RRB NTPC CBT-I Official Paper (Held On: 4 Jan 2021 Shift 1) (Previous Year Paper)

RRB NTPC • 2021 • 100 questions • 90 minutes • Answer key and solutions

Take this paper as a timed mock test

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

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

Q1. Harish and Bimal can complete a task in 20 days. They worked at it for 15 days and then Bimal left. The remaining work was done by Harish alone, in 10 days. Harish alone can complete the entire task in:

(a) 40 days
(b) 30 days
(c) 35 days
(d) 45 days

Q2. What is the keyboard command to delete ledger created in tally?

(a) Alt + D
(b) Ctrl + D
(c) Shift + D
(d) Alt + F2

Q3. The main focus of the First Five-Year Plan was on the _____.

(a) service sector
(b) agricultural and industrial sector
(c) agricultural sector
(d) industrial sector

Q4. If $\sqrt{3^n} = 729$, then the value of n is equal to:

(a) 6
(b) 8
(c) 12
(d) 9

Q5. In which year did India first participate in the Olympic games?

(a) 1900
(b) 1925
(c) 1923
(d) 1924

Q6. With which state is the Nabakalebara festival associated?

(a) Odisha
(b) Assam
(c) Sikkim
(d) West Bengal

Q7. Which branch of physics deals with properties of fluids at rest?

(a) Hydrostatics
(b) Astrophysics
(c) Thermodynamics
(d) Optics

Q8. The HCF of two numbers is 6 and their LCM is 84. If one of these numbers is 42, then the second number is:

(a) 12
(b) 40
(c) 48
(d) 30

Q9. The first Amendment to the constitution of India was made on _____.

(a) 1951
(b) 1953
(c) 1952
(d) 1950

Q10. The pH range of a human body is:

(a) 2.35 - 4.45
(b) 5.35 - 6.45
(c) 7.35 - 7.45
(d) 8.35 - 9.45

Q11. When was the Hindustan Republican Association formed?

(a) 1920
(b) 1922
(c) 1924
(d) 1926

Q12. If $x^2y^2+1/(x^2y^2)=83$, then the value of xy-1/xy is:

(a) 85
(b) 9
(c) 10
(d) 81

Q13. As per Nov 2020, How many countries have membership in the World Trade Organisation? (Note: This data is historical and reflects the membership status as of November 2020.)

(a) 168
(b) 160
(c) 164
(d) 165

Q14. Where was the first nuclear power plant set up in India?

(a) Kalapakkam
(b) Kakrapur
(c) Tarapur
(d) Kaiga

Q15. Who wrote the famous Hindi novel 'Tamas'?

(a) Yashpal
(b) Nagendra
(c) Bhisham Sahni
(d) Trilochan

Q16. When did the Simon Commission arrive in India?

(a) 1931
(b) 1928
(c) 1927
(d) 1930

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Q17. The ratio of the number of females to that of male employees in a small company is 2 : 3. If the number of male employees in the company is 90, then the total number of employees working in the company is:

(a) 150
(b) 130
(c) 90
(d) 120

Q18. If the area of a circle is 154 cm^2, then the circumference of the circle is:

(a) 22 cm
(b) 44 cm
(c) 36 cm
(d) 11 cm

Q19. Which industry uses limestone as raw material?

(a) Plastic
(b) Automobile
(c) Utensils
(d) Cement

Q20. A businessman purchase 20 articles whose cost is equal to the selling price of 15 articles. The profit or loss percentage of the businessman is:

(a) 33.33% profit
(b) 25% profit
(c) 15% profit
(d) 23.33% profit

Q21. Programming language Java was developed by _____.

(a) Paul Allen
(b) Jaap Haartsen
(c) Charles Simonyi
(d) James Gosling

Q22. A mango kept in a basket doubles every one minute. If the basket gets completely filled by mangoes in 30 minutes then in how many minutes half of the basket was filled?

(a) 27
(b) 29
(c) 15
(d) 28

Q23. Who built the Sanchi Stupa?

(a) Ashoka
(b) Chanakaya
(c) Bindusara
(d) Chandragupta

Q24. The first national flag of India is said to have hoisted at _____ in 1906.

(a) Patna
(b) Kolkata
(c) New Delhi
(d) Ahmedabad

Q25. The pistil in the flower is _____.

(a) a male reproductive part
(b) unisexual
(c) a female reproductive part

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(d) bisexual

Q26. According to the World Development Report, countries having per capita income of more than US$12,000 per annum as on 2016 are called:

(a) poor countries
(b) low income countries
(c) rich countries
(d) low middle income countries

Q27. The value of [(3√2 + 2) × (3√2 - 2)] of 13 + 15 is:

(a) 616
(b) 197
(c) 140
(d) 414

Q28. In a school, 60% of the students passed in an examination. If the number of failed candidates is 240, then the number of candidates that have passed is:

(a) 600
(b) 240
(c) 360
(d) 410

Q29. When was INSAT 1B commissioned?

(a) 1985
(b) 1983
(c) 1987
(d) 1980

Q30. There is a carpet of length 20 5/2 m. How many small pieces of carpet, each of length 4 1/2 m, can be cut out of it?

(a) 7
(b) 8
(c) 9
(d) 5

Q31. 1. Banana price is more than that of lychee.
2. Banana price is less than that of kiwi.
3. Kiwi Price is more than that of banana and lychee.
If both, 1 and 2 statements are true, then third is:

(a) vague
(b) true
(c) uncertain
(d) false

Q32. What was the code name for Pokhran Nuclear Test 2?

(a) Laughing Buddha
(b) Smiling Buddha
(c) Operation Research
(d) Operation Shakti

Q33. In which form is data stored in a computer?

(a) Binary
(b) Picture
(c) Magnetic
(d) Alphabets

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Q34. If the ratio between two numbers is 3 : 5 and their LCM is 120, then the numbers are:

(a) 21; 35
(b) 24; 40
(c) 27; 45
(d) 30; 50

Q35. In which year were the Women Transforming India Awards started by NITI Aayog?

(a) 2016
(b) 2015
(c) 2014
(d) 2017

Q36. How many non-permanent members does the UN Council have?

(a) 15
(b) 10
(c) 12
(d) 14

Q37. When a smaller number divides a larger number, we get a quotient of 6 and a remainder of 5. Find the smaller number if the difference between the two numbers is 1540.

(a) 580
(b) 620
(c) 735
(d) 307

Q38. The value of sin 23°/cos 67°+cos 71°/sin 19° is:

(a) 1
(b) 3
(c) 2
(d) 0

Q39. The ability of metals to be drawn into thin wires is called:

(a) malleability
(b) ductility
(c) reactivity
(d) solubility

Q40. In a class of students, Rajesh ranks 15^(th) from the top and Prakash ranks 25^(th) from the bottom. Gyan is on the 10^(th) place ahead of Prakash. If there are 10 students, exactly in between Rajesh and Gyan, then how many total students are there in the class?

(a) 60
(b) 55
(c) 40
(d) 50

Q41. Pick the odd one out.

(a) MNKL
(b) IJGH
(c) EFCD
(d) OPQR

Q42. Raja Ravi Varma was a famous _____.

(a) painter
(b) poet
(c) mathematician

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(d) singer

Q43. The difference between the simple interest and the compound interest on Rs.5000/- at 10% per annum for 3 years is:

(a) Rs.155
(b) Rs.480
(c) Rs.233
(d) Rs.235

Q44. In a symbolic language, 'surat is a hot place' is written as 'a hot is place surat' and 'water vapour to air here', as 'to air vapour here water', then in the same language, 'shimla is a hill place' would be written as?

(a) Shimla is a hill place
(b) A hill is place shimla
(c) A hill place is shimla
(d) Shimla is a place hill

Q45. The perimeters of two similar triangles. ΔPQR and ΔXYZ are 48 cm and 24 cm respectively. If XY = 12 cm, then PQ is:

(a) 24 cm
(b) 18 cm
(c) 12 cm
(d) 8 cm

Q46. Select the option that is related to the third term in the same way as the second term is related to the first term.

BSTN : AQUP :: DNUC : ?

(a) CLVE
(b) BSTO
(c) TOUS
(d) TSTB

Q47. Train A, running at the speed of 80 km/hr crossed train B, running at the speed of 70 km/hr in the opposite direction. Both trains finish crossing each other in 30 seconds. If the length of train A is 300 m, then the length of train B is:

(a) 855 m
(b) 950 m
(c) 850 m
(d) 750 m

Q48. The capacity of a cylindrical tank is 2376 m^3. If the radius of the tank is 21 m, then the depth of the tank is:

(a) 1.71 m
(b) 2.89 m
(c) 5.75 m
(d) 3.72 m

Q49. The first high court of India was established in _____.

(a) Kolkata
(b) Delhi
(c) Mumbai
(d) Punjab

Q50. When did the RTI Act come into effect?

(a) December 2005
(b) November 2006
(c) September 2005
(d) October 2005

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Q51. Pradhan Mantri Swasthya Suraksha Yojana (PMSSY) was launched in the year _____.

(a) 2006
(b) 2004
(c) 2003
(d) 2005

Q52. When was Akbar became the emperor?

(a) 1552 AD
(b) 1550 AD
(c) 1560 AD
(d) 1556 AD

Q53. Who among the following is the youngest Nobel Laureate?

(a) Lawrence Bragg
(b) Nadia Murad
(c) Malala Yousafzai
(d) Tsung Dao Lee

Q54. In which of the following does the river Godavari originate?

(a) Yamnotri
(b) Thriambak hills (Bramhagiri hills)
(c) Hills of Coorg
(d) Gangotri

Q55. Five students are sitting in a circle facing the center. Sumit is between Sunil and Sushmit. Sushma is on the left side of Shweta, Sushmit and Sushma are not sitting next to each other. Who is sitting next to Sumit on his right side?

(a) Sushma
(b) Sushmit
(c) Shweta
(d) Sunil

Q56. The sum of two numbers is 25 and their difference is 15. The ratio of the numbers is:

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

Q57. How many world heritage sites have been protected by UNESCO as of June 2020?

(a) 1121
(b) 1256
(c) 1056
(d) 1273

Q58. Select the combination of letters that when sequentially placed in the blanks will create a repetitive pattern.

a_bc_a_bcda_ccd_bcd_

(a) a, a, b, c, c, d
(b) a, c, b, d, b, d
(c) a, d, b, b, a, d
(d) a, d, b, b, d, d

Q59. If $x+1/x=9$, then the value of $x^2+1/(x^2)$ is:

(a) 83
(b) 81
(c) 79
(d) 81.01

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Q60. Consider the given statement and decide which of the given assumptions is/are implicit in the statement.

Statement:

A wealthy person has a higher chance of having diabetes.

Assumptions:

I. Most of causes of death among wealthy persons are due to diabetes.

II. Poor persons do not have diabetes.

(a) Only assumptions (II) is implicit.
(b) Both, assumptions (I) and (II) are implicit
(c) Neither assumption (I) nor (II) is implicit.
(d) Only assumptions (I) is implicit.

Q61. Select the number from among the given options that can replace the question mark (?) in the following series.

64, 60, 52, 40, ?, 4

(a) 20
(b) 24
(c) 10
(d) 16

Q62. The value of $((0.27)^2-(0.13)^2)/(0.27 + 0.13)$ is:

(a) 0.40
(b) 0.03
(c) 0.14
(d) 1.40

Q63. How many environmental activists got the Goldman Environmental Prize 2019?

(a) 5
(b) 4
(c) 6
(d) 3

Q64. In which state is the Gandhi Sagar Dam constructed?

(a) Maharashtra
(b) Himachal Pradesh
(c) Rajasthan
(d) Madhya Pradesh

Q65. When was revolt of 1857 finally supressed by British?

(a) 1859
(b) 1861
(c) 1860
(d) 1857

Q66. If $\tan\theta + \cot\theta = 5$, then the value of $\tan^2\theta + \cot^2\theta + 2\tan^2 60°$ is:

(a) $29\sqrt{3}$
(b) 29
(c) 25
(d) $10\sqrt{3}$

Q67. A class has 48 students, on a specific day, only 3/8 of the students were present; the number of absentees on the same day would be:

(a) 18
(b) 28
(c) 38
(d) 30

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Q68. The value of $15 \times 14 - 30 + (3^2 + 17)$ is:

(a) 206
(b) 124
(c) 154
(d) 266

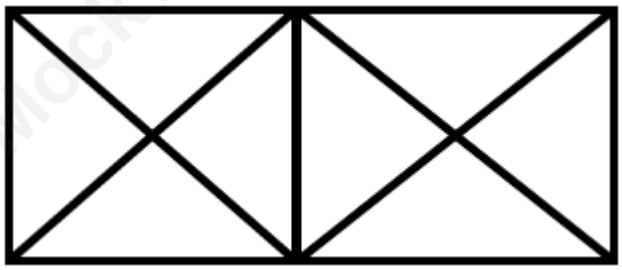
Q69. URL stands for:

(a) Uniform Resource Locator
(b) Uniform Remote Locator
(c) Universal Remote Land
(d) Universal Resource Locator

Q70. The angle of elevation of a pole from a point, which is 20 m away from the foot of the pole is 45°. Find the height of the pole.

(a) 20 m
(b) $20\sqrt{2}$ m
(c) 15 m
(d) 10 m

Q71. How many triangles are there in the following figures?



(a) 20
(b) 18
(c) 22
(d) 16

Q72. On which river is the Sardar Sarovar Dam constructed?

(a) Ganga
(b) Brahmaputra
(c) Yamuna
(d) Narmada

Q73. The marks obtained by 7 students in a class in mathematics are 43, 44, 65, 41, 53, 65 and 62. The mode of the data is:

(a) 53
(b) 65
(c) 41
(d) 62

Q74. 15 male employees or 20 female employees of a company can complete a project in 26 days. How long will 30 male employees and 12 female employees together take to complete the project?

(a) 14 days
(b) 10 days
(c) 12 days
(d) 8 days

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Q75. The sum of two numbers is 16 and their product is 63. The sum of their reciprocal is equal to:

(a) 63/16
(b) 8/63
(c) 60/63
(d) 16/63

Q76. _____ is the largest bauxite producing state of India.

(a) Odisha
(b) Jharkhand
(c) Andhra Pradesh
(d) Gujarat

Q77. Aman is older than Sahu, Sahu is younger than Komal but older than Millan. Komal is older than Aman but younger than Uday. Who is the third oldest among them?

(a) Komal
(b) Aman
(c) Sahu
(d) Uday

Q78. Select the option that is related to the third term in the same way as the second term is related to the first term.

DFB : GHC :: LNJ : ?

(a) LOJ
(b) OQM
(c) OPK
(d) EGC

Q79. Read the given statements and conclusions carefully and decide which of the conclusions logically follow(s) from the statements.

Statements:

Some women are wise.

All wise are engineers.

Conclusions:

I. Some women are engineers.

II. All engineers are wise.

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

Q80. If '+' denotes 'multiplication', '-', denotes 'addition', '×', denotes 'division' and '÷' denotes 'subtraction', then which of the following equation is true?

(a) 9 + 5 - 16 × 4 ÷ 2 = 41
(b) 15 + 15 × 3 - 4 ÷ 5 = 26
(c) 10 - 12 ÷ 18 × 6 + 2 = 16
(d) 11 ÷ 8 × 2 - 4 + 1 = 41

Q81. 27% of 250 - 0.02% of 1000 is equal to:

(a) 65.52
(b) 52.56
(c) 67.30
(d) 76.30

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Q82. A bank provides a loan at the rate of 5% per annum to a trader on an amount of Rs.12,50,000 for 5 years. The simple interest to be paid is:

(a) Rs.2,25,400
(b) Rs.3,12,500
(c) Rs.2,40,600
(d) Rs.4,20,250

Q83. The cause of Hepatitis A is a:

(a) mosquito bite
(b) bacteria
(c) Virus
(d) protozoa

Q84. Which organ in the human body produces bile juice?

(a) Small intestine
(b) Pancreas
(c) Liver
(d) Stomach

Q85. PQRS is a cyclic trapezium where PQ is parallel to SR and PQ is the diameter. If angle QPR = 40° then the angle PSR is equal to:

(a) 130°
(b) 120°
(c) 140°
(d) 110°

Q86. If 'A + B' means 'A is daughter of B', 'A - B' means 'A is wife of B', 'A × B' means 'A is the son of B', If P × Q - S then which of the following is true?

(a) Q is the father of P
(b) P is a daughter of Q
(c) S is the father of P
(d) S is the wife Q

Q87. Read the given statements and conclusions carefully and decide which of the conclusions logically follow(s) from the statements.

Statements:

Regularity is a cause for a success in exams.

Some irregular students pass in the examinations.

Conclusions:

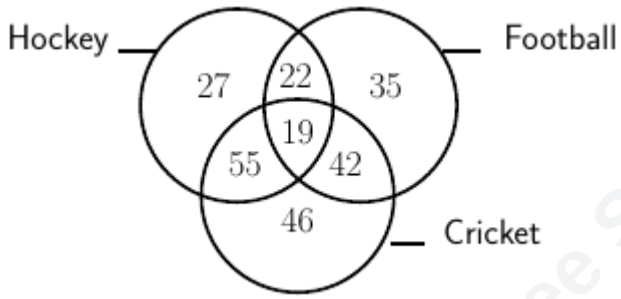
I. All irregular students pass in exams.

II. Some irregular students fail in the exam.

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

Q88. In the given figure, how many hockey players are playing football?

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(a) 55
(b) 35
(c) 41
(d) 22

Q89. Select the number that is different from the rest.

(a) 72563
(b) 52637
(c) 56372
(d) 63754

Q90. A, B, C, D, and E are sitting in a line. C is sitting at the west end and E is the neighbour of B and C. Between A and C there are two persons. Who is sitting at the east end?

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

Q91. If in a certain code, INTERNET is written as TENRETNI, then in the same code, REMEMBER would be written as:

(a) REWOLFES
(b) MEMBARAI
(c) SATATAION
(d) REBMEMER

Q92. In one of the following letter-clusters, the number of letters skipped in between the adjacent letters is in a decreasing sequence. Identify the letter-cluster.

(a) UPGIG
(b) OJEBG
(c) UNSOB
(d) VQMJH

Q93. Select the number from among the given options that can replace the question mark (?) in the following table.

20	**16**	**33**
22	?	15
27	19	23

(a) 32
(b) 34
(c) 36
(d) 42

Q94. Select the option that is related to the third number in the same way as the second number is related to the first number.

25 : 16 :: 41 : ?

(a) 32

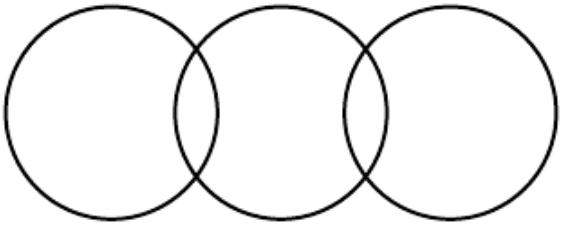
(b) 31
(c) 30
(d) 51

Q95. Select the number from among the given options that can replace the question mark (?) in the following series.
2, 6, 12, 20, ?, ?
(a) 30, 42
(b) 27, 36
(c) 25, 30
(d) 32, 48

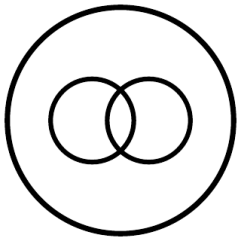
Q96. Select the number from among the given options that can replace the question mark (?) in the following series.
8, 27, 64, 125, 216, ?
(a) 353
(b) 337
(c) 343
(d) 341

Q97. Pick the odd one out.
(a) LEOPARD
(b) COW
(c) DEER
(d) TIGER

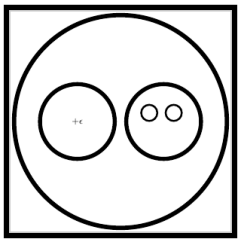
Q98. Which of the following diagrams best represents the relationship between Man, Father and Brother?
(a)



(b)

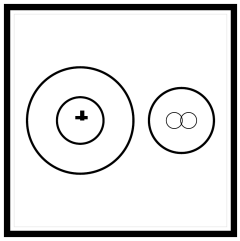


(c)



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(d)



Q99. Select the option in which the words share the same relationship as that shared by the given pair of words.

Cat : Mew :: ? : ?

(a) Duck : Quack
(b) Jackal : Hoot
(c) Bull : Crow
(d) Owl : Hiss

Q100. Select the number from among the given options that can replace the question mark (?) in the following table.

90	80	120
5	4	6
7	6	10
25	?	30

(a) 23
(b) 55
(c) 26
(d) 25

ANSWER KEY

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

SOLUTIONS

Q1. Answer: (a) 40 days

Shortcut Trick

Remaining days of work for Harish + Bimal = 20 − 15 = 5 days.

Work done by Harish alone in 10 days = Work done by (Harish + Bimal) in 5 days.

Efficiency Ratio (Harish + Bimal) : Harish = 10 : 5 = 2 : 1.

Since Harish's efficiency is half of their combined efficiency, he takes double the time.

Time taken by Harish alone = 20 × 2 = 40 days.

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Therefore The correct answer is 40 days.

Alternate Method

Person	Days	Total Work	Efficiency
Harish + Bimal	20	20 units	1 unit/day

Given: Harish and Bimal work together for 15 days.

=> Work completed in 15 days = 15 × 1 = 15 units.

=> Remaining work = 20 − 15 = 5 units.

=> Harish completes 5 units in 10 days.

=> Harish's efficiency = 5 ÷ 10 = 0.5 units/day.

=> Time for Harish alone = Total Work ÷ Efficiency

=> Time = 20 ÷ 0.5 = 40 days.

Therefore The correct answer is 40 days.

Additional Information

Work and Efficiency Relation

Total Work = Efficiency × Time. Efficiency is inversely proportional to the time taken to complete a task.

Combined Efficiency

If person A takes x days and B takes y days, combined efficiency = (1/x + 1/y). Combined time = (x × y) ÷ (x + y).

Remaining Work Concept

Remaining work = 1 − (Work done). This is often used when a person leaves a task mid-way.

Q2. Answer: (a) Alt + D

The correct answer is Alt + D.

Key Points

• A ledger is the actual account head to identify your transactions and are used in all accounting vouchers.
• Alt + D is the keyboard command used to delete the ledger created in tally.
• Go to Gateway of Tally > Accounts Info. > Ledgers > Alter > Press Alt+D.
• Users can delete any ledger in Tally if the balance does not exist in that particular ledger.

Additional Information

• Alt+C is the short key to access Auto Value Calculator in the amount field during voucher entry.
• Ctrl+C is the short key to create Cost Center from the Ledger creation screen.
• Ctrl+B is the short key to create a Budget from the Ledger creation screen.
• Ctrl+G is the short key to create an account Group from the Ledger creation screen.

Q3. Answer: (c) agricultural sector

The correct answer is agricultural sector.

Key Points

• The First Five Year Plan in India was active between 1951 and 1956.
• The plan was based on the Harrod-Domar model.
• This plan gave priority to the agricultural sector of the country.
• The First Five Year Plan was presented before the parliament by Jawaharlal Nehru.
• Gulzarilal Nanda was the first Deputy Chairman of the Planning Commission of India.
• Economist K N Raj is known as the architect of this plan.
• It was quasi-successful for the government.
• The target growth rate of the First Five Year Plan was 2.1% annual gross domestic product (GDP) growth.

Additional Information

• The second Five Year Plan gave priority to the Industrial development of the country.
• The fifth Five Year Plan gave priority to agriculture, industry, and mines.
• The eighth Five Year Plan gave priority to the development of human resources(Human Model).

Q4. Answer: (c) 12

Given:

√3n = 729

Formulas used:

(x^a)^b = x^(ab)

If x^a = x^b then a = b

Calculation:

√3n = 729

=> √3n = $(3^2)^3$

=> (3n)^(1/2) = (32)3

=> (3n)1/2 = 3^6

=> n/2 = 6

Therefore n = 12

Q5. Answer: (a) 1900

The correct answer is 1900.

Key Points

• India first participated in the Olympic Games in 1900.

• The International Olympic Committee is a governing body of the Olympics.

• The first modern Olympics were held in 1896 in Athens, Greece.

• Norman Pritchard represented India at the 1900 Olympics, making it the nation’s first Olympic appearance. India sent its first contingent at the 1920 Olympics.

• India first sent a team to the Summer Olympic Games in 1920.

• India won its first gold medal in Hockey at Amsterdam Olympics 1928 and until 1956 Indian men's Hockey team remained unbeaten in Olympics.

• India’s last gold medal in Hockey was in the year 1980 Moscow Olympics.

• In the 1952 Summer Olympics wrestler K.D. Jadhav won the first individual medal for independent India.

• Milkha Singh is the first Indian athlete to reach the Olympic finals in Athletics.

Q6. Answer: (a) Odisha

The correct answer is Odisha.

Key Points

• Nabakalebara is a festival celebrated in Odisha state.

• It is a symbolic recreation of the wooden forms of three Hindu deities at Jagannath Temple, Puri.

• Nabakalebara festival was first observed in 1575 A.D.

• It was first organised by Yaduvanshi Bhoi King Ramachandra Deva.

• The meaning of 'Naba' is 'new' and 'Kalebara' is 'body'.

• Nabakalebara celebrating in 8 years or 16 years or 19 years depending on the auspicious day.

• In the 20th century, the Nabakalebara function was celebrated in the Temple in 1912, 1931, 1950, 1969, 1977 and 1996.

• The last Nabakalebara festival was celebrated in 2015.

Additional Information

• Bihu is the most important festival of Assam.

• Saga Dawa is the most important festival of Sikkim.

• Durga Puja is the most important festival of West Bengal.

Q7. Answer: (a) Hydrostatics

The correct answer is Hydrostatics.

Key Points

• Hydrostatics is the branch of physics that deals with the properties of fluids at rest.

• It particularly deals with the pressure in a fluid or exerted by a fluid (gas or liquid) on an immersed body.

• It also deals with Archimedes’ principle and the equilibrium of floating bodies.

• Liquids and gases are sometimes grouped together as fluids.

• The hydrostatic pressure for incompressible fluids that are not subject to gravity is calculated according to Pascal’s law.

Additional Information

• Astrophysics is a branch of science that deals with the laws of physics and chemistry to explain the birth, life and death of stars, planets, galaxies, nebulae and other objects in the universe.

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• Thermodynamics is the branch of science that deals with the relationship between heat, work, temperature, and energy.

• Optics is a branch of science that deals with the determination of behaviour and the properties of light.

Q8. Answer: (a) 12

Given:

HCF of two numbers = 6

LCM of two numbers = 84

Formula used:

Product of two numbers = HCF × LCM

Calculation:

First No × Second No = 6 × 84

=> 42 × Second no = 6 × 84

=> Second No = (6 × 84)/42 = 12

Therefore The second No = 12

Q9. Answer: (a) 1951

The correct answer is 1951.

Key Points

• The First Amendment to the constitution of India was made in 1951.

• The first Amendment added the ninth schedule to the Indian constitution.

• It restricted the freedom of speech and expression.

• It was introduced to remove certain practical difficulties created by the court's decision in several cases such as Kameshwar Singh Case, Romesh Thapar Case, etc.

• The First Amendment protects us against government limits on our freedom of expression, but it doesn't prevent a private employer from setting its own rules.

• It prevents the government from requiring you to say something you don't want to or keeping you from hearing or reading the words of others.

• It inserted articles 31A and 31B into the Indian constitution.

Q10. Answer: (c) 7.35 - 7.45

The correct answer is 7.35 - 7.45.

Key Points

• The pH range of a human body is 7.35 - 7.45.

• pH means the potential of Hydrogen.

• The pH scale is the scale used to express the acidity or alkalinity of a substance based on the concentration of hydrogen ions in its solution.

• pH scale was discovered by Soren Sorensen.

• The range of pH scale 0 to 14.

• If pH < 7 then solution is acidic.

• If pH > 7 then solution is basic.

• If pH = 7 then solution is neutral

• The strength of acids and bases depends on the number of H+ ions and OH- ions produced, respectively.

• When the pH of rainwater is less than 5.6, it is called acid rain.

• The pH value of the Milk of Magnesia is 10.5.

Q11. Answer: (c) 1924

The correct answer is 1924.

Key Points

• Hindustan Republican Association was a revolutionary organization formed in 1924.

• It was formed by Ram Prasad Bismil and Sachindra Nath Sanyal.

• The main leaders of the Hindustan Republican Association are Chandra Shekar Azad, Ram Prasad Bismil, Ashfaq Ullah Khan, Thakur Roshan Singh, Roshan Singh, and Rajendra Lahiri.

• The constitution for the Hindustan Republican Association was drafted in 1923 at Allahabad.

• It was the first revolutionary movement at the national level against the British.

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• Kakori conspiracy is associated with the Hindustan Republican Association.
• The British captured the leaders of the Hindustan Republican Association for involvement in the Kakori Conspiracy.
• Ram Prasad Bismil, Ashfaq Ullah Khan, Roshan Singh, and Rajendra Lahiri were hanged in 1927.
• Chandra Shekar Azad shot himself on 27th February 1931.
• Hindustan Republican Association was later renamed as Hindustan Socialist Republican Association.

Q12. Answer: (b) 9

Given:
$x^2y^2+1/(x^2y^2)=83$
Formula used:
$(a - b)^2 = a^2 + b^2 - 2ab$
Calculation:
$x^2y^2 + 1/x2y2 = 83$
By subtracting 2 from both sides
=> x2y2 + 1/x2y2 - 2 = 83 - 2
=> $(xy - 1/xy)^2 = 81$
=> $(xy - 1/xy) = \sqrt{81}$
Therefore (xy - 1/xy) = 9

Q13. Answer: (c) 164

The correct answer is 164.
Key Points
• World Trade Organization (WTO) is an international organization dealing with the rules of trade between nations.
• it operates a global system of trade rules and as a forum for negotiating trade agreements.
• As of Nov 2020, WTO has 164 members representing 98% of world trade. (Note: This data is historical and reflects the membership status as of November 2020.)
• Afghanistan is the last country to join in WTO, joining effective 29 July 2016.
• More than 20 countries are seeking to join the WTO.
• A government has to bring its economic and trade policies in line with WTO rules and negotiate its terms of entry with the WTO membership.
• World Trade Organisation was formed on 1 January 1995.
• The Headquarters of the WTO is located in Geneva in Switzerland.
• Ngozi Okonjo-Iweala is the current director-general of the World Trade Organisation.

Q14. Answer: (c) Tarapur

The correct answer is Tarapur.
Key Points
• Tarapur power plant was the first commercial nuclear power station built in India.
• It is located in Tarapur, Maharashtra.
• It was owned and operated by the state-run Nuclear Power Corporation of India.
• It was constructed initially with two boiling water reactor (BWR) units.
• It was constructed with the help of the United States.
• A contract between the governments of India and the United States was signed for the construction of the Tarapur nuclear power plant on 8 May 1964.
• France, China, and Russia are supplied uranium fuel to the Tarapur nuclear power plant.
Additional Information
• Madras Atomic Power Station (MAPS) located at Kalpakkam is India's first fully indigenously constructed nuclear power station.
• Kakrapar Atomic Power Station is a nuclear power station that lies in the proximity of Surat and Tapi river in the state of Gujarat.
• Kaiga Generating Station is a nuclear power generating station situated at Kaiga in Karnataka.

Q15. Answer: (c) Bhisham Sahni

The correct answer is Bhisham Sahni.
Key Points
• Bhisham Sahni was an Indian writer in the Hindi language.

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• He is best known for his famous Hindi novel 'Tamas'.
• Tamas is a novel based on the riots of the 1947 Partition of India which he witnessed at Rawalpindi.
• Tamas won the 1975 Sahitya Akademi Award for literature.
• Tamas was later made into a television film in 1987 by Govind Nihalani.
• Bhisham Sahni was honoured with the Padma Bhushan for literature in 1998.
• India Post released a commemorative postage stamp to honour Sahni in 2017.

Important Points

• Notable works of Bhisham Sahni are:
• Jharokhe.
• Kadian.
• Basanti.
• Kunto.

Additional Information

• Notable works of Yashpal are:
• Jhutha Sach.
• Meri Teri Uski Baat.
• Pinjre ki Uran.
• Notable works of Nagendra are:
• Vichaar Aur Vivechan.
• Vichaar Aur Vishleshan.
• Arastoo Ka kaavyashaastr.
• Anusandhaan Aur Aalochana.
• Notable works of Trilochan are:
• Earth.
• Gulab and Bulbul.
• Digant.
• Warm Days.

Q16. Answer: (b) 1928

The correct answer is 1928.

Key Points

• The British government appointed the Simon Commission to review the Government of India Act 1919 in the year 1927.
• The Simon commission arrived in India in 1928.
• It was formed to study constitutional reforms and make recommendations to the government in India.
• Simon commission was an all-white commission without any Indian members.
• The commission consisted of seven Englishman and sir John Simon was its chairman.
• It was formed on 26th November 1927.
• Simon commission arrived in India on 3rd February 1928.
• The Madras session of the congress passed a resolution to boycott the Simon Commission.
• Simon commission submitted its reports on 27th May 1930.

Q17. Answer: (a) 150

Given:

The ratio of number of females to males = 2 : 3

No of male employees = 90

Calculation:

Let the number of females and males be 2y and 3y

=> Total no of employees = 2y + 3y = 5y

3y = 90

=> y = 30

5y = 5 × 30 = 150

Therefore Total no of employees = 150

Shortcut Trick F : M = 2 : 3

=> M = 3 = 90

=> 5 = 90/3 × 5 = 150

Therefore Total no of employees = 150

Q18. Answer: (b) 44 cm

Given:

Area of a circle = 154 cm2

Formula used:

Area of a circle = πr^2

Circumference of a circle = $2\pi r$

Calculation:

πr2 = 154

=> 22/7 × r2 = 154

=> r2 = 154 × 7/22 = 7^2

=> r = 7

Therefore Circumference of a circle = 2 × 22/7 × 7 = 44 cm

Q19. Answer: (d) Cement

The correct answer is Cement.

Key Points

• Limestone is a form of calcium carbonate which is used extensively for the manufacture of cement.

• Cement is manufactured through a closely controlled chemical combination of calcium, silicon, aluminium, iron and other ingredients.

• Crushed limestone is often the main raw ingredient in the manufacture of portland cement.

• CaCO3 is the chemical formula of Calcium carbonate.

• Limestone is a carbonate sedimentary rock composed primarily of calcium carbonate (CaCO3).

• Limestone released carbon dioxide gas while heating.

Important Points

• Limestone is used as:

• Building material.

• Essential component cement industry.

• Aggregate for the base of roads.

• Filler in products such as toothpaste or paints.

Q20. Answer: (a) 33.33% profit

Given:

Cost price of 20 articles = Selling price of 15 articles

Formula used:

Profit = Selling Price - Cost Price

Profit percent = Profit/CP × 100

Calculation:

CP × 20 = SP × 15

=> 20/15 = SP/CP

Here, CP < SP

Profit = 20 - 15 = 5

Profit percent = 5/15 × 100 = 33.33%

Therefore Profit percent = 33.33%

Q21. Answer: (d) James Gosling

The correct answer is James Gosling.

Key Points

• Java is a high-level object-oriented programming language.

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• Java was developed by James Gosling.
• James Gosling is known as the father of Java.
• Java was formerly known as Oak.
• Since Oak was already a registered company the name later changed to Java.
• Java was originally developed at Sun Microsystems and released in 1995 as a core component of Sun Microsystems' Java platform.
• Java code can run on all platforms that support Java without the need for recompilation.
• Java is used to develop mobile apps, web apps, desktop apps, games etc.
• Java is a high level, robust and secure programming language.

Additional Information
• Paul Allen is the co-founder of Microsoft.
• Jaap Haartsen is best known for his role in producing the specification for Bluetooth.
• Charles Simonyi is best known for developing the first versions of Microsoft Office software suite.

Q22. Answer: (b) 29

Given:
A mango kept in a basket doubles every one minute.
The basket gets filled in 30 minutes.
Calculation:
The basket is full (1) in 30 minutes.
The Time required to fill the basket with mango is 30 minutes.
So, half the basket is filled in 29 minutes.
As in every minute, the basket gets doubled. So, in 29 minutes, it is half-filled and in the next minutes, it will be completely filled.
Therefore Obviously, the basket will be half-filled (1/2) filled in 29 minutes.
Alternate MethodAccording to the question,
1st min = $2^1 = 2$
2nd min = $2^2 = 4$
We have observed every min double the quantity
then in 29 min = 2^(29) = 536870912
Last 30 min = 2^(30) = 1073741824
We have observed the 29th min is half of the 30th min quantity.

Q23. Answer: (a) Ashoka

The correct answer is Ashoka.
Key Points
• Sanchi Stupa is a Buddhist complex built by Ashoka.
• It is situated in the Raisen District of Madhya Pradesh.
• It is considered the oldest stone structure in India.
• It was designed by the Mauryan emperor Ashoka within the 3rd century BCE.
• It is also the UNESCO World Heritage site.
• Sanchi Stupa motif is a feature that can be seen in the new Rs. 200 note.

Important Points
• Ashoka was an Indian emperor of the Maurya Dynasty.
• Ashoka was also known as Devanam Priyadasi.
• Ashoka invaded Kalinga in 261 B.C, In Kalinga War.
• Ashoka was the first king in Indian history who has left his records engraved on stones.

Additional Information
• Chanakya was a royal advisor who assisted the first Mauryan emperor Chandragupta in his rise to power.
• Chandragupta Maurya was the founder of the Maurya Empire in ancient India.
• Bindusara was the second Mauryan emperor of India and the father of its most famous ruler Ashoka.

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Q24. Answer: (b) Kolkata

The correct answer is Kolkata.

Key Points

• The first national flag in India is said to have been hoisted on 7th August 1906.
• It was hoisted in the Parsee Bagan Square (Green Park) in Kolkata.
• The flag was composed of three horizontal strips of red, yellow and green.
• The second flag was hoisted by Madame Bhikaji Cama in 1907 at Stuttgart, Germany.
• The third flag was hoisted in 1917.

Important Points

• A resolution was passed adopting a tricolour flag as our national flag in 1931.
• The constituent assembly adopted the national flag on 22nd July 1947.
• The shape of the National Flag of India shall be rectangular.
• The ratio of length to width(height) of the flag shall be 3:2.

Additional Information

• India's national flag is a tricolour panel made up of three rectangular panels or sub-panels of equal widths
• The top panel of the national flag is India saffron (Kesaria) and that of the bottom is India green.
• The middle panel is white.
• The centre of the white panel consists of an Ashoka Chakra in navy blue colour with 24 equally spaced spokes.

Q25. Answer: (c) a female reproductive part

The correct answer is a female reproductive part.

Key Points

• Pistil is the female reproductive part of a flower with a stigma at its top.
• Pistil is the ovule producing part of a flower.
• The function of a pistil is to receive pollen and produce seeds.
• The ovary often supports a long style, topped by a stigma.
• The mature ovary is a fruit, and the mature ovule is a seed.
• Pollens are produced by the male part of a flower called the stamen.
• A flower is actually made of specialized stems and leaves.

Q26. Answer: (c) rich countries

The correct answer is rich countries.

• According to the World Development Report, countries having per capita income of more than US$12,000 per annum as on 2016 are called rich countries.

Key Points

• World Bank published the 2020 Atlas of the Sustainable Development Goals.

• Sustainable Development Goals seek to guide global action to address many of the world’s greatest challenges such as eradicating poverty, eliminating hunger, expanding access to education, achieving gender equality, and addressing the climate crisis.

Important Points

The 17 sustainable development goals (SDGs) to transform our world:

• GOAL 1: No Poverty
• GOAL 2: Zero Hunger
• GOAL 3: Good Health and Well-being
• GOAL 4: Quality Education
• GOAL 5: Gender Equality

GOAL 6: Clean Water and Sanitation

• GOAL 7: Affordable and Clean Energy
• GOAL 8: Decent Work and Economic Growth
• GOAL 9: Industry, Innovation, and Infrastructure
• GOAL 10: Reduced Inequality
• GOAL 11: Sustainable Cities and Communities
• GOAL 12: Responsible Consumption and Production

• GOAL 13: Climate Action
• GOAL 14: Life Below Water
• GOAL 15: Life on Land
• GOAL 16: Peace and Justice Strong Institutions
• GOAL 17: Partnerships to Achieve the Goal

Q27. Answer: (b) 197

Given:
[(3√2 + 2) × (3√2 - 2)] of 13 + 15
Formula used:
(a - b)(a + b) = a^2- b^2
Calculation:
[(3√2 + 2) × (3√2 - 2)] of 13 + 15
=> [$(3\sqrt{2})^2$ - $(2)^2$] × 13 + 15
=> [18 - 4] × 13 + 15
=> 14 × 13 + 15
=> 197
Therefore The required result = 197

Q28. Answer: (c) 360

Given:
Percentage of students passed = 60%
No of failed students = 240
Calculation:
Total percentage of students = 100%
Percentage of students failed = 100% - 60% = 40%
=> 40% = 240
=> 1% = 240/40 = 6
Therefore No of students passed = 60%
=> 60 × 6 = 360
Shortcut Trick 40% (Failed students) = 240
Therefore 60% (Passed students) = 240 × 60%/40% = 360

Q29. Answer: (b) 1983

The correct answer is 1983.
Key Points
• INSAT-1B was an Indian communications satellite.
• INSAT-1B is the second satellite in the INSAT-1 series.
• It was the first operational satellite in the Indian National Satellite System (INSAT) series.
• It was successfully launched by Space Shuttle of the USA in 1983.
• It was manufactured by Ford Aerospace.
• INSAT-1B was launched on 30 August 1983.
• It was operational till July 1990.

Q30. Answer: (d) 5

Given:
Length of carpet = 20 5/2 m = 45/2 m
Length of small pieces of carpet = 4 1/2 m = 9/2 m
Formula used:
No of small pieces of carpet = Length of carpet/Length of 1 small piece of carpet
Calculation:
Therefore No of small pieces of carpet that can be cut out = 45/2 ÷ 9/2
=> 45/2 × 2/9

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=> 5

Q31. Answer: (b) true

Given:

Statement 1: Banana price is more than that of lychee.

Banana > Lychee

Statement 2: Banana price is less than that of kiwi.

Kiwi > Banana

Statement 3. Kiwi Price is more than that of banana and lychee.

Kiwi > Banana and Kiwi > Lychee

From 1 and 2:

Kiwi > Banana > Lychee

Because Kiwi Price is more than that of banana and lychee is true.

Therefore The third statement is true.

Hence, the correct answer is "True".

Q32. Answer: (d) Operation Shakti

The correct answer is Operation Shakti.

Key Points

• The Pokhran nuclear test 2 was a series of five nuclear bomb test explosions conducted by India at the Indian Army.
• It was conducted at the Pokhran test range in Rajasthan.
• Pokhran Nuclear Test 2 was conducted in May 1998.
• Pokhran 2 was code-named Operation Shakti.
• It was the second instance of nuclear testing conducted by India.
• The first test, code-named Smiling Buddha was conducted in May 1974.
• The five nuclear bombs were designated Shakti-I through to Shakti-V.

Q33. Answer: (a) Binary

The correct answer is Binary.

Key Points

• Data stored in a compute in the form of binary.
• A binary number is a number expressed only two symbols: typically "0" (zero) and "1" (one).
• Each digit is referred to as a bit or binary digit.
• Bit is the smallest unit of memory.
• Bit is the short form of Binary digit.
• Half byte is known as a nibble.

Additional Information

• The memory of a computer is usually measured in bytes.
• Tera-represents the fourth power of 1000.
• A Terabyte is more precisely defined as 1,024 gigabytes.
• 1 TB equals 1,024 gigabytes (GB).
• The storage capacity of a hard disc is measured in Megabytes, Gigabytes, and Terabytes.

Q34. Answer: (b) 24; 40

Given:

The ratio between two numbers = 3 : 5

LCM of the two numbers = 120

Formula used:

Product of two numbers = LCM × HCF

Calculation:

Let the HCF of two numbers = y

Let the two numbers be 3y and 5y.

3y × 5y = 120 × y

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=> $15y^2 = 120y$

=> $15y = 120$

=> $y = 8$

$3y = 3 \times 8 = 24$

$5y = 5 \times 8 = 40$

Therefore The two numbers are 24, 40.

Q35. Answer: (a) 2016

The correct answer is 2016.

Key Points

• NITI Aayog started the Women Transforming India Awards in 2016.

• The contest was launched to mark the celebration of International Women's Day, 2016.

• It is an annual contest supported by the United Nations in India.

• It was launched in partnership with MyGov and the United Nations in India.

• Women Transforming India was launched with the aim to celebrate the indomitable spirit of women working tirelessly to empower communities and transform India.

Additional Information

• The NITI Aayog is a policy think tank of the Government of India.

• It was formed on 1st January 2015.

• Its headquarters is in New Delhi.

• It was established to replace the Planning Commission which followed a top-down model.

• The prime minister of India is the chairman of the NITI Aayog.

• The CEO and Vice-Chairperson of the NITI Aayog are appointed by the Prime Minister.

Q36. Answer: (b) 10

The correct answer is 10.

Key Points

• The United Nations Security Council is one of the principal organs of the United Nations.

• United Nations Security Council has 15 Members, and each Member has one vote.

• Among these 15 members, 5 are permanent members and 10 are non-permanent members.

• The General Assembly elects non-permanent members for two-year terms

• More than 50 United Nations Member States have never been members of the Security Council.

Important Points

• Non-permanent members:

1. Algeria (2025)
2. Denmark (2026)
3. Greece (2026)
4. Guyana (2025)
5. Pakistan (2026)
6. Panama (2026)
7. Republic of Korea (2025)
8. Sierra Leone (2025)
9. Slovenia (2025)
10. Somalia (2026)

• Permanent members:

1. China.
2. France.
3. Russia.
4. The United Kingdom.
5. The United States.

Additional Information

• The Security Council held its first session on 17 January 1946 at Church House, Westminster, London.

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• Since its first meeting, the Security Council has taken permanent residence at the United Nations Headquarters in New York City.
• Originally, there were 11 members of the Security Council: 5 permanent and 6 non-permanent members.
• The General Assembly recommended an amendment to the Charter to increase the membership of the Security Council In 1963.

Important Points

• India will be eligible to run for a non-permanent seat again in 2028–2029

Q37. Answer: (d) 307

Given:

Difference between two numbers = 1540

Concept:

Dividend = Divisor × Quotient + Remainder

Calculation:

Let the smaller number be = a

=> Larger number = a + 1540

As per the question:

a + 1540 = a × 6 + 5

=> 5a = 1535

=> a = 307

Therefore The smaller number = 307

Alternate Method By Hit & Trial Method

Option 1: 580 × 6 + 5 ≠ 580 + 1540

Option 2: 620 × 6 + 5 ≠ 620 + 1540

Option 3: 735 × 6 + 5 ≠ 735 + 1540

Option 4: 307 × 6 + 5 = 307 + 1540

Q38. Answer: (c) 2

Given:

sin 23°/cos 67°+cos 71°/sin 19°

Formula used:

sin (90°- x) = cos x

cos (90°- x) = sin x

Calculation:

sin 23°/cos 67°+cos 71°/sin 19°

=> sin(90° - 67°)/cos 67° + cos (90° - 19°)/sin 19°

=> cos 67°/ cos 67° + sin 19°/sin 19°

=> 1 + 1 = 2

Therefore The required result = 2

Q39. Answer: (b) ductility

The correct answer is ductility.

Key Points

• Ductility is the ability of a material to be drawn or plastically deformed without fracture.
• It is the ability of metals to be drawn into thin wires.
• Gold is the most ductile metal.
• Ductility is a permanent strain that accompanied fracture in a tension test.
• The ductility of the metals increases as the temperature increases.

Additional Information

• The property of metals by which they can be beaten into thin sheets is called malleability.
• Solubility is the maximum amount of a substance that will dissolve in a given amount of solvent at a specified temperature.
• Reactivity is the ability of matter to combine chemically with other substances.

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Q40. Answer: (a) 60

1. Rajesh ranks 15^(th) from the top and Prakash ranks 25^(th) from the bottom.
2. Gyan is on the 10^(th) place ahead of Prakash.
3. If there are 10 students, exactly in between Rajesh and Gyan.

Total number of students in the class = 15 + 10 + 1 + 9 + 25 = 60

Hence, '60' is the correct answer.

Q41. Answer: (d) OPQR

The pattern followed here is:

According to the alphabetical positions of the letters,

1. MNKL → M + 1 = N; N – 3 = K; K + 1 = L
2. IJGH → I + 1 = J; J – 3 = G; G + 1 = H
3. EFCD → E + 1 = F; F – 3 = C; C + 1 = D
4. OPQR → O + 1 = P; P + 1 = Q; Q + 1 = R

Hence, 'OPQR' is the odd one out.

Q42. Answer: (a) painter

The correct answer is painter.

Key Points

• Raja Ravi Varma was an Indian painting artist.
• was closely related to the royal family of Travancore (present-day Kerala).
• He was honoured with the Kaiser-i-Hind gold medal in 1904.
• The title Raja was conferred as a personal title by the Viceroy and Governor-General of India during the British period.
• He has the ability to reconcile Western aesthetics with Indian iconography.
• Notable works of Raja Ravi Varma are:
• Shakuntala.
• Nair Lady Adorning Her Hair.
• There Comes Papa.
• Galaxy of Musicians.

Q43. Answer: (a) Rs.155

Given:

Principal = Rs.5000

Rate of interest = 10% per annum

Time = 3 years

Formulas used:

Compound Interest = Amount - Principal

=> Amount = P (1 + r/100)^t

Simple Interest = Principal × Rate/100 × Time

Calculation:

Compound Interest = $5000(1 + 10/100)^3 - 5000$

=> $5000(110/100)^3 - 5000$

=> $5000[11/10 \times 11/10 \times 11/10 - 1]$

=> $5000[(1331 - 1000)/1000]$

=> 5×331 = Rs.1655

Simple Interest = $5000 \times 10/100 \times 3$

=> Rs.1500

Difference between compound interest & simple interest = Rs.1655 - Rs.1500

=> Rs.155

Therefore The required result = Rs.155

Alternate Method

Calculation of effective rate for compound interest:

Effective rate = $x + x + x^2/100$

Interest rate for 1 year = 10%

Effective rate for 2 years = 10 + 10 + (10 × 10)/100 = 10 + 10 + 1

=> 21%

Effective rate for 3 years = 21 + 10 + (21 × 10)/100

=> 31 + 2.1 = 33.1%

or

Calculation of effective rate of interest for simple interest:

At 10% per annum for 3 years

Rate = 10% × 3 = 30%

Difference between the CI and SI rate = 33.1% - 30% = 3.1%

Therefore Difference between the CI and SI for 3 years = 5000 × 3.1/100

=> Rs.155

Q44. Answer: (b) A hill is place shimla

The logic is:

Similarly,

Hence, ‘A hill is place shimla’ is the correct answer.

Q45. Answer: (a) 24 cm

Given:

Perimeters of two similar triangles ΔPQR and ΔXYZ are 48 cm and 24 cm respectively.

XY = 12 cm

Concept:

When two triangles are similar to each other, the ratio of their corresponding sides is equal to the ratio of their respective other sides, medians, and perimeters.

=> Perimeter of ΔPQR/Perimeter of ΔXYZ = PQ/XY

Calculation:

48/24 = PQ/12

=> PQ/12 = 2

=> PQ = 24 m

Therefore The length of side PQ = 24 cm

Q46. Answer: (a) CLVE

The pattern followed here is:

According to the alphabetical positions of the letters,

Similarly,

Hence, ‘CLVE’ is the correct answer.

Q47. Answer: (b) 950 m

Given:

Speed of train A = 80 km/h

Speed of train B = 70 km/h

Time taken in crossing = 30 seconds

Length of train A = 300 m

Formulas used:

Relative speed of trains (opposite direction) = S_A + S_B

Distance covered while crossing = Length (Train A + Train B)

Time = Distance/Relative Speed

Calculation:

Let the length of train B = b m

30 seconds = (300 + b)/(70 + 80) km/h

=> 30 seconds = (300 + b)/150 km/h

=> 30 secs × 150 km/h × 1000m/3600 secs = 300 + b

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=> 1250 = 300 + b

=> b = 1250 - 300 = 950

Therefore The length of train B = 950 m

Q48. Answer: (a) 1.71 m

Given:

The capacity of a cylindrical tank = 2376 m3

Radius = 21 m

Formula used:

Volume of cylinder = $\pi r^2 h$

Calculation:

πr2h = 2376 m3

=> 22/7 × 21 × 21 × h = 2376

h = 1.714

Therefore The depth of the tank = 1.71 m

Q49. Answer: (a) Kolkata

The correct answer is Kolkata.

Key Points

• The first high court of India was established in Kolkata.

• It was formerly called the High Court of Judicature at Fort William.

• It was issued under the Indian High Courts Act 1861.

• It was formally opened on 1 July 1862.

• Sir Barnes Peacock as its first Chief Justice of the Calcutta High Court.

• Justice Sumboo Nath Pandit was the first Indian to assume office as a Judge of the Calcutta High Court.

Additional Information

• The Chief Justice of the High Court is appointed by the President.

• Every high court shall consist of a Chief Justice and such other Judges as the President may decide.

• Judges of the High Courts are removed by the President on the same grounds and manner as the judges of the Supreme Court are removed.

• The oath and affirmation to the judges of the High Court are administered by the Governor of the State.

• A judge of the High Court can resign his office by writing to the President.

Q50. Answer: (d) October 2005

The correct answer is October 2005.

Key Points

• The Right to Information is a tool, which every person in India can use to find out information that can make their lives better.

• India initiated the enactment of the Right to Information Act in the year 2005.

• Right to Information Act 2005 mandates timely response to citizen requests for Government information.

• The Act was passed by the Indian Parliament on 12th May 2005.

• The Act received Presidential assent on 15th June 2005.

• The RTI Act came into force on 12th October 2005.

Important Points

• Mazdoor Kisan Shakti Sangathan is the organization that was instrumental in the passage of the RTI Act.

• Central and State Information commissions consist of a chief information commissioner and not more than 10 information commissioners.

• The first RTI application in India was submitted by Shahid Raza Burney.

• There are only 2 schedules in RTI Act 2005.

• The modified form of the RTI Act was passed in February 2011.

• The main object of the Right to Information Act is to empower the citizens, promote transparency and accountability in the working of the Government, contain corruption, and make our democracy work for the people in a real sense.

• Sweden is the first country to pass the Right to Information Act.

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Q51. Answer: (c) 2003

The correct answer is 2003.

Key Points

• The Pradhan Mantri Swasthya Suraksha Yojana (PMSSY) is a national government scheme that attempts to address inequities in the availability of affordable healthcare facilities across the country.

• The scheme was first launched in the year 2003.

• The scheme was approved in March 2006.

• The first phase in the PMSSY consists of two components:

1. Setting up of six institutions in the line of AIIMS.

• Bihar (Patna).

• Chattisgarh (Raipur).

• Madhya Pradesh (Bhopal).

• Orissa (Bhubaneswar).

• Rajasthan (Jodhpur).

• Uttaranchal (Rishikesh)

2. Upgradation of 13 existing Government medical college institutions.

• Ministry of Health and Family Welfare is the nodal agency of Pradhan Mantri Swasthya Suraksha Yojana.

Q52. Answer: (d) 1556 AD

The correct answer is 1556 AD.

Key Points

• Akbar was the third Mughal emperor.

• He became the emperor of the Mughal dynasty in 1556 AD.

• He ruled the Indian subcontinent between 1556 and 1605.

• Din-i-Ilahi was a religion introduced by Akbar in 1582.

• During Akbar's rule, the second battle of Panipat took place in 1556.

• It was fought between Samrat Hem Chandra Vikramaditya(Hemu) and Akbar's army.

• Under the leadership of Bairam Khan, the Mughals won the fight decisively.

• The conflict put an end to the Mughal-Afghan dispute for Delhi's monarchy.

• In 1560, Akbar ended Bairam Khan's regency and, at the age of 18, took over the throne of India.

Additional Information

• The historical structures built during the reign of Akbar are:

• Agra Fort.

• Lahore Fort.

• Fathepur Sikri.

• Allahabad Fort.

• Buland Darwaza.

Q53. Answer: (c) Malala Yousafzai

The correct answer is Malala Yousafzai.

Key Points

• Malala Yousafzai is a Pakistani activist for female education.

• In 2014, she was awarded the Nobel Peace Prize.

• She is the youngest Nobel Prize laureate.

• She was honored with the Nobel Prize at the age of 17.

• Kailash Satyarthi and Malala Yousafzai shared the Nobel Peace Prize in 2014.

Important Points

• Notable work of Malala Yousafzai:

• We are displaced: True Stories of Refugee Lives.

• Malala's Magic Pencil.

• My Story of Standing Up for Girls' Rights.

• Pakistan's first National Youth Peace Prize was given to her.

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• 'Gul Makai' is a Malala Yousafzai biographical drama.
• Between 1901 and 2021, 947 laureates and 28 organizations received the Nobel Prize.
Additional Information
• Lawrence Bragg was the second youngest Nobel Laureate.
• He was honored with the Nobel Prize for Physics in 1915 at the age of 25.
• Nadia Murad is the third youngest Nobel Laureate.
• She was honored with the Nobel Prize for Peace in 2018 at the age of 25.
• Tsung-Dao Lee is the fifth youngest Nobel Laureate.
• He was honored with the Nobel Prize for Physics in 1957 at the age of 31.

Q54. Answer: (b) Thriambak hills (Bramhagiri hills)

The correct answer is Brahmagiri hills.
Key Points
• The Godavari is India's largest peninsular river.
• It is the second-longest river in India after the Ganga.
• It rises from Maharashtra's Thriambak hill.
• Its length is about 1500 km.
• Due to its length and the area it covers, it is also known as the ‘Dakshin Ganga’.
• Flows through the states of Maharashtra, Chhattisgarh, Telangana, and Andhra Pradesh.
Important Points
• Purna, Pranhita, Indravati, and Sabari rivers are major left-bank tributaries.
• Pravara, Manjira, and Manair rivers are major right bank tributaries.
• The Pranhita river is Godavari's greatest tributary.
• Important dams built across the Godavari river:
• Jayakwadi dam.
• Gangapur Dam.
• Babli project.
• Sriram Sagar Dam.
• The Coringa mangrove forest is situated in the Godavari delta.
• The Godavari drains into the Bay of Bengal.

Q55. Answer: (d) Sunil

Five students are sitting in a circle facing the center.
1. Sumit is between Sunil and Sushmit.
2. Sushma is on the left side of Shweta, Sushmit and Sushma are not sitting next to each other.
Here case II will be eliminated.
Final arrangement:
Clearly, Sunil is sitting next to Sumit on his right side.
Hence, ‘Sunil’ is the correct answer.

Q56. Answer: (b) 4 : 1

Given:
Sum of two numbers = 25
Difference of two numbers = 15
Calculation:
Let the two no be = a & b
a + b = 25
a - b = 15
(1) + (2)
=> 2a = 40
=> a = 20
By putting the value of a in equation (1)
=> b = 5

Therefore a : b = 20 : 5 = 4 : 1

Q57. Answer: (a) 1121

The correct answer is 1121.

Key Points

• A World Heritage Site is an area with legal protection by an international convention administered by the United Nations Educational, Scientific, and Cultural Organization (UNESCO).

• The sites are designated as having “outstanding universal value” under the Convention Concerning the Protection of the World Cultural and Natural Heritage.

• As of June 2020, there are 1121 world heritage sites that have been protected by UNESCO.

• UNESCO classified these sites as cultural, natural, and mixed.

• UNESCO published its first list of protected places in 1978.

• There were just 12 World Heritage Sites while releasing UNESCO's first list of protected places.

• The first World Heritage Site on the list is the Galápagos Islands.

Mistake Points

• As of February 2025, UNESCO's World Heritage List comprises 1,223 sites across 168 countries.

For more:-https://whc.unesco.org/en/list/

Q58. Answer: (c) a, d, b, b, a, d

Given :- a_bc_a_bcda_ccd_bcd_

By checking options and substituting accordingly.

1. a, a, b, c, c, d → a a b c a - a b b c d - a c c c d - c b c d d

2. a, c, b, d, b, d → a a b c c - a b b c d - a d c c d - b b c d d

3. a, d, b, b, a, d → a a b c d - a b b c d - a b c c d - a b c d d

4. a, d, b, b, d, d → a a b c d - a b b c d - a b c c d - d b c d d

♦ Option (3) gives a cyclic pattern of aabcd - abbcd - abccd - abcdd.

Hence, ‘a, d, b, b, a, d’ is the correct answer.

Q59. Answer: (c) 79

Shortcut Trick

Apply the direct algebraic identity for expressions of the form $x + 1/x = k$.

The shortcut formula to find $x^2 + 1/x^2$ is $k^2 − 2$.

Given: $k = 9$

Calculation: $9^2 − 2 \Rightarrow 81 − 2 = 79$.

Therefore The correct answer is 79.

Alternate Method

Given: $x + 1/x = 9$

Formula Used: $(a + b)^2 = a^2 + b^2 + 2ab$

To find the value of $x^2 + 1/x^2$, we perform squaring on both sides of the given equation:

$\Rightarrow (x + 1/x)^2 = 9^2$

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

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

$\Rightarrow x^2 + 1/x^2 = 81 − 2$

$\Rightarrow x^2 + 1/x^2 = 79$

Therefore The correct answer is 79.

Additional Information

Square of Difference Identity

If $x − 1/x = k$, then squaring both sides gives $x^2 + 1/x^2 = k^2 + 2$.

Cubic Identity (Sum)

If $x + 1/x = k$, then cubing both sides gives $x^3 + 1/x^3 = k^3 − 3k$.

Cubic Identity (Difference)

If $x − 1/x = k$, then cubing both sides gives $x^3 − 1/x^3 = k^3 + 3k$.

Power 4 Transformation

If $x^2 + 1/x^2 = m$, then $x^4 + 1/x^4 = m^2 - 2$.

Q60. Answer: (c) Neither assumption (I) nor (II) is implicit.

Assumptions:

I. Most of causes of death among wealthy persons are due to diabetes. → The assumption is not implicit in the statement.

The statement only suggests that a wealthy person has a higher chance of having diabetes but it does not implies that most of causes of death among wealthy persons are due to diabetes.

II. Poor persons do not have diabetes. → The assumption is not implicit in the statement.

The statement mentions nothing about poor people.

Hence, neither assumption (I) nor (II) is implicit.

Additional Information

1. Read the statement with an approach that the assumptions would be true with regard to the statement.

2. Do not go too logical with the statements. Analyze the given information and the assumption must only be made based on the information in the statement. Do not over-complicate it.

3. Common assumptions can always be followed but other than that do not align the statement with General Knowledge or other facts

4. Use the elimination method if you are unable to apprehend the answer. Read the statement and then the assumptions given in the options, you shall notice that a few of them will most definitely not follow. Eliminate them and then choosing from lesser options may prove to be more convenient

5. One thing to make a note of is that the assumption is something that the author believes to be true so while choosing the correct option, keep this thought in mind as well. If any option contradicts the statement, then that assumption will not follow.

Q61. Answer: (b) 24

The logic followed here is:

Hence, the correct answer is "24".

Q62. Answer: (c) 0.14

Shortcut Trick

Apply the algebraic identity: $a^2 - b^2 = (a + b)(a - b)$.

The given expression is in the form $(a^2 - b^2) \div (a + b)$, which simplifies to $(a - b)$.

Here, $a = 0.27$ and $b = 0.13$.

Result = $0.27 - 0.13 = 0.14$.

Therefore The correct answer is 0.14.

Alternate Method

Given:

Expression = $((0.27)^2 - (0.13)^2) \div (0.27 + 0.13)$

Formula used:

Algebraic Identity: $a^2 - b^2 = (a + b)(a - b)$

Calculations:

=> Let $a = 0.27$ and $b = 0.13$.

=> The numerator is $(0.27)^2 - (0.13)^2$.

=> Using the identity, Numerator = $(0.27 + 0.13) \times (0.27 - 0.13)$

=> Numerator = $(0.40) \times (0.14)$

=> The denominator is $(0.27 + 0.13) = 0.40$.

=> Value = $[(0.40) \times (0.14)] \div 0.40$

=> Value = 0.14

Therefore The correct answer is 0.14.

Additional Information

Difference of Squares

The identity $a^2 - b^2 = (a - b)(a + b)$ is one of the most common algebraic factorization tools used to simplify complex fraction expressions.

BODMAS Rule

Always follow the BODMAS (Brackets, Orders, Division, Multiplication, Addition, Subtraction) priority while solving multi-step calculations to ensure accuracy.

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Sum and Difference Identities

Other related identities include $(a + b)^2 = a^2 + 2ab + b^2$ and $(a - b)^2 = a^2 - 2ab + b^2$, which are useful for simplifying square terms.

Q63. Answer: (c) 6

The correct answer is 6.

Important Points

• The Goldman Environmental Prize is the world's foremost award honoring grassroots environmental activists.

• It is given for the six inhabited continental regions: Africa, Asia, Europe, Islands & Island Nations, North America, and South & Central America.

• An international panel chooses the winners from submissions submitted anonymously by a global community of environmental groups and individuals.

• It was created in 1989 by civic leaders and philanthropists Richard N. Goldman and Rhoda H. Goldman.

Key Points

• Six environmental activists received the prestigious Goldman Environmental Prize 2019.

• The winners of the Goldman Environmental Prize 2019 are:

1. Linda Garcia of US.
2. Ana Colovic Lesoska of North Macedonia.
3. Bayarjargal Agvaantseren of Mongolia.
4. Alfred Brownell of Liberi.
5. Jacqueline Evans of the Cook Islands.
6. Alberto Curamil of Chile.

Q64. Answer: (d) Madhya Pradesh

The correct answer is Madhya Pradesh.

Key Points

• The Gandhi Sagar Dam is a dam located in the Mandsaur districts of Madhya Pradesh.

• It is built on the Chambal River.

• Gandhi Sagar Dam is a masonry gravity dam.

• The foundation stone was laid by Prime Minister of India Pandit Jawaharlal Nehru on 7 March 1954.

• The reservoir created by the Gandhi Sagar Dam is the third-largest in India after the Indiranagar Reservoir and Hirakud Reservoir.

• The electricity from the dam's powerhouse is supplied to such far-off places in Madhya Pradesh and in Rajasthan state.

Important Points

• Major dams in Madhya Pradesh are:

• Barna Dam.

• Bargi Dam.

• Bansagar Dam.

• Omkareshwar Dam.

• Kolar Dam.

Additional Information

• Major dams in Maharashtra are:

• Mulshi Dam.

• Koyna Dam.

• Jayakwadi Dam.

• Panshet Dam.

• Kolkewadi Dam.

• Vaitarna Dam

• Major dams in Himachal Pradesh are:

• Nathpa Jhakri Dam.

• Chamera Dam.

• Pong Dam.

• Bhakra Nangal Dam.

• Pandoh Dam.

• Major dams in Rajasthan are:
• Jawahar Sagar Dam.
• Kota Barrage.
• Rana Pratap Sagar dam.
• Chavli Dam.

Q65. Answer: (a) 1859

The correct answer is 1859.

Key Points

• The Revolt of 1857 is a major landmark in the history of India against British rule in India.
• The Revolt of 1857 was started on 10th May 1857 at Meerut.
• The introduction of greased cartridges was the immediate cause of the 1857 revolt.
• Heavy taxation was one of the major reasons for the outbreak of the 1857 revolt.
• The peasants had to pay heavy taxes in the form of Land tax during 1857.

Additional Information

• Mangal Pandey was the first martyr of the 1857 revolt.
• Lord Canning was the governor-general of India during the 1857 revolt.
• The English called the revolt the 'devil's wind'.
• Finally, the revolt of 1857 was suppressed by the British in 1859.
• The control of the Indian administration was passed on to the British crown by the Government of India Act 1858.
• All Indian prisoners except those who committed serious offences were released.

Q66. Answer: (b) 29

Given:

$\tan\theta + \cot\theta = 5$

Formula used:

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

Calculation:

$\tan\theta + \cot\theta = 5$

Squaring both sides

$\Rightarrow \tan^2\theta + \cot 2\theta + 2\tan\theta\cot\theta = 25$

$\Rightarrow \tan 2\theta + \cot 2\theta = 25 - 2$

$\Rightarrow \tan 2\theta + \cot 2\theta = 23$

$\tan 2\theta + \cot 2\theta + 2\tan 2 60°$

$\Rightarrow 23 + 2 \times (\sqrt{3})^2$

$\Rightarrow 23 + 2 \times 3$

$\Rightarrow 29$

Therefore The required result = 29

Q67. Answer: (d) 30

Given:

No of students in a class = 48

Fraction of students present = 3/8

Calculation:

Fraction of students absent = 1 - 3/8 = 5/8

Therefore No of absentees on the same day = 48 × 5/8

=> 30

Q68. Answer: (a) 206

Given:

15 × 14 - 30 + (32 + 17)

Calculation:

=> 15 × 14 - 30 + (32 + 17)

=> 210 - 30 + (9 + 17)
=> 210 - 30 + 26
=> 206
Therefore The required result = 206

Q69. Answer: (a) Uniform Resource Locator

The correct answer is Uniform Resource Locator.
Key Points
• Uniform Resource Locator is an address used to identify the name of a web resource.
• Uniform Resource Locator is a web address that indicated a webpage.
• URL is also known as 'internet address' or 'web address'.
• Every valid URL refers to a distinct resource.
Additional Information
• Part of a URL that indicated a particular webpage is known as a domain name.
• Every domain name has a suffix that indicates the top-level domain it belongs to.
• Uniform Resource Locators are also used for file transfer (ftp), email, database access (JDBC), and many other applications.
• The URL allows a computer to find and open a web page on another computer connected to the Internet.

Q70. Answer: (a) 20 m

Given:
Angle of elevation = 45°
Distance of the bottom of the pole from a point = 20m
Calculation:
In triangle ABC, AB/BC = tan45°
=> h/20 = 1
Therefore The height of the pole = h = 20 m
Shortcut Trick

Q71. Answer: (b) 18

the total number of triangles in the figure is shown below:
Hence, ‘18’ is the correct answer.

Q72. Answer: (d) Narmada

The correct answer is Narmada.
Key Points
• The Sardar Sarovar Dam is a concrete gravity dam located at Narmada District in Gujarat.
• On the Narmada river, the Sardar Sarovar dam is being constructed.
• The Sardar Sarovar dam provides water and energy to Gujarat, Madhya Pradesh, Maharashtra, and Rajasthan.
• The foundation stone of the project was laid out by Prime Minister Jawaharlal Nehru on 5 April 1961.
• Prime Minister Narendra Modi dedicated the dam to the nation in 2017.
Important Points
• Narmada is the largest west-flowing peninsular river in India.
• Narmada is also known as the 'lifeline of Madhya Pradesh'.
• Between the Vindhya and Satpura ranges, it flows through a rift valley.
• Kanha National Park is located on the banks of the Narmada River.
Additional Information
• The Ganges is the national river of India.
• The river Ganga is known as the Padma in Bangladesh.
• The Brahmaputra originates from the Chemayundung glacier near Manasarover lake in Tibet.
• The Brahmaputra is known as Dihang in Arunachal Pradesh.
• The Brahmaputra River enters India west of Sadiya, Arunachal Pradesh.
• The Brahmaputra is the Indian River with the greatest volume of water.
• Lakhwar-Vyasi Dam is built on Yamuna River.

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Q73. Answer: (b) 65

Shortcut Trick

Mode is the observation that occurs most frequently in a data set.

Given marks: 43, 44, 65, 41, 53, 65, 62.

By inspection, the number 65 appears 2 times, while all other numbers appear only 1 time.

Since 65 has the highest frequency, it is the mode.

Therefore The correct answer is 65.

Alternate Method

Given: Marks obtained by 7 students = 43, 44, 65, 41, 53, 65, 62

Formula: Mode = Value with the maximum frequency.

=> Arrange the data in ascending order: 41, 43, 44, 53, 62, 65

Q74. Answer: (b) 10 days

Given:

15 males or 20 females can complete a project in 26 days.

Formula used:

(M1 × D1)/W1 = (M2 × D2)/W2

Calculation:

15 males × 26 days = 20 females × 26 days

Because 15 males = 20 females

Therefore 30 males = 40 females

Total work in terms of females = 20 females × 26 days = 520 units

No of days taken by 30 males and 12 females:

=> (40 females + 12 females) = 52 females

Therefore No of days taken = 520 units /52 females = 10

Q75. Answer: (d) 16/63

Given:

Sum of two numbers = 16

Product of two numbers = 63

Calculation:

Let the numbers be = a, b

a + b = 16

ab = 63

Therefore Sum of the reciprocal of a and b = 1/a + 1/b

=> (b + a)/ab

=> 16/63

Q76. Answer: (a) Odisha

The correct answer is Odisha.

Key Points

• Odisha is the largest bauxite-producing state in India.

• More than half of India's bauxite deposits are found in Odisha.

• Bauxite is an important mineral used in the production of aluminium.

• Kalahandi in Odisha is famous for the production of bauxite.

• Bauxite deposits are formed by the decomposition of a wide variety of rocks that consists of aluminium silicates.

Important Points

• Odisha, Jharkhand, Chhattisgarh, Madhya Pradesh, Gujarat, Maharashtra, and Tamil Nadu are the major bauxite-producing states.

• Bauxite is primarily utilized in the Bayer process to generate alumina.

• Important bauxite mines in India are:

• Bilaspur & Maikal Hills.

• Singhbhum.

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• Jamnagar.
• Balangir.
• Bargarh.
• Koraput.
• Kalahandi.
• Sambalpur.
• Sundergarh.

Additional Information

• Jharkhand is the No. 1 producer in Iron ore, Copper ores, Micca, Kainite, Uranium, Asbestos, etc. and No. 3 in coal production after Odisha and Chattisgarh.
• West Bengal is India's leading rice producer.
• Gujarat is the largest producer of cash crops like cotton, groundnut, cumin, sesame, etc. in India.

Q77. Answer: (b) Aman

1. Aman is older than Sahu.
Aman > Sahu
2. Sahu is younger than Komal but older than Millan.
Komal > Sahu > Millan
3. Komal is older than Aman but younger than Uday.
Uday > Komal > Aman
Combining all the three statements, we get:
Uday > Komal > Aman > Sahu > Millan
Clearly, Aman is the third oldest among them.
Hence, ‘Aman’ is the correct answer.

Q78. Answer: (c) OPK

The pattern followed here is:
According to the alphabetical positions of the letters,
Similarly,
Hence, ‘OPK’ is the correct answer.

Q79. Answer: (d) Only conclusion (I) follows.

The least possible Venn diagram is:
Conclusions:
I. Some women are engineers. → True (As, Some women are wise and All wise are engineers → some women are engineers)
II. All engineers are wise. → False (As, All wise are engineers → some engineers are wise)
Hence, only conclusion (I) follows.

Q80. Answer: (c) 10 - 12 ÷ 18 × 6 + 2 = 16

Symbol	•	•	×	÷
Meaning	×	•	÷	•

1. 9 + 5 - 16 × 4 ÷ 2 = 41
After replacing the symbols by their meaning, we get:
L.H.S = 9 × 5 + 16 ÷ 4 – 2
= 45 + 4 – 2
= 49 – 2
= 47 ≠ 41
2. 15 + 15 × 3 - 4 ÷ 5 = 26
After replacing the symbols by their meaning, we get:
L.H.S = 15 × 15 ÷ 3 + 4 – 5
= 75 + 4 – 5
= 79 – 5

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= 74 ≠ 26

3. 10 - 12 ÷ 18 × 6 + 2 = 16

After replacing the symbols by their meaning, we get:

L.H.S = 10 + 12 - 18 ÷ 6 × 2

= 10 + 12 – 3 × 2

= 10 + 12 – 6

= 22 – 6

=> 16 = 16

4. 11 ÷ 8 × 2 - 4 + 1 = 41

After replacing the symbols by their meaning, we get:

L.H.S = 11 - 8 ÷ 2 + 4 × 1

= 11 – 4 + 4

= 11 ≠ 41

Hence, '10 - 12 ÷ 18 × 6 + 2 = 16' is the correct answer.

Q81. Answer: (c) 67.30

Given:

27% of 250 - 0.02% of 1000

Calculation:

27% of 250 - 0.02% of 1000

=> 27/100 × 250 - 2/10000 × 1000

=> 6750/100 - 2/10

=> 67.5 - 0.2

=> 67.3

Therefore The required result = 67.3

Q82. Answer: (b) Rs.3,12,500

Given:

Principal = Rs.12,50,000

Rate = 5% per annum

Time = 5 years

Formula used:

Simple Interest = Principal × Rate/100 × Time

Calculation:

Simple Interest = 12,50,000 × 5/100 × 5 = 312500

Therefore The simple interest is Rs.312500

Q83. Answer: (c) Virus

The correct answer is Virus.

Key Points

• Hepatitis A is a disease caused by the virus.

• The hepatitis A virus (HAV) is spread through ingesting tainted food or drinking tainted water, or by coming into close contact with an infected person.

• Hepatitis A does not cause chronic liver disease.

• Chronic liver disease is caused by hepatitis B and C.

• Hepatitis A is very contagious.

• Hepatitis A vaccine is a vaccine that prevents hepatitis A.

Additional Information

• Diseases that are spread to people through mosquito bites:

• Zika virus.

• West Nile virus.

• Chikungunya virus.

• Dengue.

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• Important diseases caused by bacteria are:
• Tuberculosis.
• Anthrax.
• Tetanus.
• Leptospirosis.
• Pneumonia.
• Cholera.
• Important diseases caused by protozoa are:
• Leishmaniasis.
• Amoebiasis.
• Diarrhoea.
• Trypanosomiasis.
• Toxoplasmosis.

Q84. Answer: (c) Liver

The correct answer is Liver.

Key Points

• The liver secretes bile juice, which is a digesting juice.
• Bile is stored in the gallbladder.
• Bilirubin and biliverdin, as well as bile salts and cholesterol, make up bile juice.
• Bile juice helps in the emulsification of fat.
• Large fat globules are broken down into smaller globules by bile juice, making it easier for pancreatic enzymes to act on them.
• The human liver is the largest gland in the body.
• The liver is situated on the right side of the stomach.
• The main function of the liver is to produce bile pigment.
• Ammonia and urea are produced in the liver.

Additional Information

• Insulin and Glucagon are the hormones secreted by the pancreas.
• The nutrients in digested food are absorbed from the small intestine.
• The stomach is a hollow organ that holds food while it is being mixed with stomach enzymes.

Q85. Answer: (a) 130°

Given:

PQRS is a cyclic trapezium where PQ is parallel to RS.

PQ is the diameter & angle QPR = 40°

Concept:

Angle made in a semicircle is a right angle.

The sum of the opposite angles of a cyclic trapezium is 180°.

Calculation:

In triangle PQR,

angle RPQ + angle RQP + angle QRP = 180° [Angle sum property]

=> 40° + angle RQP + 90° = 180°

=> angle RQP = 180° - 130° = 50°

angle RQP + angle PSR = 180° [Supplementary Angles]

Therefore angle PSR = 180° - 50° = 130°

Q86. Answer: (c) S is the father of P

By using the symbols in the table given below, we can draw the following family tree:

A is			
Symbol	•	•	×
Meaning	Daughter	Wife	Son

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to B			

P × Q - S → P is son of Q and Q is wife of S

Clearly, S is the father of P.

Hence, 'S is the father of P' is the correct answer.

Q87. Answer: (a) Only conclusion (II) follows.

Conclusions:

I. All irregular students pass in exams. → The conclusion does not follows. (As Some irregular students pass in the examinations)

II. Some irregular students fail in the exam. → The conclusion does follows. (As Some irregular students pass in the examinations → Some irregular students fail in the exam)

Hence, only conclusion (II) follows.

Additional Information

• If there are two or more sentences that are used to frame a statement, then, the sentences must be interrelated, and mutual contradiction should be there.

• Do not look for truthful notions. The information provided in the statement is the only requirement for a student to answer the question. No assumptions must be made.

• Read the statement carefully and look for keywords that are common between the statement and the conclusions

• If there is more than one conclusion that is applicable to the statement, students must ensure that the conclusions they opt for have some relation with each other.

Q88. Answer: (c) 41

Hockey players who play football is shown below:

Number of hockey players who play football = 22 + 19 = 41

Hence, '41' is the correct answer.

Mistake Points

i) In the question, it is mentioned that Hockey players who play football but it is not mentioned that we do not have to include players who play cricket. So unless mentioned we have to consider all the categories.

ii) Here the word "only" is not used. If only words have used in the question then the answer would have been 22 but as and is used answer will be 41.

Q89. Answer: (d) 63754

The logic is:

Sum of digits of given numbers = 23

1. 72563 → 7 + 2 + 5 + 6 + 3 = 23

2. 52637 → 5 + 2 + 6 + 3 + 7 = 23

3. 56372 → 5 + 6 + 3 + 7 + 2 = 23

4. 63754 → 6 + 3 + 7 + 5 + 4 = 25 ≠ 23

Hence, '63754' is the odd one out.

Q90. Answer: (b) D

Persons - A, B, C, D, and E are sitting in a line.

1. C is sitting at the west end and E is the neighbour of B and C.

2. Between A and C there are two persons.

Clearly, D is sitting at the east end.

Hence, 'D' is the correct answer.

Q91. Answer: (d) REBMEMER

The logic is:

Letters are written from right end to left end.

INTERNET → TENRETNI

Similarly,

REMEMBER → REBMEMER

Hence, 'REBMEMER' is the correct answer.

Alternate MethodThe logic follows here is:

Similarly,
Hence, 'REBMEMER' is the correct answer.

Q92. Answer: (d) VQMJH

The pattern followed here is:
Option 1) UPGIG - False
(The difference between in letters are not in decreasing sequence).
Option 2) OJEBG - False
(The difference between in letters are not in decreasing sequence).
Option 3) UNSOB - False
(The difference between in letters are not in decreasing sequence).
Option 4) VQMJH - True, it follows the Decreasing sequence.
Hence, 'VQMJH' is the correct answer.

Q93. Answer: (a) 32

The logic is:
1st row: 20 + 16 + 33 = 69
3rd row: 27 + 19 + 23 = 69
Similarly,
Let the missing number be 'a'.
22 + a + 15 = 69
=> a = 69 - 37
=> a = 32
Hence, '32' is the correct answer.

Q94. Answer: (a) 32

The logic is:
25 : 16 → 25 - 9 = 16
Similarly,
41 : ? → 41 - 9 = 32
Hence, '32' is the correct answer.

Q95. Answer: (a) 30, 42

The logic is:
Hence, '30, 42' is the correct answer.

Q96. Answer: (c) 343

The logic is:
$2^3 = 8$
$3^3 = 27$
$4^3 = 64$
$5^3 = 125$
$6^3 = 216$
$7^3 = 343$
Hence, '343' is the correct answer.

Q97. Answer: (b) COW

The description is as follows:

Option	Description	
1.	LEOPARD	Leopard is a wild animal.
2.	COW	Cow is a domestic animal.
3.	DEER	Deer is a wild animal.

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4.	TIGER	Tiger is a wild animal.

Hence, ‘COW’ is the odd one out.

Q98. Answer: (b) [figure]

The diagram that best represents the relationship between Man, Father and Brother is shown below:

Some Father are Brother. All Father and Brother are Man.

Hence, ‘option 2’ is the correct answer.

Q99. Answer: (a) Duck : Quack

The logic is:

Cat : Mew → The sound made by cat is mew.

Similarly,

Duck : Quack → The sound made by duck is quack.

Hence, ‘Duck : Quack’ is the correct answer.

Q100. Answer: (c) 26

The logic followed here is:

In a column: 1st number ÷ 2nd number + 3rd number = 4th number

Column 1:

90 ÷ 5 + 7

18 + 7

= 25

Column 2:

120 ÷ 6 + 10

20 + 10

= 30

Similarly,

Column 3:

80 ÷ 4 + 6

20 + 6

= 26

Hence, the correct answer is "26".

Alternate Method

The logic is:

Column 1: 90 - [(5 × 7) + 25]

= 90 - [35 + 25]

= 90 - 60

= 30

Column 3: 120 - [(6 × 10) + 30]

= 120 - [60 + 30]

= 120 - 90

= 30

Similarly,

Let the missing number in Column 2 be 'a'.

80 - [(4 × 6) + a] = 30

=> 80 - [24 + a] = 30

=> 80 - 30 = 24 + a

=> 50 = 24 + a

=> 50 - 24 = a

=> 26 = a

Hence, ‘26’ is the correct answer.

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