunachal Pradesh.
• India- Nepal border is a porous 1051-kilometre border along with the states of Uttarakhand, Uttar Pradesh, Bihar, West Bengal and Sikkim.
• India and Bhutan share a 699-kilometre border along with West Bengal, Sikkim, Assam and Arunachal Pradesh.
• India shares a 3323-kilometre border with Pakistan via Jammu and Kashmir, Ladakh, Punjab, Rajasthan, and Gujarat.
• India shares a 4096 km long border with Bangladesh via Assam, West Bengal, Mizoram, Meghalaya, and Tripura.
• India shares a 1643 km long border with Myanmar along with Arunachal Pradesh, Mizoram, Manipur and Nagaland.
• India shares 106 kms of border with Afghanistan along with Ladakh.

Q68. Answer: (a) 24

The logic given here is:-

Sum of the Alphabet's place value:- A = 1, B = 2, C = 3,.....Z = 26,

Then, "EAR" = 5 + 1 + 18 =24,

"EYE" = 5 + 25 + 5 = 35,

Similarly, LEG = 12 + 5 + 7 = 24.

Hence, "24" is the correct answer,

Q69. Answer: (d) Medium

The correct answer is Medium.

Key Points

• A wave has a wavelength, amplitude, and frequency.
• Waves are formed by the passing of water energy resulting in a circular motion.
• The highest length of the wave is called the Crest and the lowest point is known as a Trough.
• Wave amplitude is one half of the wave height.
• The time interval between two successive wave crests or trough is called a wave period.
• Wavelength is the horizontal distance between two successive crests.
• The speed at which a wave motion is called a wave speed is measured in knots.

Q70. Answer: (c) Fire

From the statement

Birds fly in the sky, and Sky is coded is as fire,

Hence ,Fire is the correct answer.

Q71. Answer: (a) 44 cm

Given:

Radius of the circle = r = 14 cm.

Radius is increased by 7 cm => Increased radius = R = 14 + 7 = 21 cm.

Concept Used:

Circumference of circle = C = 2 × π × radius

Calculation:

Circumference of circle initially = c = 2 × π × r

Circumference of circle finally = C = 2 × π × R

Increase in circumference = C – c = 2 × π × R – 2 × π × r

=> 2 × π × (R – r) = 2 × (22/7) × (21 – 14) = 2 × (22/7) × 7 = 44 cm

Therefore Increase in circumference is 44 cm.

Q72. Answer: (b) 6/7

Concept Used:

[(a – 1)/(b – 1)] < (a/b)

Calculation:

Option 1:

8/9 > 7/8 => It can't fall in that range.

Option 2:

6/7 > 3/5 and 6/7 < 7/8 => It is the right option.

Option 3:

12/13 > 7/8 => It can't fall in that range.

Option 4:

3/5 = 3 × 7/(5 × 7) = 21/35

4/7 = 4 × 5/7 × 5 = 20/35

=> 3/5 > 4/7 => It can't fall in that range.

Therefore The right option is option 2.

Q73. Answer: (d) Positrons

The correct answer is Positrons.

Key Points

• The antimatter particles corresponding to electrons, protons, and neutrons are called positrons, antiprotons, and antineutrons.

• The positron is an antiparticle of the antimatter of the electron of charge of +1e.

• It has a spin of 1/2 and has the same mass as an electron.

• It was discovered by Carl D Anderson in 1932.

• Annihilation occurs when a positron and an electron collides.

Important Points

• A neutron is a subatomic particle that has a neutral charge and a mass (1.66 X 10^(-27)kg) is slightly greater than that of a Proton.

• A proton is a subatomic particle with a positive charge and mass slightly less than that of a Neutron.

Q74. Answer: (d) 1/√3

Concept Used:

sin 30° = ½

sin 45° = cos 45° = 1/√2

cos 30° = √(3)/2

Calculation:

(sin 30°/cos 45°) × (sin 45°/cos 30°)

=> (sin 30° × sin 45°)/(cos 45° × cos 30°)

=> sin 30°/cos 30° (Because sin 45° = cos 45°)

Putting respective values,

=> (1/2)/{√(3)/2} = 1/√3

Therefore (sin 30°/cos 45°) × (sin 45°/cos 30°) = 1/√3

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Q75. Answer: (b) A real number need not necessarily be a point on the number line

Concept Used:

The real numbers are classified as rational and irrational numbers.

Every real number is unique and can be represented in number lines.

Conclusion:

According to this concept,

Option 2 is wrong because we can represent all the real numbers in the number line.

Q76. Answer: (d) 2m, -2n

Given:

(2a/m + b/n) = 2

(a/m - b/n) = 4

Calculation:

2a/m + b/n = 2

=> (2an + bm)/mn = 2

=> 2an + bm = 2mn ….(i)

also, (a/m - b/n) = 4

=> (an – bm)/mn = 4

=> an – bm = 4mn ….(ii)

After adiing (i) and (ii)

=> 3an = 6mn

=> a = 2m

Put the value of a in equation (i) we get,

4mn + bm = 2mn

=> bm = -2mn

=> b = -2n

Therefore values of a and b is 2m and -2n respectively.

Q77. Answer: (d) 35

Given:

Two-third of three-fifth of a number = 42

Calculation:

Let, the number be x.

According to question,

2/3 × 3/5 × x = 42

=> 2/5 × x = 42

=> x = 105

Now we have to find the value of 1/3 of x

=> 1/3 of x

=> 1/3 × 105 = 35

Therefore One-third of that number is 35.

Q78. Answer: (c) Inkjet printers

The correct answer is Inkjet printers.

Key Points

• A Gyroscope determines an angular velocity by sensing the change in orientation of a device when paired with an accelerometer.

• Gyroscopic effect is the ability of a rotating body to maintain a steady direction of its axis of rotation it rotates concerning the axis of symmetry at high speed.

• The two fundamental properties of gyroscopic action are rigidity in space and precision.

• There are three basic types of Gyroscope which are rotatory vibrating structure and optical Gyroscope.

• It is used in computer mouse, smartphones, racing cars, etc.

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Q79. Answer: (b) 120

Given:

100, 120, 110, 90, 120, 140, 130, 120, 110, 100, 90, 140, 120, 100

Concept used:

The mode is the value that appears most often in a set of data values.

Calculation:

Following data is arranged in ascending order:

90, 90, 100, 100, 100, 110, 110, 120, 120, 120, 120, 130, 140, 140.

Mode = The value that appears most often in a set of data values

=> 120 appears most often (i.e. 4 times) in a set of data values.

Therefore Mode = 120.

Q80. Answer: (b) 15.56%

Given:

The marked price of book = Rs. 90

The selling price of book = Rs. 76

Formula used:

Discount percentage = (Marked price - Selling price)/(Marked price) × 100

Calculation:

The marked price of book = Rs. 90

The selling price of book = Rs. 76

Discount percentage = (Marked price - Selling price)/(Marked price) × 100

=> Discount percentage = (90 - 76)/(90) × 100

=> Discount percentage = 14/90 × 100

=> Discount percentage = 15.56%

Therefore The discount percentage is 15.56%.

Q81. Answer: (d) 1680

Given:

The number of students hired by company II from college P = 27% of 2400

The number of students hired by company II from college R = 25% of 2400

The number of students hired by company II from college S = 18% of 2400

Calculation:

Required total = 27% of 2400 + 25% of 2400 + 18% of 2400

=> Required total = 27/100 × 2400 + 25/100 × 2400 + 18/100 × 2400

=> Required total = 27 × 24 + 25 × 24 + 18 × 24

=> Required total = 24 × (27 + 25 + 18) = 24 × 70 = 1680

Therefore The total number of students hired by Company II from Colleges P, R, and S is 1680.

Q82. Answer: (d) 225

Given:

The number of students hired by company II from college R = 25% of 2400

The number of students hired by company III from college R = 25% of 1500

Calculation:

Required difference = 25% of 2400 – 25% of 1500

=> Required difference = 25/100 × 2400 – 25/100 × 1500

=> Required difference = 25 × 24 – 25 × 15

=> Required difference = 25 × (24 - 15) = 25 × 9 = 225

Therefore The difference between the number of students hired by Companies II and III from College R is 225.

Q83. Answer: (a) 495

Given:

Total students hired by all companies from college P = 24% of 1800 + 27% of 2400 + 32% of 1500

Total students hired by all companies from college S = 16% of 1800 + 18% of 2400 + 23% of 1500

Calculation:

Required difference = (24% of 1800 + 27% of 2400 + 32% of 1500) – (16% of 1800 + 18% of 2400 + 23% of 1500)

=> Required difference = 24/100 × 1800 + 27/100 × 2400 + 32/100 × 1500 - 16/100 × 1800 - 18/100 × 2400 - 23/100 × 1500

=> Required difference = 24 × 18 + 27 × 24 + 32 × 15 - 16 × 18 - 18 × 24 - 23 × 15

=> Required difference = 18 × (24 - 16) + 24 × (27 - 18) + 15 × (32 - 23)

=> Required difference = 18 × 8 + 24 × 9 + 15 × 9

=> Required difference = 144 + 216 + 135 = 495

Therefore 495 more students did all the three companies together hire from College P in comparison with College S.

Q84. Answer: (b) 96

Given:

The number of students hired by Company III from College P = 32% of 1500

The number of students hired by Company I from College Q = 32% of 1800

Calculation:

Required difference = 32% of 1800 - 32% of 1500

=> Required difference = 32/100 × 1800 – 32/100 × 1500

=> Required difference = 32 × 18 – 32 × 15

=> Required difference = 32 × (18 - 15)

=> Required difference = 32 × 3 = 96

Therefore The difference between the number of students hired by Company III from College P and that hired by Company I from College Q is 96.

Q85. Answer: (b) Tamil Nadu

The correct answer is Tamil Nadu.

Key Points

• The Brihadeshwara Temple also known as Rajarajesvaram or Peruvudaiyar Kovil temple.

• It is a Hindu temple dedicated to Lord Shiva.

• It is located on the South Bank of the Kaveri river.

• It was built by Tamil king Raja Raja Chola I.

• It is a part of the UNESCO World Heritage site known as the great living Chola temples along with Gangaikondacholapuram and Airavatesvara Temple.

• It is also known as Dakshin Meru.

• It is an example of Dravidian Architecture from the Chola period.

Q86. Answer: (d) Wular

The correct answer is Wular.

Key Points

• Wular lake is one of the largest freshwater lakes In Asia.

• It is located in Bandipora district in Jammu and Kashmir.

• It is formed as a result of tectonic activity.

• It is fed by the Jhelum river.

• It is the largest freshwater lake in Jammu and Kashmir.

• The 'Tulbul 'project is located at the river the mouth of the lake.

Q87. Answer: (a) Only conclusion II follows

Statement : Adversity is the best teacher → It means that we can learn the best from adversities. But it is not talking about any particular adverse situation.

Conclusions :

I. Poor people are learned → Does not follow (The statement is about adversity, particularly not mentioned about poverty).

II. Adversity provides opportunities to learn →Follows(It can be definitely said from the given statement).

Hence, "only conclusion II follows".

Q88. Answer: (a) 77

Given,

Number of persons who read novels = 45

Number of persons who read poems = 37

Number of persons who do not read either novels or poems = 8

=> Number of persons who read both novels as well as poems = (45 + 37 + 8) - 85 = 5

=> Number of persons who read both novels as well as poems = 5

Number of persons who read either Novel or Poem Are = (85 - 8) = 77

Hence, "77" is the correct answer.

Q89. Answer: (d) 5

Given,

Number of persons who read novels = 45

Number of persons who read poems = 37

Number of persons who do not read either novels or poems = 8

=> Number of persons who read both novels as well as poems = (45 + 37 + 8) - 85 = 5

=> Number of persons who read both novels as well as poems = 5

Hence, 5 is the answer.

Q90. Answer: (b) 37

Given:

Number of Russian tourists = 111

Number of Chinese tourists = 407

Number of Japanese tourists = 259

Formula Used:

To form identical batches with the same number of persons from each nationality, we need to find the greatest common divisor (GCD) of the three numbers.

Calculation:

First, find the GCD of 111 and 407:

Use the Euclidean algorithm:

407 = 3 × 111 + 74

111 = 1 × 74 + 37

74 = 2 × 37 + 0

GCD(111, 407) = 37

Next, find the GCD of 37 and 259:

Use the Euclidean algorithm:

259 = 7 × 37 + 0

GCD(37, 259) = 37

Thus, GCD(111, 407, 259) = 37

Conclusion:

The total number of persons in each batch is the GCD of the three numbers.

Therefore, the total number of persons in each batch is 37.

Q91. Answer: (d) Dr. Urjit R. Patel

The correct answer is Dr Urjit R. Patel.

Key Points

• Dr Urjit R. Patel served as the chief policy officer at IDFC Limited from 1997 to 2006.

• He was also a consultant to the ministry of power, department of economic affairs from 1998 to 2001.

• He also served at the International Monetary Fund.

• He was also responsible for the monetary policy framework as he was the chairman of the expert committee to revise and strengthen the monetary policy framework.

• He recommended RBI to target inflation.

• He became the 24th governor of The Reserve Bank of India on September 4th, 2016.

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Q92. Answer: (a) 8%

Given :

Principal, P = Rs. 8500

Simple Interest, S.I. = Rs. 2040

Time, T = 3 years

Let the rate of interest be R

Formula Used :

S.I. = (P × R × T)/100

Calculation :

2040 = (8500 × R × 3)/100

=> R = 8% per annum.

Therefore The rate of interest is 8%

Q93. Answer: (d) CPU

The correct answer is the CPU.

Key Points

• A peripheral device, also sometimes called an auxiliary device, is any connected device (internal or external) that provides a computer with additional functionality.

• Peripheral devices fall into three main categories:

• Input devices, which send data to the computer.

• Output devices, which receive data from the computer.

• Input/output devices, such as storage devices.

• Examples:

• Mouse

• Keyboard

• Webcam

• Microphone

• Monitor

• Speakers

• Projector

• Printer

• USB Flash Drive

• External Hard Drive

Additional Information

• A keyboard is a primary input device that allows users to input text into the computer or any other electronic machinery.

• A monitor is an output device that displays a Video Display terminal or video display unit in the form of a document.

• A CPU stands for Central Processing Unit that is responsible for executing instructions which constitutes a computer program.

• Arithmetic and Logical unit reside inside it.

Confusion Points CPU is not a peripheral device because a computer system can not work without a CPU.

Q94. Answer: (c) Some animals are black and some are white.

Statements :

I. All the dogs are black → It means dogs can only be black, not any other color

II. All the cats are white → It means cats can only be white, not any other color.

combining the above statements we can say that some animals (dogs) are black and some animals (cats) are white.

Hence, "some animals are black and some animals are white" is the correct answer.

Q95. Answer: (b) G. V. Mavalankar

The correct answer is G. V. Mavalankar.

Key Points

• Ganesh Vasudev Mavalankar was the first speaker of the Lok Sabha.

• He was born into a Marathi family in Baroda on 27th November 1888.

• He was also appointed as the secretary of the Gujarat Sabha in 1916.

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• He was a member of the Indian National Congress.
• He played a prominent role in the Kheda campaign.
• He was the founder and as well as the President of the Ahmedabad Education Society.
• He was also appointed as the President of the Gujarat Vernacular society.
• He was made the speaker of the provincial Parliament formed on November 26th, 1949, and also became the first speaker of the Lok Sabha constituted in 1952.
• He was also known as the father of the Lok Sabha by Jawaharlal Nehru.

Q96. Answer: (c) Mughals

The correct answer is Mughals.

Key Points

• The Mughals belong to a branch of the Turks.
• The Mughal dynasty was founded by Babur in 1526.
• It was ruled by Mughal rulers Babar, Akbar, Humayun, Jahangir, Shahjahan, Aurangzeb till 1707 AD.

Additional Information

• The Lodhi Dynasty under the Delhi sultanate was the first Afghan Pashto Dynasty in India who ruled from 1451 to 1526 AD.
• The Tughlaq dynasty ruled between 1320 to 1351 AD. The Tughlaqs were Muslims of Turkish origin.
• The Khilji dynasty was the second dynasty of the Delhi Sultanate between 1296 to 1316 AD.

Q97. Answer: (a) Hangul

The correct answer is 'Hangul'

Key Points

• Hangul (Kashmir Deer):
• Hangul, also known as the Kashmir Deer, is the state animal of Jammu & Kashmir.
• It is primarily found in the Dachigam National Park, located near Srinagar.
• The species is listed as Critically Endangered on the IUCN Red List due to rapidly declining populations.
• It is protected under Schedule I of the Wildlife Protection Act, 1972, which ensures the highest degree of protection.
• Its population has drastically declined over decades due to habitat loss, poaching, and human interference.
• Ex-situ conservation efforts are being carried out in the forested areas of Shikargah Tral in South Kashmir.

Additional Information

• Barasingha:
• Also called the Swamp Deer, known for its distinctive multi-tined antlers.
• Mainly found in Kanha National Park of Madhya Pradesh.
• It prefers swampy grasslands, unlike Hangul which is a mountain species.
• Sangai:
• Also known as the Dancing Deer, found in the floating biomass (phumdis) of Keibul Lamjao National Park in Manipur.
• It is one of the rarest deer species in the world and has a unique gait due to its wetland habitat.
• Cheetal:
• Commonly known as the Spotted Deer or Axis Deer.
• Widespread across the Indian subcontinent and commonly seen in many national parks.
• Unlike Hangul, it is not an endangered species and has a stable population.

Important Points

• The Hangul population, once estimated at over 5,000 in the early 1900s, has fallen to less than 200 today.
• Major threats include habitat fragmentation, livestock grazing, poaching, and political disturbances in the region.
• Conservation programs like the Project Hangul aim to restore and protect the species.

Q98. Answer: (d) Music and mathematics do not go together.

According to the given information,

Conclusion 1: This does not follows, because it is not mentioned in statement whether, mathematics is easy to learn or difficult.

Conclusion 2: This does not follows, because it is said majority of mathematicians are not good musicians, however statement is vice versa of it, so it is not true.

Conclusion 3: This does not follows, because those who cannot appreciate music become mathematician, but conclusion is saying no musician can become mathematician which is a negative statement. Conclusion can't be negative with respect to

statement.

Conclusion 4: This conclusion follows, because it saying similar to the statement. Those who cannot appreciate music become mathematician which also means that music and mathematics do not go together, both profession can't take place at the same time.

Hence, "conclusion 4" follows.

So correct answer is option 4.

Q99. Answer: (d) Chile

The correct answer is Chile.

Key Points

• The Copa America is the men's football tournament contested among National teams from South America.
• It is the oldest International Football competition and is the third most-watched competition.
• It determines the champion of South America.
• It was founded in 1916.
• Uruguay is the most successful team with 15 titles till now.
• Chile won the Copa America 2016 Football Championship.
• The current champion is Brazil.

Q100. Answer: (b) Public Sector Undertaking

The correct answer is Public Sector Undertaking.

Key Points

• Railtel is a Mini Ratna Central Public Sector Enterprise.
• It is an ICT provider and one of the largest infrastructure provider in the country.
• It was incorporated in September 2000 to modernize the existing Telecom system.
• It is the Telecom system for train control, operation, and safety and to generate additional revenues by creating a nationwide Broadband and multimedia network.
• It is an ISO Certified company.
• It has a strategic relationship with Indian Railways and undertakes a variety of projects.

Q101. Answer: (b) Cannot be determined

According to given information, family tree is as follows-:

From the above arrangement, Q is either a grandson or granddaughter of P.

Hence, "Cannot be determined" is the correct answer.

Q102. Answer: (c) Anjali Bhagwat

The correct answer is Anjali Bhagwat.

Key Points

• Anjali Bhagwat is a professional Indian Shooter.
• She was the world's number one in 10-meter air rifle in 2002.
• She won her first World Cup final in Milan in 2003.
• She is the only Indian who was honoured by the ISSF champions of champions award.
• She won 12 gold and 4 silver medals in the Commonwealth Games and Commonwealth shooting championships.
• She was the finalist in the Sydney Olympics in 2000.

Important Points

• Sudha Singh is an Indian Olympic athlete in the 3000 metres steeplechase event.
• Shivani Kataria is an Indian swimmer who competes in the women's 200m freestyle.
• Lalita Babar is an Indian long-distance runner.

Q103. Answer: (a) Submarine

The correct answer is submarine.

Key Points

• INS Arihant is India's first nuclear-propelled submarine.
• It is armed with 3 K-15 missiles and four K-4 ballistic missiles.
• It can also launch nuclear weapons from underwater completing the nuclear triad means it has the ability to launch a nuclear

strike from land, air, or sea.

• It is powered by an 83-megawatt pressurized light water reactor.

• It is developed under the Indian navy's advanced technology vessel project.

Q104. Answer: (b) 437

Given :

The sum of two positive integers is 42 and their difference is 4.

Calculation :

Let the first integer be x

The second integer be y

=> x + y = 42 ----(1)

and x - y = 4

2x = 46

=> x = 23

Now,

putting the value of x in (1)

23 + y = 42

=> y = 42 - 23

=> y = 19

To find product of integers

=> x × y = 23 × 19

=> x × y = 437

Therefore the product of integers is 437

Q105. Answer: (d) 32 m

Given :

The length of a rectangular board is 4 times that of its breadth and the area of the board is 256 sq. meters

Formula Used :

Area of rectangle = Length × Breadth

Calculation :

Let the length of the rectangular board be 4x

x × 4x = 256

=> $4x^2 = 256$

=> $x^2 = 256/4$

=> $x^2 = 64$

=> $x^2 = 8^2$

=> x = 8

=> The breadth of the rectangular board = 8 m

=> Length of the rectangular board = 4x

=> Length of the rectangular board = 4 × 8

Therefore The length of the rectangular board is 32 m

Q106. Answer: (c) the Sun, Moon and Earth are in a direct line

The correct answer is the Sun, Moon, and Earth are in a direct line.

Key Points

• A Solar eclipse occurs when the moon comes in between the earth and the sun.

• It leaves a moving region of shadow on the earth's surface.

• Eclipse can be classified into four types annular, total, partial, and hybrid.

• An annular Solar eclipse occurs when the moon completely covers the sun.

• A total solar eclipse occurs when the new moon comes between the sun and the earth casting the darkest part of a shadow on Earth.

• In a total solar eclipse, the moon covers the disc of the sun entirely.

• It is called the total solar eclipse because at the maximum point of the eclipse the sky goes dark.

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Additional Information

Lunar Eclipse	Earth is between sun and moon	Blocks sunlight going from Sun to Moon
Solar Eclipse	Moon is between Sun and Earth	Blocks sunlight going from Sun to Earth

Q107. Answer: (d) Undercurrent

High tide is the water phenomena in which sea level rise and it occurs in sea.

Similarly,

Undercurrent is also water phenomena, It is flow of water which occurs in River.

Hence, "Undercurrent" is correct answer.

Q108. Answer: (a) Thirukural

The correct answer is Thirukural.

Key Points

• Thirukural is a classic Tamil text authored by a Tamil poet Thiruvalluvar.

• It is also known as Kural and is a part of Sangam literature.

• It comprises 133 sections of 10 couplets divided into three books - Aram (virtue), Porul (government and society), and Kamam (love).

• Thiruvallur was a Tamil poet Saint.

• The first Sangam held at Madurai.

• The second Sangam held at Kapatapuram.

• The third Sangam was held in modern Madurai.

Important Points

• Ratnavali was authored by Harsha.

• Rajtarangini was authored by Kashmiri Brahmin Kalhana.

• Kalidas was the author of Meghdoot.

Q109. Answer: (d) = × - +

We have to replace # signs according to option and get a balanced equation-:

1)+ = + -

14 # 9 # 3 # 19 # 6

14 + 9 = 3 + 19 - 6

23 ≠ 16 (We are not getting balanced equation.)

2)+ × = +

14 # 9 # 3 # 19 # 6

14 + 9 × 3 = 19 + 6

14 + 27 = 25

41 ≠ 25 (We are not getting balanced equation.)

3) - ÷ + =

14 # 9 # 3 # 19 # 6

14 - 9 ÷ 3 + 19 = 6

14 - 3 + 19 = 6

33 - 3 = 6

30 ≠ 6 (We are not getting balanced equation.)

4) = × - +

14 # 9 # 3 # 19 # 6

14 = 9 × 3 - 19 + 6

14 = 27 - 19 + 6

14 = 33 - 19

14 = 14 (Here we got balanced equation.)

Hence, the correct answer is option 4.

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Q110. Answer: (a) 24

Given:

Speed of boat in still water = 12 kmph

Speed of current = 3 kmph

Distance between the points = 135 km

Formula Used:

time = distance/speed

Calculation:

Speed of boat in upstream speed = 12 - 3

=> Speed of boat in upstream speed = 9 kmph

=> Distance = 135 km

=> Time taken, t1 = 135/9

=> Time taken, t1 = 15 hrs ----(1)

=> Speed of boat in downstream speed = 12 + 3

=> Speed of boat in downstream speed = 15 kmph

Distance = 135 km

=> Time taken, t2 = 135/15

=> Time taken, t2 = 9 hrs -----(2)

=> Total time taken = t1 + t2

=> Total time taken = 9 + 15

Therefore The Total time taken is 24 hrs

Q111. Answer: (c) is present in the brain

The correct answer is present in the brain.

Key Points

• Hypothalamus is present in the forebrain.

• The synthesis and secretion of pituitary hormones occur in the hypothalamus.

• It consists of neurosecretory cells that produce these hormones.

• It produces Releasing hormones and inhibiting hormones.

• The releasing hormones stimulate the secretion of pituitary hormones.

• Inhibiting hormones Inhibits secretion of pituitary hormones.

Q112. Answer: (d) 42

The logic follows here is-:

$6^2 - 6 = 30$

Similarly,

$7^2 - 7 = 42$

Hence, the correct answer is "42".

Q113. Answer: (c) 30 sq. cm

Given:-

Sides of triangle are 5 cm, 12 cm, 13 cm

Concept Used:-

We can see that it is forming a right angle triangle, by Pythagoras theorem we hqve

Because $5^2 + 12^2 = 25 + 144 = 169 = 13^2$

Therefore here, Base = 12 cm

=> Height = 5 cm

Formula Used:-

Area of triangle = (1/2) × Base × Height

Calculation:-

=> Area of triangle = (1/2) × 12 × 5

=> Area of triangle = 30 cm^2

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Q114. Answer: (a) 1969

The correct answer is 1969.

Key Points

• The Indian National Committee for Space Research (INCOSPAR) was set up by the government of India in 1962.

• The INCOSPAR set up the Thumba equatorial rocket launching stations at Thiruvananthapuram.

• The INCOSPAR was superseded by the Indian Space Research Organisation (ISRO) by professor Vikram Sarabhai as chairman in 1969.

• The Space Commission was established in 1972.

• India launched its first satellite Aryabhatta in 1975.

• The ISRO became an Apex body to provide guidelines, formulate policies, and monitor the implementation of national space policies.

Q115. Answer: (c) 24 kmph

Given:-

Distance covered by car M = 120 km

Time taken by car M = 2.5 hrs

Formula Used:

Speed = Distance/time

Calculation:

Therefore Speed of car M = 120/2.5

=> Speed of car M = 48 kmph

Also given that, Speed of M = twice of Speed of car W

Therefore Speed of car W = M/2

=> Speed of car W = 48/2

=> Speed of car W = 24 kmph

Q116. Answer: (d) Railway broadband service

The correct answer is Railway

• RailWire is a free Wi-Fi Internet project across Indian railway stations. broadband service.

Key Points

• It is a retail broadband initiative to provide free Wi-Fi at railway stations in association with Google as the technology partner.

• RailTel shall be providing high-speed end to end network connectivity.

• Google will be assisting in providing the radio access network.

Important Points

• Railtel corporation is a central PSU of the Railway ministry.

• It is a category 1 mini Ratna and is the largest neutral telecom service provider in our country.

Q117. Answer: (a) Australia

The correct answer is Australia.

Key Points

• Australia gained independence from the United Kingdom on 11th December 1901.

• Australia Act 1986 and the Statute of Westminster 1931 forms an integral part of Australian sovereignty.

• Papua New Guinea Independence from Australia on 16th September 1975.

Important Points

• The Maldives gained independence from the United Kingdom on 26th July 1965.

• Sri Lanka gained Independence from the United Kingdom on 4th February 1948.

• Canada gained independence from the United Kingdom on July 1st, 1867.

Q118. Answer: (a) 341

The pattern followed here is-:

$3^3 - 2 = 25$,

$4^3 - 2 = 62$,

$5^3 - 2 = 123$,

6^3- 2 = 214,

Similarly,

7^3- 2 = 341

Hence, the correct answer is "341".

Q119. Answer: (c) 1/2

Given:

26/21 : 24/9 ::k :14/13

Concept Used:

For any proportion a : b :: c : d

We know that a × d = b × c

Calculation:

Therefore 26/21 : 24/9 ::k :14/13

=> 24/9 × k = 26/21 × 14/13

=> k = 26/21 × 14/13 × 9/24

=> k = 1/2

Q120. Answer: (c) It is based on all observations of data.

Median properties:

Median is not dependent on all observations of a data especially not dependent on extreme values.

It can be determined graphically.

For odd number of values (n), median is (n + 1)/2 th number

From the above properties of a median, it is clear that option number 3 i.e "It is based on all observations of a data" is not correct.

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