CHANDIGARH HOUSING BOARD
POST: J.E. (BUILDING)
Question Booklet & Answer Key
05.02.2023 (MORNING)

1. The correct antonym for the word *Garrulous* is:
A) Taciturn B) Swollen C) Inflated D) Bloated

2. The correct synonym for the word *Eclectic* is:
A) Narrow B) Rude C) Inclusive D) Aggressive

3. Identify the error in the underlined parts of the sentence and mark the correct answer from the options that follow:-
A few feet farther, in a dry grotto scooped out from the main walkway,
A) B) C)
something glinted in sunlight.
D)

4. Choose the correct preposition to be filled in the blank from the options that follow:-
I have often found him negligent _____ his work.
A) on B) in C) over D) from

5. Choose the correct meaning of the underlined idiom: *To be all agog.*
A) To be sad B) To be weak C) To avoid something D) To be in a state of eagerness

6. The theme of National Science Day 2023 to be celebrated in February 2023 is:
A) Integrated Approach in Science & Technology for Sustainable Development.
B) Women in science. C) Science without religion is lame, religion without science is blind.
D) Global science for global wellbeing.

7. As per World Press Freedom Index 2022, India's rank is _____ among 180 countires.
A) 139 B) 142 C) 150 D) 152

8. The Kailasa Temple showcases India's structural prowess of:
A) 2nd century B) 5th century C) 8th century D) 11th century

9. Which of the following actors has not been awarded Dada Saheb Phalke Award?
A) Manoj Kumar B) Rajender Kumar C) Shashi Kapoor D) Dalip Kumar

10. When was Satellite Instructional Television Experiment (SITE), an experimental satellite communications project launched in India?
A) 1975 B) 1971 C) 1981 D) 1987

11. In this question a number series is given. Below the given series, one number is given followed by (a), (b), (c), (d) and (e). You have to complete this series following the same logic as in the given number series and answer the following question.

5	9	25	91	414	2282.5
3	(a)	(b)	(c)	(d)	(e)

What will come in place of (c)?
A) 63.25 B) 63.75 C) 64.25 D) 64.75

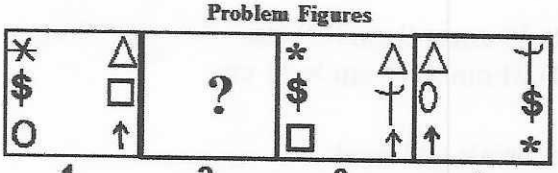
12. A person starts from a point A and travels 3 km eastwards to B and then turns left and travels thrice that distance to reach C. He again turns left and travels five times the distance he covered between A and B and reaches his destination D. The shortest distance between the starting point and the destination is
A) 12 km B) 15 km C) 16 km D) 18 km

13. Seven professionals A, B, C, D, E, F and G are practicing their professions in different cities Chennai, Bengaluru, Hyderabad, Mumbai, Ahmedabad, Jaipur, and Bhubaneshewar not necessarily in the same order. Each has a different profession Doctor, Engineer, Pharmacist, Lawyer, Counsellor, Professor, and Artist not necessarily in the same order.
A is a Pharmacist and practices in Bhubaneshwar. D practices in Bengaluru but is not a Doctor or an Artist. The one who practices in Hyderabad is a Professor. G is a Counsellor and does not practice in Mumbai or Chennai. E is a lawyer and practices in Ahmedabad. F practices in Chennai but is not an Artist. C practices in Mumbai.
Which of the following combinations of profession and place is correct ?
A) Pharmacist- Jaipur B) Engineer – Chennai C) Doctor - Bengaluru D) Artist - Mumbai

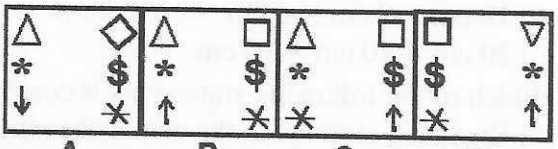
14. A cuboid of dimensions (6cm × 4cm ×1cm) is painted black on both the surfaces of dimensions (4cm × 1cm), green on the surfaces of dimensions (6cm × 4cm) and red on the surfaces of dimensions (6cm ×1cm). Now the block is divided into various smaller cubes of side 1cm each. The smaller cubes so obtained are separated.
How many smaller cubes will be formed ?
A) 24 B) 16 C) 12 D) 6

15. There are two sets of figures namely the Problem figures containing four figures 1, 2, 3 and 4 and the Answer figures (A), (B), (C) and (D). You have to select one figure from the Answer figures that will replace the (?) in the Problem figure which will continue the same series

Problem Figures



Answer Figures



16. The area of a circle is increased by 22 sq.cm. When its radius is increased by 1 cm. Find the original radius of the circle?
A) 6 cm. B) 3.2 cm. C) 3 cm. D) 3.5 cm.

17. A person gave 2/5 part of his income to his elder son and 30% part to his younger son. He saved his remaining money in three trusts A, B and C in the ratio of 3 : 5 : 2. If the difference between the amounts got by his both sons is ₹2000 how much amount he saved in trust C?
A) ₹1256 B) ₹1200 C) ₹1140 D) ₹1000

18. A train leaves station X at 6 am and reaches station Y at 10 am. Another train leaves station Y at 8 am and reaches station X at 11:30 am. At what time do the two trains cross each other?
A) 7:56 am B) 7:56 pm C) 8:56 am D) 8:56 pm

19. Which one is greatest out of $\sqrt{2}$, $\sqrt[6]{3}$, $\sqrt[3]{4}$ and $\sqrt[4]{5}$?
A) $\sqrt[3]{4}$ B) $\sqrt[4]{5}$ C) $\sqrt{2}$ D) $\sqrt[6]{3}$

20. ₹1200 is divided among X, Y, and Z such that ₹30 more than 3/5th of X's share, ₹10 more than 2/5th of Y's share and ₹20 more than 5/7th of Z's share, all are equal. What is Z's share?
A) ₹134.07 B) ₹299.698 C) ₹340.116 D) ₹560.175

21. VoIP is a technology for communication. VoIP stands for _____.
A) Voice over Intranet Protocol B) Video over Internet Protocol
C) Video over Intranet Protocol D) Voice over Internet Protocol

22. Consider the following MS-EXCEL worksheet:

	A	B	C
1	10	16	
2	20		
3	8		
4	16		
5	0		

The equation in cell B2 is: =A2 + B1. This equation is then copied and pasted to cells B3, B4 and B5. What should be the value in B5?
A) 36 B) 24 C) 44 D) 60

23. In the context of computer memory, what is the difference between RAM and ROM?
A) Both are a type of memory but RAM is faster than ROM.
B) Both are a type of memory but ROM is faster than RAM.
C) RAM is a type of memory but ROM is a type of bus.
D) If computer is turned off, the data stored in ROM will be lost but RAM maintains the data.

24. The operation of defragmenting a hard disk uses:
A) uses compaction to combat internal fragmentation
B) uses compaction to combat external fragmentation
C) uses compression to combat internal fragmentation
D) uses compression to combat external fragmentation

25. In the context of computing, what is a device driver?
A) A program that helps an OS to control a piece of hardware
B) A motor that makes a hard drive spin
C) A utility to defragment a hard drive D) A program that helps an OS to manage several users

26. The standard size of a masonry brick is
A) 18 cm × 8 cm × 8 cm B) 19 cm × 9 cm × 9 cm
C) 20 cm × 10 cm × 10 cm D) 21 cm × 11 cm × 11 cm

27. Which of the following statements is correct?
A) Excess of alumina in the clay makes the brick brittle and weak.
B) Excess of alumina in the clay leaves high power deposit on the brick.
C) Excess of alumina in the clay makes the brick crack and warp on drying.
D) Excess of alumina in the clay improves impermeability and durability of the brick.

28. Granite mainly composed of quartz and feldspar particles is obtained from
A) sedimentary rocks B) metamorphic rocks C) igneous rocks D) All options are correct

29. Pick up the correct statement from the following method of sawing timber
A) Tangentially to annual rings, is known as tangential method
B) In four quarters such that each board cuts annual rings at angles not less than 45°
C) Cut out of quarter logs, parallel to the medullary rays, and perpendicular to annual rings are known as radial sawing
D) All options are correct

30. Consider the following statements:
High early strength of cement is obtained as a result of
I. fine grinding. II. decreasing the lime content.
III. burning at higher temperatures. IV. increasing the quantity of gypsum.
Which of these statements are correct?
A) I and II B) I and III C) II, III and IV D) I, III and IV

31. The yield strength and tensile strength of low carbon steel may be improved by addition of ____.
A) manganese B) chromium C) nickel D) vanadium

32. A concrete in which dry coarse aggregate are first packed to have the least voids and then the cement sand mortar is injected under pressure to fill all the voids, resulting in a very dense concrete, is known as
A) Pre-packet concrete B) Vacuum concrete C) No fines concrete D) Aerate concrete

33. If d is the constant distance between the sections, then the correct prismoidal formula for calculating volume is given by
A) $\frac{d}{3}$(first area + last area + 4 $\sum$ even areas + 2 $\sum$ odd areas)
B) $\frac{d}{6}$(first area + last area + 2 $\sum$ even areas + 4 $\sum$ odd areas)
C) d(first area + last area + $\sum$ even areas + 2 $\sum$ odd areas)
D) $\frac{d}{3}$(first area + last area + 2 $\sum$ even areas + 4 $\sum$ odd areas)

34. The plan of a building is in the form of square with centre-line dimensions of outer walls as 14.7 m × 14.7 m. If the thickness of the walls in superstructure is 0.30 m, then its plinth area is
A) 234 m^2 B) 225 m^2 C) 207.36 m^2 D) 211.68 m^2

35. The perpendicular offsets at 20 m intervals from survey line to an irregular boundary line are 3.25, 5.6, 4.2, 6.65, 8.75, 6.2, 3.25, 4.2, 5.65. The area enclosed between survey line by the application of trapezoidal rule is
A) 820 m^2 B) 833 m^2 C) 860 m^2 D) 866 m^2

36. In a closed traverse of N number of sides,
A) difference between fore-bearing and back-bearing should be 90°
B) sum of included angles should be (2N – 4) times right angle
C) sum of included angles should be (2N – 1) times right angle
D) sum of fore-bearing and back-bearing should be 270°.

37. A dumpy level is set up with its eye-piece vertically over a peg A. The height from the top of peg A to the center of the eye-piece is 1.540 m and the reading on peg B is 0.705 m. The level is then setup over B. The height of the eye-piece above peg B is 1.490 m and a reading on A is 2.195 m. The difference in level between A and B is
A) 0.770 m B) 3.030 m C) 2.900 m D) 0.785 m

38. A soil has limit of 60%, plastic limit of 35%, shrinkage limit of 20% and it has a natural moisture content of 50%. What is the liquidity index of the soil?
A) 0.4 B) 1.5 C) 0.6 D) 1.3

39. A footing is resting on a fully-saturated clayey strata. For checking the initial stability, shear parameters are used from
A) consolidated undrained test B) unconsolidated drained test
C) unconsolidated undrained test
D) unconsolidated undrained test with pore pressure measurement

40. Assertion (A): Quick sand is not a type of sand but it is a condition arising in a sand mass.
Reason (R): When the upward seepage pressure becomes equal to the pressure due to submerged weight of a soil, the effective pressure becomes zero.
Which of the following is correct?
A) Both A and R are true and R is the correct explanation of A.
B) Both A and R are true but R is not a correct explanation of A.
C) A is true but R is false. D) A is false but R is true.

41. A 300 mm × 300 mm square bearing plate settles by 15 mm in a plate load test on a clayey soil when the intensity of loading is 0.2 N/mm^2. The settlement of a prototype shallow square footing of side 1 m under the same intensity of loading is
A) 15 mm B) 30 mm C) 50 mm D) 167 mm

42. There are two footings resting on the ground surface. One footing is square of dimension 'B'. The other is strip footing of width 'B' both of them are subjected to a loading intensity of q. The pressure intensity at any depth below the base of the footing along the center line would be
A) equal in both footings. B) large for square footing and small for strip footing.
C) large for strip footing and small for square footing.
D) more for strip footing at shallow depth ($\leq$ B) and more for square footing at large depth ($>$ B).

43. The change that takes place during the process of consolidation of a saturated clay would include
A) an increase in pore water pressure and an increase in effective pressure.
B) a decrease in pore water pressure and an increase in effective pressure.
C) an increase in pore water pressure and a decrease in effective pressure.
D) a decrease in pore water pressure and a decrease in effective pressure.

44. The total energy line lies above the hydraulic gradient line by an amount equal to
A) sum of pressure, velocity and datum heads B) pressure head, p/γ
C) velocity head, $v^2/2g$ D) datum head, z

45. Pressure in terms of metres of oil (specific gravity = 0.8) equivalent to 4.0 m of water is
A) 5.0 B) 3.2 C) 4.5 D) 6.0

46. Identify the *incorrect* statement
A) In laminar flow, the eddy viscosity is zero
B) In turbulent flow the molecular viscosity is insignificant compared with eddy viscosity
C) In any given flow, the eddy viscosity is constant across the fluid stream
D) The eddy viscosity is dependent on the state of turbulent flow

47. The field irrigation requirement is computed as
A) Consumptive use + field application losses
B) Net irrigation requirement + field application losses
C) Net irrigation requirement + conveyance losses D) Consumptive use + conveyance losses

48. Which of the following process includes spreading of an external material on the soils to increase infiltration and reduce evaporation?
A) Mulching B) Paleo irrigation C) Ploughing D) Tillage

49. While designing a hydraulic structure, the piezometric head at bottom of the floor is computed as 10 m. The datum is 3 m below floor bottom. The assured standing water depth above the floor is 2 m. The specific gravity of floor material is 2.5. The floor thickness should be
A) 2 m B) 3.33 m C) 4.4 m D) 6 m

50. The rolling in highway construction on super-elevated curves, should proceed from
A) sides towards the centre B) lower edge towards the upper edge
C) centre towards the sides D) upper edge towards the lower edge

51. Los Angeles test for aggregates is performed to determine the
A) Abrasion resistance B) Water absorption C) Crushing strength D) Impact strength

52. The effect of grade on safe overtaking sight distance is
A) to increase it on descending grades and to decrease it on ascending grades
B) to decrease it on descending grades and to increase it on ascending grades
C) to increase it on both descending and ascending grades
D) to decrease it on both descending and ascending grades

53. If the stopping distance and average length of a vehicle are 18 m and 6 m respectively, then the theoretical maximum capacity (vehicles per hour) of a traffic lane at a speed of 10 m/sec is
A) 1500 B) 2000 C) 2500 D) 3000

54. The type of spike used for fixing chairs of bull-headed rails to wooden sleepers is
A) dog spike B) rail screw C) round spike D) elastic spike

55. Which of the following is incorrect statement?
A) Air valves are provided at summits along a pipeline to admit/release air
B) Sluice valves are provided to allow flow of water only in one direction, preventing back flow
C) Scour valves are provided at low points to empty a pipeline
D) Gate valves are provided to regulate flow of water through the pipelines

56. Nitrates more than 45 mg/l in water lead to disease called
A) Gastroenteritis B) Polio C) Mottled teeth D) Blue baby disease

57. Particles intended to be removed by continuous flow in water sedimentations tank, should have settling velocity
A) less than the surface loading of the tank B) more than the surface loading rate of the tank
C) equal to horizontal velocity of water in inlet pipe D) half of the surface overflow rate

58. The alum added as coagulant in water treatment functions better when the raw water is
A) Alkaline with high turbidity. B) Acidic with high turbidity.
C) Neutral with low turbidity. D) Acidic with low turbidity.

59. The plume behavior which occurs in the super adiabatic condition with light to moderate wind speed in the presence of large-scale thermal eddies are known as
A) coning plume B) neutral plume C) looping plume D) fanning plume

60. A sewer which receive the discharge of a number of house sewers is called
A) House sewer B) Lateral sewer C) Interrupting sewer D) Sub-main sewer

61. If a uniform bar is supported at one end in a vertical direction and loaded at the bottom end by a load equal to the weight of the bar, the strain energy as compared to that due to self-weight will be
A) same B) thrice C) twice D) half

62. Creep of a material is
A) not being ductile B) to become brittle
C) disappearance of deformation on removal of load
D) continued deformation with time under sustained loading

63. A load of 2826 N is applied at the end of a steel wire. The minimum diameter of the wire so that stress in the wire does not exceed 100 N/mm^2 is
A) 4 mm B) 5 mm C) 6 mm D) 7 mm

64. A simply supported beam has a span of 3 m and carries a uniformly distributed load of 10kN/m on its entire span. The shear force at a distance of 0.75 m from left-hand end is
A) 15 kN B) 30 kN C) 7.5 kN D) zero

65. Consider the following statements:
A simply supported beam is subjected to a couple somewhere in the span. It would produce
1. a rectangular SF diagram
2. parabolic BM diagrams
3. both +ve and –ve BM which are maximum at the point of application of the couple
Which of these are correct:
A) 1, 2 and 3 B) 1 and 2 C) 1 and 3 D) 2 and 3

66. If principal stresses in a two-dimensional element are: –10 MPa and +30 MPa respectively, then the maximum shear stress in the element is
A) 30 MPa B) 20 MPa C) 15 MPa D) 10 MPa

67. Two beams of equal cross-sectional area and made of same materials, are subjected to equal bending moment. If one beam has circular cross-section and the other has square section, then
A) both beams will be equally strong B) square section beam will be stronger
C) circular section beam will be stronger
D) the strength of the beam will depend on the nature of aiding

68. The ratio of moment of inertia of a triangular section about a centroidal axis parallel to its base and moment of inertia about its base is
A) 1/3 B) 2/3 C) 1 D) 3/2

69. The maximum bending stress induced in a steel wire of modulus of elasticity 200 kN/mm^2 and diameter 1 mm, when wound on a drum of diameter 1 m is approximately equal to
A) 50 MPa B) 100 MPa C) 200 MPa D) 400 MPa

70. The shear force diagram (SFD) for a cantilever beam subjected to a concentrated load at the free end is given by a/an
A) Triangle B) Parabola C) Rectangle D) Ellipse

71. Two identical simply supported beams of span L are subjected to equal total loads W. One beam is carrying the load W at its centre as concentrated load, and the other beam is carrying it in the form of uniformly distributed load over the entire span. The ratio of mid-span bending moment in first beam to that in second beam will be
A) 2.0 B) 0.5 C) 1.0 D) 1/3

72. The permissible stress in a long column can be increased by increasing the
A) Slenderness ratio B) Length of the column C) Radius of gyration D) Eccentricity

73. Given that, A is area of cross-section and r is the radius of gyration of a column's section. Moment of inertia of the column may be expressed as
A) $I = A^2r^2$ B) $I = A^2\sqrt{r}$ C) $I = A^2/r$ D) $I = Ar^2$

74. Maximum allowable shear stress in a section is 120 kg/cm^2. If bar is subjected to tensile force of 6000 kg and if the section is square-shaped, what will be dimension of sides of the squares to bear this force safely?
A) 5 cm B) 6 cm C) 10 cm D) 7.5 cm

75. A rolled steel beam is simply supported at its ends and carries a uniformly distributed load which causes a maximum deflection of 8 mm and slope at the ends of 0.002 radian. The length of the beam is
A) 5.6 m B) 11.2 m C) 12.8 m D) 16.2 cm

76. Which of the following is an economical and effective way to increase bond strength in beams?
A) increasing the depth of beam
B) using thinner bars but more in number
C) using thicker bars but less in number
D) decreasing the depth of beam

77. In a singly reinforced beam, if the permissible stress in concrete reaches later than the permissible stress in steel, the beam section is called
A) Under reinforced section B) Over reinforced section C) Balanced section D) Unsafe section

78. Consider the following statements:
I. Creep and shrinkage of concrete are independent of the water-cement ratio in the concrete mix.
II. The compressive strength of concrete decreases with increase in water-cement ratio of the concrete mix.
III. Water is added to the concrete mix for hydration of cement and workability.
The true statements are
A) I and II B) I, II and III C) II and III D) Only II

79. The length of the straight portion of a bar beyond the end of the hook should be at least
A) twice the diameter
B) thrice the diameter
C) four times the diameter
D) seven times the diameter

80. A reinforced concrete beam, supported on columns at ends, has a clear span 5 m and 0.5 m effective depth. It carries a total uniformly distributed load 100 kN/m. The design force for the beam is:
A) 250 kN B) 275 kN C) 200 kN D) 150 kN

81. A T-beam behaves as a rectangular beam of width equal to its flange if its neutral axis
A) lies below the flange
B) falls within the flange
C) passes through the geometrical central of the web
D) lies below the centroidal axis of the beam

82. In welding joints, effective throat thickness (t) and size of weld (s) are related as (k is a constant):
A) $t = ks^2$ B) $t = k\sqrt{s}$ C) $t = ks$ D) $t = \sqrt{ks}$

83. The recommended effective length of a steel column with clear length L, effectively held in position and restrained against rotation at both ends is
A) $0.80L$ B) $0.5L$ C) $1.0L$ D) $0.65L$

84. The purpose of stiffeners in a plate girder is to:
A) prevent buckling of web plate.
B) reduce the shear stress.
C) take care of bending stress.
D) increase the moment carrying capacity of the girder.

85. A machine has an initial cost of ₹ 10,000, scrap value of ₹ 1,000 and useful life of 45 years. The annual depreciation of the machine is
A) ₹ 200 B) ₹ 250 C) ₹ 700 D) ₹ 500

86. Which of the following area is *not* included in the plinth area of the building?
A) Internal sanitary shaft upto 2 m^2 area
B) Area of the lofts
C) Area of walls at floor level
D) Porches of non-cantilever type

87. Deduction for total length of the central line at the corner where two walls meet is
A) twice of the thickness of wall
B) no deduction
C) thickness of wall
D) half of thickness of wall

88. For a canal of 50 m long, depths at two extreme sections are 4 m and 6 m. The bottom width and top width of the canal are 2 m and 3 m throughout. Using midsection method, the quantity in m^3 of the earthwork will be
A) 600 B) 625 C) 700 D) 750

89. The most efficient method to conserve energy in the form of oil and gases is
A) combusting
B) Fluidized-bed incineration
C) incineration with heat recovery
D) pyrolysis

90. Gravel and sand belong to the which category of soils?
A) expansive
B) marine
C) alluvial
D) cohesive

91. If G is specific gravity of soil, e is void ratio and γ_w is unit weight of water, then the unit weight of a completely saturated soil is given by
A) $\frac{(G+e)\gamma_w}{1+e}$
B) $\frac{(1+e)\gamma_w}{G+e}$
C) $\frac{(G-e)\gamma_w}{1+e}$
D) $\frac{(1-e)\gamma_w}{G+e}$

92. The meniscus & dispersing agent corrections in the hydrometer analysis of soil, respectively are
A) Positive and positive
B) Negative and positive
C) Positive and negative
D) Negative and negative

93. The ultimate consolidation settlement of a structure resting on a soil
A) Increases with the increase in the initial voids ratio
B) Decreases with the decrease in the plastic limit
C) Decreases with the increase in the initial voids ratio
D) Increases with the decrease in the porosity of the soil

94. A rectangular block 2 m long, 1 m wide and 1 m deep floats in water, depth of immersion being 0.5 m. Taking unit weight of water as 10 kN/m^3, the weight of the block is
A) 20 kN
B) 15 kN
C) 10 kN
D) 5 kN

95. Froude number is the ratio of inertia force to
A) viscous force
B) compressive force
C) gravity force
D) surface tension

96. A circular plate of diameter d is submerged in water vertically so that its topmost point is just at the free surface. The location of centre of pressure below free surface will be
A) $\frac{3}{5}d$
B) $\frac{5}{8}d$
C) $\frac{2}{3}d$
D) $\frac{3}{4}d$

97. Size of a venturimeter is designated by
A) main pipe diameter
B) main pipe diameter as well as throat diameter
C) angles of convergence and divergence
D) throat diameter only

98. An imaginary line passing through the optical centre of the objective and the optical centre of the eye-piece in the telescope of a survey instrument is known as
A) line of collimation
B) optical axis of telescope
C) horizontal axis
D) axis of reference

99. Which of the following errors can be eliminated by reciprocal measurements in differential leveling?
I. Error due to earth's curvature.
II. Error due to atmospheric refraction.
A) I only
B) II only
C) Both I and II
D) Neither I nor II

100. At highway stretches where the required overtaking sight distance cannot be provided, it is necessary to implement
A) at least twice the stopping sight distance.
B) half the required overtaking sight distance.
C) one-third the required overtaking sight distance.
D) three times the stopping sight distance.

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Chandigarh Housing Board
Post: JR. ENGINEER (BUILDING)
Answer Key (A-Series) : 05.02.2023 (Morning)

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