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## Railway Recruitment Board, Allahabad <br> Traffic Apprentice/ Commercial Assistant (TA/CA) Examination Held on 12-04-2009

1. Shri Prakash walked 40 m facing towards North. From there he walked 50 m after turning to his left. After this he walked 40 m after turning to his left. How far and in what direction is he now from his starting point?
a) 40 m North
b) 50 m West
c) 10 m East
d) 10 m West
2. Manish goes 7 km towards South-East from his house, then he goes 14 km turning to West. After this he goes 7 km towards North-West and in the end he goes 9 km towards East. How far is he from his house?
a) 14 km
b) 7 km
c) 2 km
d) 5 km
3. Rajan remembers that his elder brother was born between $13^{\text {th }}$ and $16^{\text {th }}$ April while his mother remembers that he was born after $14^{\text {th }}$ April and before $17^{\text {th }}$ April. If the statements of both are considered correct, then on which date of April he was born?
a) 14
b) 16
c) 14 or 15
d) 15
4. How many numbers are there from 1 to 60 , which are divisible by 3 and either unit digit or tenth digit or both include 3 ?
a) 5
b) 9
c) 15
d) More than 15
5. A trader said to his servant Ramu, "I leave for my house after every 2.40 hours from his shop. I have already gone to his house 55 min ago and next time. I shall go to my house from the shop at $8: 15 \mathrm{pm}^{\prime \prime}$. At what time this information was given to the servant?
a) $6: 30$
b) 6:00
c) $6: 15$
d) $4: 40$
6. A doctor said to his compounder, "I go to see the patients at their residence after every 3.30 hours. I have already gone to the patient 1.20 hours ago and next time I shall go at 1:40 pm". At what time this information was given to the compounder by the doctor?
a) $10: 10$
b) $11: 30$
c) $08: 50$
d) $11: 20$
7. Pointing to a man Snehalata says, "He is the only son of my father's father." How is Snehalata related to the man?
a) Mother
b) Grand daughter
c) Niece
d) Daughter

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8. If + means $\div, \div$ means,-- means $\times$ and $\times$ means + , then $12+2 \times 9 \times 4=$ ?
a) 9
b) 11
c) 4
d) 15
9. If + means - , means $\times, \times$ means $\div$ and $\div$ means + , then $12 \times 4 \div 12+5-3=$ ?
a) 4
b) 15
c) 30
d) 0
10. As 'Hungry' is related to 'Food' in the same way 'Thirsty' is related to what?
a) Drink
b) Tea
c) Coffee
d) Water
11. As 'Fly' is related to 'Parrot' in the same way 'Creep' is related to what?
a) Snake
b) Rabbit
c) Fish
d) Crocodile
12. As 'Needle' is related to 'Thread' in the same way 'Pen' is related to what?
a) Word
b) To write
c) Cap
d) Ink
13. If the following series is written in the reverse order and the alternate letter are deleted from it, then which letter will divide the new series in two equal parts? ABCDEFGHIJKLMNOPQRSTUVWXYZ
a) N
b) P
c) L
d) M
14. If alternate letters are deleted from the following series, then which letter will divide the new series in two equal parts?

ABCDEFGHIJKLMNOPQRSTUVWXYZ
a) N
b) M
c) K
d) O
15. If 'SAVOURY' is coded as 'OVUARSY', then how will 'RADIATE' be coded?
a) AIDARET
b) IDARATE
c) ARIADTE
d) IDAATRE
16. If 'MAPLE' is coded as 'VOKZN', then how will 'CAMEL' be coded?
a) OVNZF
b) OUNZX
c) OVNZX
d) XZNVO

Directions (Q. 17-19): Find out the word which does not belong to the group.
17. a) Dictionary
b) Magazine
c) News paper
d) Library
18. a) Blind
b) Lame
c) Short
d) Deaf
19.
a) Brigade
b) Battalion
c) Commander
d) Troop

Directions (Q. 20-21): Which one of the alternatives will replace the question mark (?) ?
20. CG, GH, LJ, RM ?
a) ZR
b) YR
c) $Z Q$
d) YQ

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21. FRP, HPQ, JNS, LLV, ?
a) PKZ
b) NJZ
c) OJZ
d) MKZ
22. A number of people are standing in a row in which Kailash is $20^{\text {th }}$ from the left and Hemant is $25^{\text {th }}$ from the right. If they interchange their positions, then Kailash becomes $25^{\text {th }}$ from the right. How many people are there in the row?
a) 49
b) 44
c) 45
d) Data inadequate
23. Five friends Mahendra, Anjani, Anil, Anand and Alok are sitting in a row. Neither Anil is neighbour of Anand nor of Anjani. Mahendra is not be neighbour of Anjani. Anil is the neighbour of Alok. If Alok is just in the middle, who is the neighbour of Mahendra?
a) Anand
b) Alok
c) Anil
d) Anjani
24. Karishma is taller than Kajal. Kajal is taller than Vimal. Ankita is taller than Kajal and Vimal. Who is the tallest?
a) Karishma
b) Kajal
c) Ankita
d) Cannot be determined
25. Which tax is collected by Panchayats?
a) Sales tax
b) Custom duty
c) land revenue
d) Tax on local fairs
26. Which institution is known as 'soft loan window' of World Bank?
a) IFC
b) IDA
c) IMF
d) Indian Development Forum
27. The latest G-8 Summit conference of G-8 nations, a group of advanced nations took palce on June 27-28 at
a) Berlin (Germany)
b) Rome (Italy)
c) Tokyo (Japan)
d) Kananaskis (Canada)
28. "Indian cotton merchant; banker, congress man and a close associate of Mahatma Gandhi." This description fits
a) G D Birla
b) M R Jayakar
c) Jamnalal Bajaj
d) V S Srinivasa Shastri

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29. The principles concerning the provisions of the grants in aid to the States out of the consolidated fund of India are recommended by the
a) Finance Commission
b) Planning commission
c) National Development Council
d) Administrative Reforms Commission
30. Non-cooperation Movement was passed in which session of Indian National Congress?
a) Kanpur
b) Bombay
c) Nagpur
d) Calcutta
31. Who among the following was the leader of a number of anti-British revolts in Sambalpur?
a) Utirat Singh
b) Surendra Sai
c) Kattabomman
d) Sayyid Ahmad Barelvi
32. Which of the following union territories has its territorial areas spread in three States?
a) Chandigarh
b) Delhi
c) lakshadeep
d) Puducherry
33. Judicial remedy whereby the State inquires into the legality of detaining a person is better known as
a) Habeas Corups
b) Certiorari
c) Mandamus
d) Quo Warranto
34. Life Insurance was nationalised in
a) 1950
b) 1953
c) 1956
d) 1960
35. The Article 360 of the Constitution of India relates to
a) President's rule in States.
b) General Emergency
c) Election Commission
d) Financial Emergency
36. Sarkaria Commission was set up for reviewing the relations between
a) The Prime Minister and the President
b) Legislature and the Executive
c) Executive and the Judiciary
d) Center and the States
37. Money Bill has defined by the Constitution under
a) Article 109
b) Article 111
c) Article 110
d) both (b) and (c)

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38. Agricultural commodities prices in India are fixed by
a) Central Government
b) State Government
c) Agricultural Produce Marketing Boards
d) Agricultural Prices Commission
39. Which article of the Constitution of India is concerned with provision with respect to inter-state council?
a) Article 263
b) Article 150
c) Article 264
d) Article 267
40. Mahatma Gandhi was referred to as 'The Father of the Nation' first by
a) Jawaharlal Nehru
b) Vallabhbhai Patel
c) C Rajagopalachari
d) Subhash Chandra Bose
41. In which plan phase was industrialisation initiated in India?
a) Fourth Plan
b) Third Plan
c) Second Plan
d) First Plan
42. Antyodaya Programme is associated with
a) Liberation of bonded labour
b) bringing up cultural revolution of India
c) demands of textile labourers
d) upliftment to the poorest of the poor
43. Which one of the following upheavals took place in Bengal immediately after the Revolt of 1857?
a) Sannyasi Rebellion
b) Santhal Rebellion
c) Indigo Disturbances
d) Pabna Disturbances
44. When an advance grant is made by the Parliment, pending the regular passage of the Budget, it is called
a) Vote on account
b) Token grant
c) Supplementary grant
d) Vote on credit
45. India opted for a federal form of government because of
a) Vast territory
b) cultural integration
c) linguistic and regional diversity
d) administrative convenience

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46. The methods of Pressure Group do not include
a) strikes
b) collective bargaining
c) behind the screen method
d) contesting elections
47. Which article of the Constitution of India is related to the establishment and Constitution of Supreme Court?
a) Article 122
b) Article 324
c) Article 124
d) Article 315
48. After the enactment of $44^{\text {th }}$ Amendment act, 1979, Right to Property is no more a fundamental right. It is now only an ordinary legal right. By which article of the Constitution is it now governed?
a) Article 307
b) Article 267
c) Article 301
d) Article 300-A
49. Which of the following statements is Incorrect?
a) Wheat is grown in Punjab
b) Tea is produced in Assam
c) Coffee is grown in Karnataka
d) Saffron is produced in Himachal Pradesh
50. 'Closed Economy' is that economy in which
a) only export takes place
b) money supply is fully controlled
c) deficit financing takes place
d) neither export nor import takes place
51. Which one of the following is an example of extra-constitutional power of Governor of a state in India?
a) His role as Chancellor of the universities in the State
b) His Power to dismiss the ministry
c) His Power to dissolye the State Legislative Assembly
d) His Power to return a Bill to the State Legislative Assembly for reconsideration
52. How many members of the State Legislative Council are elected by the Assembly?
a) $\frac{1}{6}$ th of the members
b) $\frac{1}{3}$ rd of the members
c) $\frac{1}{12}$ th of the members
d) $\frac{5}{6}$ th of the members

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53. Which reformer from Maharashatra was known as lokhitvadi?
a) Pandita Ramabai
b) Gopal Krishna Gokhale
c) M G Ranade
d) Gopal Hari Deshmukh
54. Zonal Councils have been created by
a) Constitution
b) Act of Parliament
c) Government Resolution
d) National Development Council
55. In a judgement delivered by the Supreme Court of India, which of the following substances should be treated as mineral and is most readily and freely available substance on the earth?
a) Water
b) Oil
c) Natural Gas
d) Coal
56. The minimum age for the members of Rajya Sabha is
a) 25 years
b) 21 years
c) 30 years
d) 35 years
57. The day to day administration of a Union Territory in India is looked after by a
a) Council of Ministers
b) Lt. Governor
c) Governor
d) The President
58. Article 324 of the Constitution of India is related to
a) Election Commission
b) Finance Commission
c) Union Public Service Commission
d) Planning Commission
59. Which one of the following amendments to the Indian constitution incorporated the fundamental duties of citizens?
a) $41^{\mathrm{st}}$
b) $42^{\text {nd }}$
c) $43^{\mathrm{rd}}$
d) $44^{\text {th }}$
60. After every general election which House(s) of the Parliament is (are) reconstituted?
a) Rajya Sabha
b) Lok sabha
c) Both Houses of Parliament
d) None because both the Houses have some nominees
61. The inter-state dispute for a better share of water of the Parambikulam-Aliyar project involves
a) Tamil Nadu and Karnataka
b) Andhra Pradesh and Tamil Nadu
c) Kerala and Karnataka
d) Tamil Nadu and Kerala

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62. The aluminium factory Hindalco situated near Renukoot has been set up there for which of the following reasons?
a) Proximity to raw material
b) Abundant supply of electricity
c) Effective transport network
d) Proximity to the market
63. To be recognised as a national party in India, a Political party would be automatically eligible if it enjoyed the status of a state party in at least
a) two states or Union Territories
b) three states or Union Territories
c) four states or Union Territories
d) five states or Union Territories
64. Which one of the following crop combinations is characteristic of the upper Brahmaputura Valley?
a) Rice, Jute, Oil-seeds
b) Rice, Pulses, Oil-seeds
c) Rice, Tea, Oil-seeds
d) Tea, Gram, Jute
65. The capital of Somalia is
a) Mogadishu
b) Johannesburg
c) Ankara
d) Dar-es-salaam
66. Which is a credit rating agency in India?
a) CRISIL
b) CARE
c) ICRA
d) All of these
67. The main security guard of International Trade is
a) IMF
b) World Bank
c) WTO
d) IFC
68. Centralised planning was first adopted in the economy of
a) USSR
b) Poland
c) China
d) India
69. National Rural Development Institute is situated at
a) Shimla
b) Hyderabad
c) Patna
d) New Delhi
70. Who introduced 'Kabuliyat' and 'Patta'?
a) Alauddin Khilji
b) Feroz Tughlaq
c) Akbar
d) Sher Shah
71. The name of the last delhi sultan is
a) Khigir Khan
b) Mubarak Shah
c) Ibrahim Lodi
d) Sikandar Lodi
72. The kingdom described by Kalhan in 'Rajatarangini'is
a) Magadh
b) Koshal
c) Kashmir
d) Gandhar
73. The system of Communal Electorate in India was first introduced by the
a) Indian council Act, 1892
b) Minto-Morley Reforms, 1909
c) Montagu-Chelmsford Reforms, 1919
d) Government of India Act, 1935
74. Which one of the following groups of atricles of the constitution of India grants the right to equality?
a) Articles 16 to 20
b) Articles 15 to 19
c) Articles 14 to 18
d) Articles 13 to 17
75. Which of the following is the strongest force?
(a) Atomic force
(b) Gravitational force
(c) Electro magnetic force
(d) Nuclear force
76. A, B and C are employed to do a piece of work for Rs. 529. A and B together are supposed to do $\frac{19}{23}$ of the work and B and C together $\frac{8}{23}$ of the work. What should A be paid?
(a) Rs. 92
(b) Rs. 345
(c) Rs. 280
(d) Rs. $176 \frac{1}{3}$
77. Find the average of $8,10,11,15$ and 16
(a) 10
(b) 8
(c) 11
(d) 12
78. The expression $\left(\sqrt{\frac{4}{3}}-\sqrt{\frac{3}{4}}\right)$ simplifies to
(a) $\frac{5 \sqrt{3}}{6}$
(b) $\frac{1}{2 \sqrt{3}}$
(c) 1
(d) $\frac{-1}{2 \sqrt{3}}$
79. Cube root of $20 \frac{51}{64}$ is equal to
(a) $1 \frac{3}{4}$
(b) $1 \frac{1}{4}$
(c) $2 \frac{3}{4}$
(d) $2 \frac{1}{4}$
80. The value of $\frac{1}{1-\frac{7}{12}}$ is
(a) $\frac{5}{12}$
(b) $\frac{1}{12}$
(c) $\frac{7}{12}$
(d) $2 \frac{2}{5}$

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81. Sanjay, Vijay and Ajay invested Rs. 400, Rs. 700 and Rs. 300 respectively in a business. If Sanjay got Rs. 80 as his share of profit, what did Vijay get?
(a) Rs. 70
(b) Rs. 60
(c) Rs. 150
(d) Rs. 140
82. Mahavir pays $10 \%$ of his income as rent, $20 \%$ on the education of his children and $65 \%$ on his living expenses. If he deposits the remaining Rs. 40 in the post office, find his income.
(a) Rs. 400
(b) Rs. 700
(c) Rs. 800
(c) Rs. 900
83. Find out the two numbers whose difference is 36 and the ratio between them is 7:16
(a) 28, 64
(b) 14,32
(c) 64,28
(d) 21,48
84. The population of a village is 3500 , out of which $44 \%$ are men, $35 \%$ women and the rest are children. find the number of children in the village.
(a) 1120
(b) 1540
(c) 735
(d) 1050
85. A number being successively divided by 9,11 and 13 leaves 8,9 and 8 remainders respectively. If the order of divisors is reversed, then remainders will be
(a) $8,9,8$
(b) $9,8,8$
(c) $10,1,6$
(d) $10,8,9$
86. Naresh bought an article for Rs. 240 and marked its price $20 \%$ above the cost price. He sold the article for Rs. 264 after allowing a certain discount on the marked price. The discount allowed by him was
(a) $8 \frac{1}{4} \%$
(b) $8 \frac{2}{3} \%$
(c) $8 \frac{1}{3} \%$
(d) $8 \frac{1}{2} \%$
87. The marked price of an article is $40 \%$ above the cost price. The discount that may be allowed to make profit of $12 \%$ is
(a) $52 \%$
(b) $28 \%$
(c) $14 \%$
(d) $20 \%$
88. The population of a town is 8000 . If population increases by $10 \%$ during first year and $20 \%$ during second year, what will be the population after 2 years?
(a) 15600
(b) 15060
(c) 10560
(d) 80160
89. If a sum is doubled in 3 years, at a rate of compound interest, in how many years will it be 16 times at the same rate of interest?
(a) 24 yrs
(b) 8 yrs
(c) 12 yrs
(d) 6 yrs
90. If a sum of money put out at compound interest amounts to Rs. 1460 in 2 years and Rs. 1606 in 3 years. what is the rate of interest.
(a) $9 \%$
(b) $11 \%$
(c) $12 \%$
(d) $10 \%$

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91. What price should a shop-keeper mark on an article costing him Rs. 153 to gain $20 \%$ after allowing discount of $15 \%$ ?
(a) Rs. 162
(b) Rs. 184
(c) Rs. 216
(d) Rs. 224
92. Yogesh took a loan of Rs. 12000 for 5 years on simple interest. After 5 years he paid Rs. 3600 as interest. What is the rate of interest percent per annum?
(a) $6 \%$
(b) $8 \%$
(c) $4 \%$
(d) Cannot be determined
93. A sum of Rs. 2400 amounts to Rs. 3264 in 4 years at a certain rate of simple interest. If the rate of interest is increased by $1 \%$, the same sum in the same time would amount to
(a) Rs. 3288
(b) Rs. 3312
(c) Rs. 3340
(d) Rs. 3360
94. $\frac{8.73 \times 8.73 \times 8.73+4.27 \times 4.27 \times 4.27}{8.73 \times 8.73-8.73 \times 4.27+4.27 \times 4.27}$ is equal to
(a) 11
(b) 13
(c) $1 \frac{4}{7}$
(d) $9 \frac{1}{11}$
95. $\frac{0.538 \times 0.538-0.462 \times 0.462}{1-0.924}$ is equal to
(a) 0.076
(b) 0.05
(c) 1
(d) 1.03
96. LCM of two numbers is 14 times their GCF. The sum of the LCM and GCF is 600 . If one number is 280 , what is the other number?
(a) 160
(b) 60
(c) 80
(d) 40
97. Find the smallest number which is divided by $4,9,12$ and 16 each time leaves 3 remain
(a) 290
(b) 141
(c) 147
(d) 146
98. Divide Rs. 760 among 4 men, 3 women and 5 children so that each man may have double the share of women and each woman may have three times the share of a child. Find the share of 1 child.
(a) Rs. 50
(b)Rs. 20
(c) Rs. 120
(d) Rs. 60
99. Rs. 800 were divided between Mahesh and Shyam in the ratio of $3: 5$. How many rupees will Shyam get more than Mahesh?
(a) 40
(b) 70
(c) 100
(d) 200

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100. There is piece of cloth 7.20 m long and 2.10 m wide. Out of this cloth square pieces of maximum sides are to be so cut that there is no wastage of the cloth. The length of side of each square piece would be
(a) 25 cm
(b) 30 cm
(c) 20 cm
(d) 24 cm
101. A stock of food grains lasts for 21 days for village $A$. The same stocks would last for 28 days for village B . How many days would it last if the food grains are used for both the villages together?
(a) 12
(b) 14
(c) 7
(d) 49
102. A and B can together finish a work in 30 days. They worked for it for 20 days and then B left. The remaining work was done by A along in 20 more days. B alone can finish the work in
(a) 54 days
(b) 60 days
(c) 50 days
(d) 48 days
103. By selling an umbrella for Rs. 30, a shop keeper gains $20 \%$. During a clearance sale, the shopkeeper allows a discount of $10 \%$. Find his gain percent during the sale season.
(a) $7 \%$
(b) $7 \frac{1}{2} \%$
(c) $8 \%$
(d) $9 \%$
104. 25 men were employed to do a piece of work which they could finish in 20 days but the men drop off by 5 at the end of every 10 days. In what time will the work be completed?
(a) 17 days
(b) $23 \frac{1}{3}$ days
(c) 8 days
(d) 26 days
105. If Anil goes to the school from his home by an average speed of $5 \mathrm{~km} / \mathrm{h}$, he reaches there at the correct time. If however his average speed is $4 \mathrm{~km} / \mathrm{h}$, he reaches there 15 min late. Find the distance of the school from his home.
(a) 4.5 km
(b) 6 km
(c) 5 km
(d) 3 km

Directions (Q. 106-110): Read the following passage carefully and answer the questions given below it.

Something is radically wrong with the entire structure of human relationships that makes man delight in killing man, whether it be in the name of civilisation or religion or anything else. Two wrongs do not make a right, hatred must beget hatred. It is this fundamental truth that women have got to bring home to the people in their respective countries. No peace treaties, can avail that have revenge, as their basis and self righteous arrogance and hypocrisy in the so called victors. But women are the nat-

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ural preservers of life.
106. Which of the following expresses most accurately the idea contained in the opening sentence of the passage?
(a) Man destroying another man is a painful practice.
b) A social structure that permits people to kill each other for religion is inherently rotten
c) It is strange that one religion encourages its followers to kill the followers of another religion.
(d) It is wrong on man's part to derive pleasure out of killing others for any motive what so ever
107. The expression 'two wrongs do not make a right' means that
(a) a wrong action in retaliation does not mend matters
(b) hatred destroys the person who perpetrates it
(c) a tit for tat policy aggravates hatred
(d) even repeated assertions of a wrong statement do not make it right.
108. Which of the following statement is not implied in the passage?
(a) It is human tendency to kill others professing different religion
(b) It is the duty of women to foster peace and harmony amongst their countrymen
(c) Peace treaties among nations tend to establish peace in the world
(d) If you hate someone, he is bound to respond with the same feeling
109. Which word is opposite in meaning to 'preserver' as used in the passage?
(a) enemy
(b) destroyer
(c) rival
(d) belligerent
110. Which of the following would sum up most suitable by the central idea of the passage?
(a) The role of women in the world of hatred and violence
(b) Man's instinct of destroying others
(c) Hatred leads to further hatred
(d) The significance of peace treaties

Directions (Q. 111 - 113): Choose the part which has an error, if there is no error, choose (d).
111. May I (a)/know who you want (b)/ to see please. (c)/ No error. (d)
112. They walked (a)/besides each other (b)/ in silence. (c)/ No error. (d)
113. The teacher taught (a)/to the students (b)/ like his own children. (c)/ No error. (d)

Directions (Q. 114-116): Choose the word which is nearest in meaning to the given word.
114. PILFER
(a) Steal
(b) Destroy
(c) Damage
(d) Snatch
115. INDOLENCE
(a) Leniency
(b) Relaxation
(c) Laziness
(d) Sensitive
116. ERADICATE
(a) Dedicate
(b) Indicate
(c) Complicate
(d) Eliminate

Directions (Q.117-118): Choose the word which is opposite in meaning to the given word.
117. POMPOUS
(a) Feeble
(B) Humble
(c) normal
(d) Strong

## 118. PALTRY

(a) Mean
(b) Bitter
(c) Worthwhile
(d) Naive

Directions (Q. 119-120): Choose the appropriate word to fill in the blank.
119. The higher you go, the more difficult it ---- to breathe.
(a) has become
(b) becomes
(c) is becoming
(d) became
120. She was compensated-------- the loss of her belongings.
(a) over
(b) against
(c) at
(d) for

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## ANSWERS

| 1-b; | 2-d; | 3-d; | 4-a; | $5-\mathrm{a} ;$ | $6-\mathrm{b} ;$ | $7-\mathrm{d} ;$ | $8-\mathrm{b} ;$ | $9-\mathrm{d} ;$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $10-\mathrm{d} ;$ | $11-\mathrm{a} ;$ | $12-\mathrm{d} ;$ | $13-\mathrm{a} ;$ | $14-\mathrm{b} ;$ | $15-\mathrm{d} ;$ | $16-\mathrm{c} ;$ | $17-\mathrm{d} ;$ | $18-\mathrm{c} ;$ |
| $19-\mathrm{c} ;$ | $20-\mathrm{d} ;$ | $21-\mathrm{b} ;$ | $22-\mathrm{d} ;$ | $23-\mathrm{c} ;$ | $24-\mathrm{d} ;$ | $25-\mathrm{d} ;$ | $26-\mathrm{b} ;$ | $27-\mathrm{b} ;$ |
| 28-a; | $29-\mathrm{a} ;$ | $30-\mathrm{d} ;$ | $31-\mathrm{b} ;$ | $32-\mathrm{d} ;$ | $33-\mathrm{a} ;$ | $34-\mathrm{c} ;$ | $35-\mathrm{d} ;$ | $36-\mathrm{d} ;$ |
| $37-\mathrm{c} ;$ | $38-\mathrm{a} ;$ | $39-\mathrm{a} ;$ | $40-\mathrm{d} ;$ | $41-\mathrm{c} ;$ | $42-\mathrm{d} ;$ | $43-\mathrm{c} ;$ | $44-\mathrm{a} ;$ | $45-\mathrm{c} ;$ |
| 46-d; | $47-\mathrm{c} ;$ | $48-\mathrm{d} ;$ | $49-\mathrm{d} ;$ | $50-\mathrm{d} ;$ | $51-\mathrm{a} ;$ | $52-\mathrm{b} ;$ | $53-\mathrm{d} ;$ | $54-\mathrm{b} ;$ |
| $55-\mathrm{a} ;$ | $56-\mathrm{c} ;$ | $57-\mathrm{b} ;$ | $58-\mathrm{a} ;$ | $59-\mathrm{b} ;$ | $60-\mathrm{b} ;$ | $61-\mathrm{d} ;$ | $62-\mathrm{d} ;$ | $63-\mathrm{c} ;$ |
| $64-\mathrm{c} ;$ | $65-\mathrm{a} ;$ | $66-\mathrm{d} ;$ | $67-\mathrm{c} ;$ | $68-\mathrm{a} ;$ | $69-\mathrm{b} ;$ | $70-\mathrm{d} ;$ | $71-\mathrm{c} ;$ | $72-\mathrm{c} ;$ |
| $73-\mathrm{b} ;$ | $74-\mathrm{c} ;$ | $75-\mathrm{b} ;$ | $76-\mathrm{b} ;$ | $77-\mathrm{d} ;$ | $78-\mathrm{b} ;$ | $79-\mathrm{c} ;$ | $80-\mathrm{d} ;$ | $81-\mathrm{d} ;$ |
| 82-c; | $83-\mathrm{a} ;$ | $84-\mathrm{c} ;$ | $85-\mathrm{c} ;$ | $86-\mathrm{c} ;$ | $87-\mathrm{d} ;$ | $88-\mathrm{c} ;$ | $89-\mathrm{c} ;$ | $90-\mathrm{d} ;$ |
| $91-\mathrm{c} ;$ | $92-\mathrm{a} ;$ | $93-\mathrm{d} ;$ | $94-\mathrm{b} ;$ | $95-\mathrm{c} ;$ | $96-\mathrm{c} ;$ | $97-\mathrm{c} ;$ | $98-\mathrm{b} ;$ | $99-\mathrm{d} ;$ |
| $100-\mathrm{b} ;$ | $101-\mathrm{a} ;$ | $102-\mathrm{b} ;$ | $103-\mathrm{c} ;$ | $104-\mathrm{b} ;$ | $105-\mathrm{c} ;$ | $106-\mathrm{d} ;$ | $107-\mathrm{a} ;$ | $108-\mathrm{c} ;$ |
| $109-\mathrm{b} ;$ | $110-\mathrm{a} ;$ | $111-\mathrm{b} ;$ | $112-\mathrm{b} ;$ | $113-\mathrm{b} ;$ | $114-\mathrm{a} ;$ | $115-\mathrm{c} ;$ | $116-\mathrm{d} ;$ | $117-\mathrm{b} ;$ |
| $118-\mathrm{c} ;$ | $119-\mathrm{b} ;$ | $120-\mathrm{d} ;$ |  |  |  |  |  |  |

