Question Booklet and Answer Key

For Recruitment Test Held on

22.11.2015 (EVENING)

Post: Junior Engineer (Electrical)

1. ਨਾਂਵ ਕਿੰਨੇ ਪ੍ਰਕਾਰ ਦੇ ਹੁੰਦੇ ਹਨ?
(A) ਛੇ (B) ਪੰਜ (C) ਸੱਤ (D) ਅੱਠ

2. 'ਦੀਵੇ ਥੱਲੇ..... ਮੁਹਾਵਰਾ ਪੂਰਾ ਕਰੋ:
(A) ਪਲੇਟ (B) ਚਾਨਣ (C) ਤੇਲ (D) ਹਨੇਰਾ

3. ਸਮਾਸੀ ਸ਼ਬਦ ਲਈ ਕਿਹੜਾ ਵਿਸ਼ਰਾਮ ਚਿੰਨ੍ਹ ਵਰਤਿਆ ਜਾਂਦਾ ਹੈ:
(A) ਛੁੱਟ ਮਰੋੜੀ (B) ਜੋੜਨੀ (C) ਦੋ ਬਿੰਦੀ ਡੈਸ਼ (D) ਪੁੱਠੇ ਕਾਮੇ

4. 'ਪੁਆਧੀ' ਕਿਸ ਖੇਤਰ ਦੀ ਭਾਸ਼ਾ ਹੈ?
(A) ਰਾਜਪੁਰਾ (B) ਜਲੰਧਰ (C) ਲਾਹੌਰ (D) ਅਮ੍ਰਿਤਸਰ

5. ਸ਼ੁੱਧ ਸ਼ਬਦ-ਜੋੜ ਚੁਣੋ:
(A) ਬੌਹਤ (B) ਬਹੁਤ (C) ਬਹੂਤ (D) ਬਹਾਉਤ

Directions (Q. No. 6-7) : Mark the correct preposition to be filled in the blanks of the following sentences:

6. Shami is bereft _____ reason.
A) of B) in C) off D) with

7. She is vain _____ her beauty.
A) at B) in C) of D) on

Directions (Q. No. 8-9) : Mark the correctly spelt word out of the four given options:

8. A) chaperone B) cheporane C) chaparone D) chaperon

9. A) fellacious B) fallecious C) fallacious D) fellecious

10. Mark the correct sentence out of the four options:
A) You and he were seen by us. B) You and he has been seen by us.
C) You and he is seen by us. D) You and he seems to be friends.

11. The 2015 Nobel Prize in Literature was awarded to :
A) Alice Munro B) Chinua Achebe
C) Doris Lessing D) Svetlana Alexievich

12. Cabinet Minister for Minority Affairs, Govt. of India is :
A) Najma Heptullah B) Mukhtar Abbas Naqvi
C) Shahnawaj Hussain D) Akbar Ahmad

13. The Interim charge of FIFA was recently given to :
A) Sepp Blatter B) Michel Platini
C) Isaac Hayatou D) Chung Mong-Joon

14. The man responsible for bringing White Revolution in India and founder of India's dairy company Amul is:-
A) Ashok Kumar B) Verghese Kurien C) Antony Kurien D) Samuel Kurien

15. Rajatarangini was written by:-
A) Mammata B) Rajshekhar C) Kalhana D) Anandavardhana

16. "USTTAD" stands for:-
A) Upliftment of Skills and Training in Traditional Arts/Crafts for Development
B) Upgrading the Skills and Training in Traditional Arts/ Crafts for Development
C) Upliftment of Short Training in Traditional Arts/Crafts for Development
D) Upgrading the Services and Teaching in Traditional Arts/ Crafts for Development

17. World's least peaceful nation as per the Global Peace Index-2014 is :-
A) Afghanistan B) Bangladesh C) Syria D) Israel

18. Which of the following is observed as World Intellectual Property Day:
A) 26 April B) 30 April C) 20 August D) 30 September

19. Which of the following States became the first Nirmal State of India as per an official statement released on Feb 10, 2014:-
A) Andhra Pradesh B) Kerala C) Sikkim D) Gujarat

20. Which of the following languages became the sixth classical language of India:-
A) Odia B) Malayalam C) Bangla D) Telugu

21. In April 1, 2014, India became the only country in the world with:-
A) legislated population – control policy
B) legislated provision of the Knowledge – Commission
C) legislated corporate social responsibility
D) legislated corporate pollution control policy

22. The number of global goals that comprise the Sustainable Development Goals as established recently by the United Nations is:-
A) 12 B) 13 C) 14 D) 17

23. First Asian Woman to cross English Channel in 1959 (from France to England) was:-
A) Arati Saha B) Lakshmi Kanan C) Sarita Devi D) K. Devi

24. The Chief Executive Officer of Google Inc. is:-
A) Rajesh Pichai B) Satya Nadella
C) Sunderarajan Pichai D) Suresh Pichai

25. "***On Liberty***" is written by:-
A) J.S. Mill B) Henry Miller C) J.M. Keynes D) J. Bentham

26. Norman Ernest Borlaug is known for his contribution to:-
A) the field of nuclear medicine B) the field of cardiac surgery
C) what is known as Green Revolution D) the invention of new vaccines

27. According to the Rangarajan Committee Report (2014), which of the following criterion has been fixed to measure the rural as well as urban poverty in India for the year 2011 -12:-
A) Rs. 32 per capita per day expenditure in rural areas and Rs.47 in urban areas
B) Rs.45 per capita per day expenditure in urban areas and Rs.25 per capita per day in rural areas
C) Rs.42 per capita per day expenditure in rural areas and Rs.53 in urban areas.
D) Rs.38 per capita per day expenditure in rural areas and Rs.48 in urban areas.

28. National Policy on Education 1986 was revised in the year :
A) 1999 B) 2001 C) 1992 D) 1998

29. Which of the following is not a Rabi crop:
A) Rice B) Wheat C) Gram D) Mustard

30. The doctrine of Panch Sheel was jointly agreed to and proclaimed by the Late Indian Prime Minister J.L.Nehru and the late Chinese Prime Minister Chou En-lai in :
A) 1960 B) 1959 C) 1954 D) 1957

31. Internet was invented by :
A) Tim Burners-Lee B) C.S.Cockerell C) C.C.Magee D) J.Schick

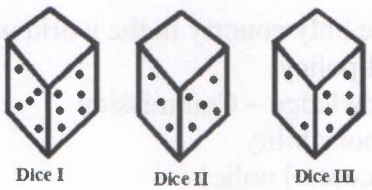
32. Aga Khan Cup is associated with:
A) Cricket B) Polo C) Golf D) Hockey

33. The words "Satyameva Jayate" inscribed on the State emblem of India have been taken from
A) Isha Upanishada B) Mundaka Upanishada
C) Kena Upanishada D) Chhandogya Upanishada

34. The Flag Code of India took effect from :
A) 26 January 1949 B) 26 January 1950
C) 26 January 2002 D) 26 January 1992

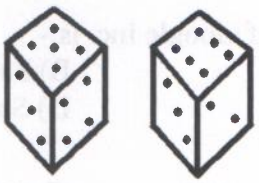
35. The National song "Vande Mataram" is a part of Bankim Chandra Chatterji's novel:
A) Ananda Math B) Rajasimha C) Kapal Kundala D) Durgesh Nandini

36. Three dice with their upper faces erased are



The sum of the numbers of dots on the opposite faces is 7. If the dice I, II and III have even number of dots on their bottom faces, then what will be the total number of dots on their top faces?
A) 7 B) 9 C) 12 D) 21

37. Two positions of a dice are shown below. If the face with one dot is at the bottom, then the number of dots on the top is:

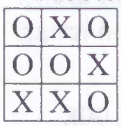


A) 2 B) 3 C) 4 D) 6

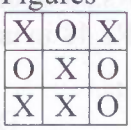
38. Which one of the following words does not have water-image identical to the word itself.
(i) KICK (ii) HIKE (iii) CHICK (iv) DOG (v) OXE
A) (v) B) (i) C) (iii) D) (iv)

39. Find the Fig from Answer Figures that does not show the similar characteristics as shown by the Problem Figures:

Problem Figures

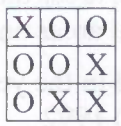


(i)

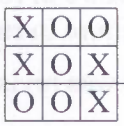


(ii)

Answer Figures



1



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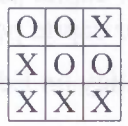

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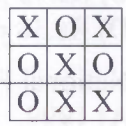


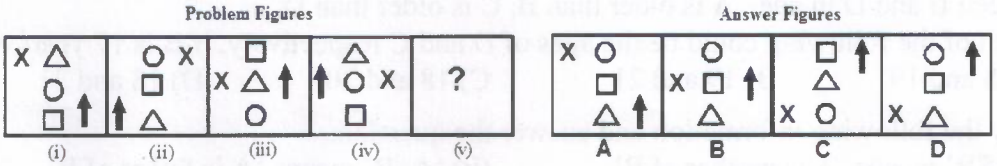
5

A) 5 B) 4 C) 2 D) 1

40. Find the number of triangles in the Figure:

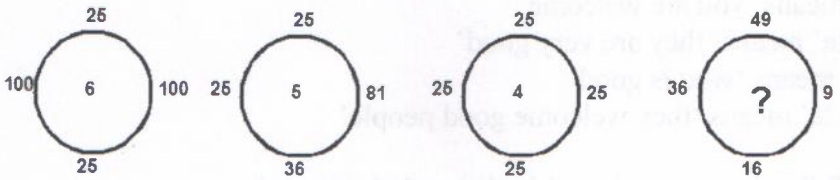
A) 22 B) 24 C) 28 D) None of these

41. Find the Figure from the Answer Figures that will continue the series established by four problem figures.



42. Choose the best alternative:
Danger always involves
A) Enemy B) Attack C) Fear D) Help

43. Find the missing number:

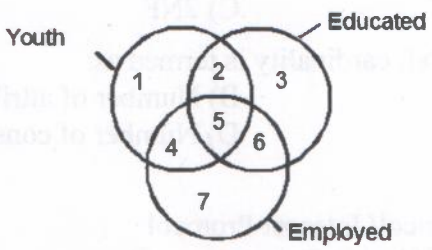


A) 3 B) 4 C) 5 D) 6

44. Which of the following meanings of the arithmetical signs will yield the value zero for expression given below:
200 x 100 + 300 x 200 – 10 ÷ 2 + 40
A) + means - , - means x, x means ÷, ÷ means +
B) + means - , - means ÷, x means +, ÷ means x
C) + means x , - means -, x means ÷, ÷ means +
D) + means ÷ , - means +, x means -, ÷ means x

45. Study the following arrangement and answer the questions:
W 1 R % 4 J E # 7 M T 2 I 9 B H 3 A $ 9 F Q 5 D G 6 U S P
Four of the following five are alike in certain way on the basis of above arrangement and hence form a group. Which one does not belong to that group.
(i) RW4 (ii) 5FG (iii) 9QA (iv) 3B$ (v) 7ET
A) (iii) B) (ii) C) (v) D) (i)

46. On the basis of following Venn Diagram, answer the question



Which region represents youth who are employed but not educated.
A) 5,6 B) 1,4,7 C) 4,7 D) 4 only

47. The post office is to the east of the school while my house is to the south of the school. The market is to the north of the post office. If the distance of market from the post office is equal to the distance of my house from the school, in which direction is the market with respect to my school?
A) North B) East C) North-East D) South-West

48. A, B, C, D, E and F are cousins. No two cousins are of the same age, but all have birthdays on the same date. The youngest is 17 years old and the oldest is 22. F is somewhere between B and D in age. A is older than B, C is older than D.
Which of the following could be the ages of D and C respectively, if B is 17 years old?
A) 18 and 19 B) 19 and 21 C) 18 and 20 D) 18 and 21

49. Study the following information and answer the question:
(i) 'A$B' means 'A is mother of B' (ii) 'A#B' means 'A is father of B'
(iii) 'A@B' means 'A is husband of B' (iv) 'A%B' means 'A is daughter of B'
Which one of the following expressions indicates 'H is the brother of N'
A) H#RDN B) N%F@D$H#R
C) N%F@D$H D) N%F@D%H

50. In a certain code language:
(i) 'pit na sa' means 'you are welcome'
(ii) 'na ho pa la' means 'they are very good'
(iii) 'ka da la' means 'who is good'
(iv) 'od ho pit la' means 'they welcome good people'

Which of the following means 'very' in that code language?
A) pa B) na C) da D) la

51. Which of the following is true?
A) There is one to one correspondence between assembly language instructions and machine language instructions and a one to many correspondences between high-level language instructions and machine language instructions.
B) There is one to one correspondence between assembly language instructions and machine language instructions and a one to one correspondence between high-level language instructions and machine language instructions.
C) There is many to one correspondence between assembly language instructions and machine language instructions and a one to one correspondence between high-level language instructions and machine language instructions.
D) There is many to one correspondence between assembly language instructions and machine level instructions, and a many to one correspondence between high-level language instructions and machine language instructions.

52. If an attribute of a database table can have multiple values, that table automatically violates which normal form (choose the lowest one):
A) 4NF B) 3NF C) 2NF D) 1NF

53. In the relational database model, cardinality is termed as:
A) Number of tuples. B) Number of attributes.
C) Number of tables. D) Number of constraints.

54. What does TCP/IP stand for?
A) Transmission Control Protocol/ Internet Protocol
B) Transport Capture Protocol/ Inside Packet
C) Transmission Control Protocol/ Internet Packet
D) Telecommunications Connection Protocol/ Internet Partitions

55. What does ISP stand for?
A) International Service Protocol B) Internal Service Port
C) Internet Service Provider D) Internet Search Program

56. The _____ logic family has the lowest propagation delay and thus comprises the fastest logic circuits available.
A) TTL B) ECL C) CMOS D) LSI

57. In MS-WORD, what is gutter margin?
A) Margin that is added to the left margin when printing
B) Margin that is added to right margin when printing
C) Margin that is added to the binding side of page when printing
D) Margin that is added to the outside of the page when printing

58. In CPU scheduling, "aging" is a technique:
A) To phase out old devices in computer system
B) Of gradually increasing the priority of jobs that wait in the system for a long time.
C) Used in evaluating normal tear and wear of mechanical devices.
D) Of gradually decreasing the priority of jobs that wait in the system for a long time.

59. Consider the following code segment:

```
if (Y < 0)
    {
        X = -X;
        Y = -Y;
    }
Z = 0;
While (Y > 0)
    {
        Z = Z + X;
        Y = Y - 1;
    }
```

Assume that X, Y, and Z are integer variables, and that X and Y have been initialized. Which of the following best describes what this code segment does?

A) Sets Z to be the sum X + Y
B) Sets Z to be the absolute value of X
C) Sets Z to be the value of Y
D) Sets Z to be the product X * Y

60. Which of the following views is the best view to use when setting transition effects for all slides in a presentation?
A) Slide sorter view B) Notes pages view C) Slide view D) Outline view

61. The average value of voltage (in volts) for a 230 V, 50-Hz, single-phase ac supply is
A) zero B) 325 C) 230 D) 398

62. A 100 watt 230 V bulb is supplied with 115 V volts. Power consumption (in watts) by the bulb will be (assuming the value of bulb resistance constant)
A) 100 B) 50 C) 75 D) 25

63. For an R-L-C series circuit, the voltage across the capacitor at resonance is
A) always more than supply voltage
B) depends on the supply frequency
C) always less than supply voltage
D) depends on the values of R, L and C

64. Tellegens' theorem is applicable to
A) linear network only
B) both linear and nonlinear networks
C) nonlinear network only
D) none of these

65. The active and apparent power of a load is 100 W and 200 VA, the power factor of the load is
A) 0.5 B) 0.8 C) 0.6 D) unity

66. The power in an ac circuit is measured using
A) power factor meter
B) voltmeter
C) wattmeter
D) voltmeter and ammeter

67. A dc voltage source of 100 V having variable internal resistance which can be varied from zero to 10 ohm. What should be the value of internal resistance in order to transfer maximum power to a load of 5 ohm resistor connected with this source?
A) 5 ohm B) zero C) 10 ohm D) 20 ohm

68. The current through an inductor in an R-L series circuit connected with dc supply at $t = 0$ (assuming zero initial current through the inductor)
A) increases from zero to maximum
B) it may increase or decrease depending on the values of R and L
C) decreases from maximum to zero
D) none of these

69. Two resistors of resistances 75±2 ohm and 125±3 ohm are connected in series. What will be the absolute and relative error (%) in equivalent resistance?
A) 1 ohm, 0.5 B) 1 ohm, 2.5 C) 5 ohm, 2.5 D) 5 ohm, 0.5

70. A galvanometer can be converted into an ammeter by connecting ..... value resistor in .....with the galvanometer.
A) low, series B) high, parallel C) high, series D) low, parallel

71. Moving iron type instruments can be used for the measurement of
A) only ac voltage and current B) both ac and dc voltage and current
C) only dc voltage and current D) none of the above

72. Standardization of potentiometer is done in order that, they become
A) precise B) accurate and direct reading
C) accurate D) accurate and precise

73. Which of the following bridge is used for the measurement of high Q
A) Hay's bridge B) Wheatstone bridge
C) Maxwell's bridge D) all of above

74. A Lissajous pattern on an oscilloscope is stationary and has 5 horizontal tangencies and 2 vertical tangencies. The frequency of horizontal input is 1000 Hz. The frequency of vertical input in Hz is
A) 250 B) 1000 C) 2500 D) 2000

75. A cathode ray oscilloscope can be used for the measurement of
A) voltage and current
B) time period and frequency of a signal
C) phase difference between signals
D) all of the above

76. How many display segments are required for display of alphanumeric characters
A) seven B) five C) nine D) fourteen

77. Since input resistance of an operational amplifier is infinite
A) its output resistance is zero
B) it becomes a current controlled device
C) its input current is zero
D) its output voltage becomes independent of load resistance

78. A 3-phase four wire star connected load takes line current of $10\angle 60^0$ A, $10\angle -60^0$ A and 5 A. The neutral current is
A) 15 A B) 10 A C) 25 A D) 5 A

79. An LVDT is used for the measurement of
A) displacement B) temperature
C) voltage D) magnetic flux density

80. A transformer can be used for
A) ac to dc conversion B) electrical isolation
C) power amplification D) all of above

81. A 1-phase transformer has 200 primary and 100 secondary turns. If its secondary current is 10 A. What will be its primary current?
A) 5 A B) 10 A C) 15 A D) 20 A

82. Which of the following electrical motors runs at constant speed?
A) synchronous B) dc series C) induction D) dc shunt motor

83. At no load, the speed of dc series motor is high because
A) armature voltage is low B) field current is high
C) field current is low D) none of the above

84. Which of the following electrical motors produces high starting torque
A) induction B) dc series C) dc shunt D) none of these

85. For generation of bulk electric power, which of the following generator is used
A) ac generator (alternator) B) dc series generator
C) dc shunt generator D) induction generator

86. Which of the following can be used for impedance matching
A) capacitive transducer B) rotating machines
C) transformer D) none of the above

87. The maximum value of the torque of an induction motor does not depend on
A) supply voltage B) rotor resistance
C) rotor leakage inductance D) frequency of supply voltage

88. Starters are used in electric motors for
A) decreasing starting current B) increasing starting current
C) increasing starting torque D) decreasing starting torque

89. When the connected load is more than the rating of a transformer, another transformer is connected in .....with the exiting transformer
A) series B) parallel C) Both (A) & (B) D) none of these

90. For voltage step up, which of the following connection of three phase transformer is generally preferred
A) star-delta B) star-star C) delta-delta D) delta-star

91. A two-winding transformer is converted into an auto-transformer, the rating of the auto-transformer is _____ the rating of the two winding transformer
A) less than B) more than
C) same as that of D) depends on the load

92. The percentage voltage regulation and efficiency of an ideal transformer is respectively
A) zero and 100 B) 100 and zero C) zero and zero D) 100 and 100

93. The number of diode(s) used for half wave, and full wave bridge rectifier circuit is/are
A) one and two respectively B) one and four respectively
C) two and four respectively D) None of the above

94. In a three-phase delta connected system, the line voltage is _____ the phase voltage
A) equal B) 1.732 times C) 0.577 times D) none of these

95. If z-parameters of a two port network are given, which of the following parameters of the network can be found
A) y-parameters only B) ABCD parameters only
C) h-parameters only D) all of the above

96. For a transmission line, if A = D= 1, B = 10, the value of C parameter is
A) 1 B) 1/10 C) 10 D) zero

97. The burden of a current transformer is expressed in terms of
A) VA rating of a transformer B) secondary winding current
C) primary winding current D) none of these

98. CPU of an 8085 microprocessor consists of
A) ALU, accumulator, general and special purpose registers
B) ALU, accumulator, timing and control circuits
C) accumulator, timing and control unit
D) ALU, accumulator, general and special purpose registers, timing and control circuits

99. Transmission efficiency increases as
A) both voltage and power factor increase
B) voltage decreases power factor increases
C) voltage increases and power factor decreases
D) both voltage and power factor decrease

100. Consumers having low power factor equipment are advised to install
A) tap changing transformer B) capacitor bank
C) inductors D) none of these

101. In a thermal power plant, the feed water coming to the economiser is heated using
A) H.P. steam B) L.P. steam
C) direct heat in the furnace D) flue gases

102. Bundled conductors are mainly used in high voltage overhead transmission line to
A) reduce transmission line losses
B) increase mechanical strength of the line
C) reduce corona loss
D) reduce sag

103. The rated voltage of a 3-phase power system is given as
A) rms phase voltage B) peak line to line voltage
C) rms line to line voltage D) peak phase voltage

104. For a given system, its transfer function depends on
A) input only B) output only
C) initial conditions D) none of the above

105. Superposition theorem is applicable to
A) any type of electrical network B) only linear network
C) only non-linear network D) none of the above

106. Which of the following dc motor is suitable for intermittent load?
A) Shunt B) Series
C) Cumulatively compounded D) Differentially compounded

107. Differential protection can be used for the protection of
A) transformers only B) bus bars only
C) feeders only D) all of above

108. The capacity factor of a plant is equal to
A) maximum load/average load B) average load/maximum load
C) maximum load/plant capacity D) average load/plant capacity

109. Large size steam plants and nuclear plants are suitable for
A) base loads B) peak loads
C) both base and peak load plants D) none of above

110. In which of the reactors is the steam generated in the reactor itself
A) pressurised water reactor B) boiling water reactor
C) liquid metal fuelled reactor D) all the above

111. The main criterion for the design of a distributor is
A) the voltage drop B) corona loss
C) temperature rise D) radio interference

112. Which of the following lamps gives nearly monochromatic light?
A) fluorescent tube B) sodium vapour lamp
C) mercury vapour lamp D) none of the above

113. Induction heating is used for
A) insulating materials
B) magnetic materials
C) non-magnetic materials (conducting)
D) both magnetic and non-magnetic conducting materials

114. In a given magnetic circuit, a current of 1 A flowing in the exciting winding produces a flux of 1 Wb. If the circuit reluctance is doubled, the exciting current would be
A) 2 A B) 1 A C) 0.5 A D) 1.5 A

115. Sheaths are used in cables to
A) provide proper insulation B) provide mechanical strength
C) prevent ingress of moisture D) none of the above

116. Three resistances R1, R2 and R3 (R1 > R2 > R3) are connected in parallel across terminals a-b, the equivalent resistance across the terminals a-b is
A) more than R1 B) less than R2
C) less than R3 D) less than R1

117. The fuse in electrical circuit must be placed in series with
A) live wire B) neutral wire
C) live and neutral wires D) live or neutral wire

118. In a 3-phase full converter, the six SCRs are fired at an interval of
A) 30^0 B) 90^0 C) 60^0 D) 120^0

119. Improper biasing of a transistor circuit leads to
A) distortion in the output signal
B) faulty location of load line
C) excessive heat production at collector terminals
D) heavy loading of emitter terminal

120. The impulse response of a LTI system is a unit step function, then the corresponding transfer function is
A) 1/s B) $1/s^2$ C) s D) 1

PUDA
Junior Engineer (Electrical)
Answer Key: 22.11.2015 (Evening)

Q.No.	Ans.	Q.No.	Ans.	Q.No.	Ans.	Q.No.	Ans.
1	B	31	A	61	A	91	B
2	D	32	D	62	D	92	A
3	B	33	B	63	D	93	B
4	A	34	C	64	B	94	A
5	B	35	A	65	A	95	D
6	A	36	A	66	C	96	D
7	C	37	B	67	B	97	A
8	A	38	D	68	A	98	D
9	C	39	B	69	C	99	A
10	A	40	C	70	D	100	B
11	D	41	D	71	B	101	D
12	A	42	C	72	B	102	C
13	C	43	B	73	A	103	C
14	B	44	B	74	C	104	D
15	C	45	A	75	D	105	B
16	B	46	D	76	D	106	C
17	C	47	C	77	C	107	D
18	A	48	B	78	A	108	D
19	C	49	B	79	A	109	A
20	A	50	A	80	B	110	B
21	C	51	A	81	A	111	A
22	D	52	D	82	A	112	B
23	A	53	A	83	B	113	D
24	C	54	A	84	B	114	A
25	A	55	C	85	A	115	B
26	C	56	B	86	C	116	C
27	A	57	C	87	B	117	A
28	C	58	B	88	A	118	C
29	A	59	D	89	B	119	A
30	C	60	A	90	D	120	A