PUNJAB STATE FEDERATION OF COOPERATIVE SUGAR MILL (LTD.)

POST: ASSTT. ENGINEER (MECHANICAL)

QUESTION BOOKLET AND ANSWER KEY

SERIES (A)

FOR RECRUITMENT TEST HELD ON 01-03-2026

(MORNING)

1. 'ਕਣਕ ਨਾਲ ਬੋਰੀ ਭਰੋ' ਵਾਕ ਵਿਚੋਂ 'ਕਣਕ' ਸ਼ਬਦ ਨਾਂਵ ਹੈ। ਇਸਦੀ ਕਿਸਮ ਦੱਸੋ:
   A) ਆਮ ਨਾਂਵ   B) ਖਾਸ ਨਾਂਵ   C) ਵਸਤਵਾਚਕ ਨਾਂਵ   D) ਭਾਵਵਾਚਕ ਨਾਂਵ

2. 'ਔਹ ਕੌਣ ਆ ਰਿਹਾ ਹੈ?' ਵਾਕ ਵਿੱਚ 'ਔਹ' ਸ਼ਬਦ ਪੜਨਾਂਵ ਹੈ। ਇਸਦੀ ਕਿਸਮ ਦੱਸੋ:
   A) ਪੁਰਖਵਾਚਕ   B) ਨਿਜਵਾਚਕ   C) ਨਿਸਚੇਵਾਚਕ   D) ਅਨਿਸਚਿਤ ਵਾਚਕ

3. 'ਮੇਲੇ ਵਿੱਚ ਬਹੁਤ ਲੋਕ ਆਏ' ਵਾਕ ਵਿੱਚ 'ਬਹੁਤ' ਸ਼ਬਦ ਵਿਸ਼ੇਸ਼ਣ ਹੈ। ਇਸਦੀ ਕਿਸਮ ਦੱਸੋ:
   A) ਨਿਸਚੇਵਾਚਕ   B) ਪਰਿਮਾਣਵਾਚਕ   C) ਗੁਣਵਾਚਕ   D) ਸੰਖਿਅਕ ਵਾਚਕ

4. 'ਲੜਕੀ ਬੋਲ ਨਾ ਸਕੀ' ਇਸ ਵਾਕ ਵਿਚ ਕਿਰਿਆ ਦੀ ਕਿਸਮ ਦੱਸੋ:
   A) ਸਕਰਮਕ   B) ਅਕਰਮਕ   C) ਸੰਸਰਗੀ   D) ਪੜਨਾਵੀਂ

5. ਛਿੱਟੇ ਮੂੰਹ ! ਤੂੰ ਤਾਂ ਸਾਰਾ ਕੰਮ ਖਰਾਬ ਕਰ ਦਿੱਤਾ ਇਸ ਵਾਕ ਵਿੱਚ ਵਿਸਮਿਕ ਦੀ ਕਿਸਮ ਪਛਾਣੋ:
   A) ਸਤਿਕਾਰਵਾਚਕ   B) ਸੰਬੋਧਨੀ   C) ਫਿਟਕਾਰਵਾਚਕ   D) ਅਸੀਸਵਾਚਕ

6. ਮੈਂ ਬਜ਼ਾਰੋਂ ਕਾਪੀਆਂ ਵੀ ਖਰੀਦੀਆਂ ਤੇ ਕਿਤਾਬਾਂ ਵੀ ਖਰੀਦੀਆਂ । ਇਸ ਵਾਕ ਦੀ ਕਿਸਮ ਪਛਾਣੋ:
   A) ਸਧਾਰਨ   B) ਸੰਯੁਕਤ   C) ਮਿਸ਼ਰਤ   D) ਨਾਂਹਵਾਚਕ

7. ਸਹੀ ਵਾਕ ਚੁਣੋ:
   A) ਮੱਝਾਂ ਚੁਗਦੀ ਹੈ।   B) ਮੱਝਾਂ ਚੁਗਦੀ ਹਨ।   C) ਮੱਝਾਂ ਚੁਗਦੀਆਂ ਹਨ।   D) ਮੱਝਾਂ ਚੁਗਦੇ ਹਨ।

8. ਜਿਹੜੀ ਗੱਲ ਆਪ ਨਾਲ ਬੀਤੀ ਹੋਵੇ। ਇਸ ਵਾਕ ਲਈ ਸਹੀ ਸ਼ਬਦ ਚੁਣੋ:
   A) ਜੱਗਬੀਤੀ   B) ਪਰਬੀਤੀ   C) ਲੋਕਬੀਤੀ   D) ਹੱਡਬੀਤੀ

9. ਉਹ ਕੇਵਲ ਗਰੀਬ ਹੀ ਨਹੀਂ ਸਗੋਂ ਦੁਖੀ ਵੀ ਹੈ। ਇਸ ਵਾਕ ਵਿੱਚੋਂ ਯੋਜਕ ਪਛਾਣੋ:
   A) ਕੇਵਲ   B) ਨਹੀਂ   C) ਸਗੋਂ   D) ਹੈ

10. 'ਉਜਾੜ' ਦਾ ਵਿਰੋਧੀ ਸ਼ਬਦ ਚੁਣੋ:
    A) ਰਹਿਤਲ   B) ਵਸੇਬਾ   C) ਜੰਗਲ   D) ਬੀਆਬਾਨ

11. ਸ਼ੁੱਧ ਸ਼ਬਦ ਜੋੜ ਚੁਣੋ:
    A) ਛੇਵਾਂ   B) ਛੇਮਾਂ   C) ਸ਼ੇਮਾਂ   D) ਛਿਮਾ

12. 'ਨਿਰਮਲ' ਦਾ ਸਮਾਨਾਰਥਕ ਸ਼ਬਦ ਚੁਣੋ:
    A) ਮੈਲ   B) ਮੈਲਾ   C) ਸਾਫ਼   D) ਗੰਧਲਾ

13. 'ਆਹਰੇ ਲੱਗਣਾ' ਮੁਹਾਵਰੇ ਦਾ ਸਹੀ ਅਰਥ ਚੁਣੋ:
    A) ਛੇੜਨਾ   B) ਘੁੰਮਣਾ   C) ਕੰਮ ਕਰਨਾ   D) ਵਿਹਲਾ ਫਿਰਨਾ

14. ਸ਼ੁੱਧ ਮੁਹਾਵਰਾ ਚੁਣੋ:
    A) ਆਹੂ ਲਾਹੁਣੇ   B) ਆਹੂ ਚੱਖਣੇ   C) ਆਹੂ ਦੇਖਣੇ   D) ਆਹੂ ਮਾਰਨੇ

15. ਖਾਣੇ ਛੋਲੇ _____ ਸਹੀ ਸ਼ਬਦ ਚੁਣ ਕੇ ਅਖਾਣ ਪੂਰਾ ਕਰੋ:
    A) ਡਕਾਰ ਮੂੰਗਫਲੀ ਦੇ   B) ਡਕਾਰ ਰੋਟੀ ਦੇ   C) ਡਕਾਰ ਪਾਣੀ ਦੇ   D) ਡਕਾਰ ਬਦਾਮਾਂ ਦੇ

Directions (Q 16 – 17) : Mark the word opposite in meaning to the given word.

16. Parsimonious
    A) generous   B) angry   C) happy   D) crude

17. Ameliorate
    A) hasten   B) expedite   C) worsen   D) protect

Directions (Q 18 – 19) : Mark the correct synonym to the given word out of four options:

18. Tepid
    A) keen   B) enthusiastic   C) wasteful   D) lukewarm

19. Sporadic
    A) irregular   B) serious   C) regular   D) continual

Directions (Q 20 – 21) : Mark the option which best replaces the underlined part of the sentences.

20. <u>When the weather was cold</u>, I wear monkey cap.
    A) When the weather has been cold, I wore monkey cap.
    B) When weather is cold, I wear monkey cap.
    C) While the weather is cold, I wear monkey cap.
    D) When weather were cold, I wear monkey cap.

21. <u>Ramesh laid in the shade of a tree</u> before he could walk further.
    A) Ramesh has laid in the shade of a tree before he could walk further.
    B) Ramesh lay in the shade of a tree before he could walk further.
    C) Ramesh lied in the shade of a tree before he could walk further.
    D) Ramesh layed in the shade of a tree before he could walk further.

Directions (Q 22 – 23) : Each question   has two blanks, each blank indicating that something has been omitted. Mark the word for each blank which best fits the meaning of the sentence as a whole.
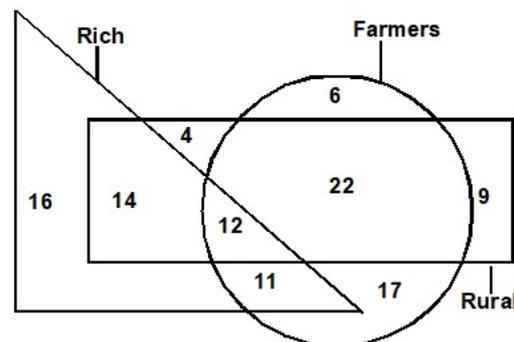
22. Despite being _____ in minerals, this state remains one _____ the poorest in the country.
    A) rich, of   B) dearth, in   C) abundant, as   D) despondent, for

23. The country 's education system still _____ very old-fashioned and is in _____ need   of a revamp.
    A) languishes, fastidious   B) stays, firm   C) is, quickly   D) remains, urgent

Directions (Q 24 – 25) : Mark the correct form of the sentence in the indirect speech.

24. He said to me, "what are you doing."
    A) He told me what are you doing.   B) He asked me what I was doing.
    C) He asked me what you were doing.   D) He told me about what he was doing.

25. He said, "Alas! I am undone."
    A) He informed that I was ruined.
    B) He cried that I was undone.
    C) He exclaimed sadly that he was undone.
    D)He exclaimed that you have been undone.

26. When is Mole Day celebrated?
    A) October 13   B) November 13   C) October 23   D) November 23

27. How was University of Roorkee known at the time of India's independence?
    A) Elphinstone College of Civil Engineering
    B) Fergusson College of Civil Engineering
    C) Ripon College of Civil Engineering
    D) Thomason College of Civil Engineering

28. How India is ranked in the list of countries with most number of World Heritage sites?
    A) 6th B) 7th C) 8th D) 9th

29. Which one of the following statement(s) is(are) true?
    (i) Pechora is Surface to Air missile,   (ii) OSA-AK is Air to Surface missile
    A) Only (i) is true   B) Only (ii) is true
    C) Both (i) and (ii) are true   D) Neither (i) nor (ii) are true

30. In which field has Padam Awardee Onkar Singh Pahwa made his mark?
    A) Art   B) Literature and Education   C) Medicine   D) Trade and Industry

31. Who had inaugurated the old Parliament building of India?
    A) Lord Curzon   B) Lord Irwin   C) Lord Mountbatten   D) Lord Willingdon

32. Which of the following statement is true?
    (i) Part IX deals with Scheduled and Tribal Areas
    (ii) Part XI deals with Relation between Union & States
    A) Only (i) B) Only (ii) C) Both (i) and (ii) D) Neither (i) nor (ii)

33. In cement production, clay or shale serves as a key source of:
    A) silica, alumina, and iron oxide
    B) calcium oxide, silica and alumina
    C) alumina, calcium oxide and iron oxide
    D) silica, alumina, and calcium oxide

34. Where in China, India has Consulates?
    A) Beijing and Tianjin   B) Tianjin and Shanghai
    C) Shanghai and Guangzhou   D) Guangzhou and Tianjin

35. Which of the following is the longest National Highway?
    A) NH 11   B) NH 22   C) NH 33   D) NH 44

36. In the question, two pairs of words are given. The words in each of these pairs are associated with each other following some rule. On the basis of the same rule, you have to select one word from the alternatives which could replace sign (?)
    Dog : Bitch ; Sheep : Ewe ; Pig:?
    A) Porpoise   B) Porcupine   C) Swine   D) Hound

37. In a certain code 'SENSITIVE' is written as 'QHLVGWGYC'. How is 'MICROSOFT' written in that code?
    A) KGAPMQMDT   B) QKETQUQHV
    C) KLAUMVMIR   D) LKBTNUNHS

38. In a certain code, 'pick and choose' is written as 'ko ho po' and 'pick up and come' is written as 'to no ko po'. How is 'pick' written in that code ?
    A) Ko   B) po   C) Either ko or po   D) cannot be determined

39. In the following question, a number series is given. After the series, a number is given followed by (A), (B), (C), (D) and (E). You have to complete the series starting with the number on the pattern of the sequence of the given series. Then, answer the given questions:
    4, 14, 42, 147, 588, 2058, 10290,
    8, (A), (B), (C), (D), (E)
    Which number will come in place of (C)?
    A) 28   B) 1176   C) 294   D) 216

40. Jatin's mother is Ena. Pratap is Bani's father. Sukrit is the son of Garv. Suyog's only sister is married to Garv. Suyog's is Anshum's son. Ena's husband is the only son of Pratap . Anshum is the wife of Pratap. Bani is the mother of Sukrit . How is Pratap related to Jatin?
    A) Paternal uncle   B) Maternal grandfather   C) Father   D) Paternal grandfather

41. In a row of 28 students, Jamuna was 12th from the extreme left end and Ganga was 19th from the extreme right end. If Saraswati was seated exactly between them, then what was Saraswati's position from the right end ? Assume that the students were seated facing North.
    A) 17th B) 16th C) 20th D) 18th

42. Six people are sitting in two parallel rows with 3 people each in such a way that there is equal distance between adjacent persons. S, T and U are seated in the same row facing South. X, Y and Z are seated in the same row facing North. U sits at the extreme right end of their row and is exactly opposite of X. T is the immediate neighbour of U and sits exactly opposite of Z. Who sits at the extreme right end of the row facing North ?
A) Z   B) X   C) U   D) Y

43. By interchanging the given two signs and numbers which of the following equation will be correct?
+ and –, 7 and 6
A) $4 \times 7 + 6 - 3 \div 1 = 20$
B) $8 \times 7 + 5 \div 1 - 6 = 17$
C) $7 - 6 \times 3 + 4 \div 1 = 8$
D) $7 \times 2 - 6 + 4 \div 2 = 13$

44. Nirav's house is 40 mt. South of Akash's house. Daksh's house is to the East of Akash's house in a straight line at a distance of X mt. Prakash's house is to the West of Akash's house in a straight line at a distance of Y mt. if the shortest distance between Prakash's house and Nirav's house is 50 mt. and the shortest distance between Daksh's house and Nirav's house is also 50 mt., then what is the distance between Prakash's house and Daksh's house?

A) 60 mt.   B) 30 mt.   C) 80 mt.   D) 40 mt.

45. In the given diagram, the circle stands for 'farmers', the rectangle stands for 'rural' and the triangle stands for 'rich'. The numbers given in the different segments represent the number of persons of that category. How many rural people are either farmers or rich but not both?

A) 28   B) 36   C) 25   D) 47

46. Documents converted to _____ can be published to the Web.
A) SMTP   B) HTML   C) HTTP   D) DHCP

47. With regard to MS-WORD, to find a word to replace "happiness," use the:
A) Spelling checker.   B) Dictionary.   C) Autocorrect feature.   D) Thesaurus.

48. A realistic term that captures the idea that the information that comes out of a computer system is only as good, accurate, and valid as the data that goes into it is known as:
A) WYSIWYG.   B) GIGI.   C) GIGO.   D) Virtual reality.

49. The term _____ generally means using some combination of text, graphics, animation, video, music, voice, and sound effects to communicate.
A) MIDI   B) Hyperlinking   C) WYSIWYG   D) Multimedia

50. In MS-EXCEL, the formulae used to calculate the sum of values from the cell D1 to D20 is:
A) =sum(D1-D20)   B) =sum(D1,D20)   C) =sum(D1:D20)   D) =sum(D1+D20)

51. _____ are used for manufacturing CPU chips used in a computer and the CPU chip is made out of _____.
    A) Buses; Carbon
    B) Control Units; Copper
    C) Semiconductors; Silica
    D) Optical Fiber Cables; Silver

52. For each instruction of a program in the memory, the CPU goes through a
    A) decode - fetch - execute sequence.
    B) execute - store - decode sequence.
    C) fetch - decode - execute sequence.
    D) fetch - execute - decode sequence.

53. Which of the following is responsible for the management and coordination of activities and the sharing of the resources of the computer?
    A) Application Software   B) Motherboard   C) Operating System   D) RAM

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. In the context of e-mail, what is 'spam'?
    A) The act of overloading an e-mail server by using denial-of-service attacks
    B) E-mail messages that are infected with viruses
    C) A large quantity of messages that do not reach the recipient
    D) Unsolicited advertising sent to a large number of recipients

56. In a Pelton wheel, the number of buckets generally preferred is:
    A) 6-12   B) 12-24   C) 24-40   D) 40-60

57. Euler's formula for buckling load is valid for:
    A) Short columns only
    B) Long columns only
    C) Both short and long columns
    D) Intermediate columns

58. In welding, the heat affected zone (HAZ) lies between:
    A) Base metal and filler metal
    B) Electrode and arc zone
    C) Base metal and fusion zone
    D) None of the these

59. The draft in a casting mold refers to:
    A) Cooling rate
    B) Angle for easy pattern removal
    C) Shrinkage allowance
    D) Riser height

60. In a Rankine cycle, the pump handles:
    A) Wet steam   B) Superheated steam   C) Liquid only   D) Vapor-liquid mixture

61. A water jet of velocity 30 m/s strikes a flat plate moving in the same direction at 10 m/s. Assuming 100% efficiency, what is the power developed per kg/s of water flow?
    A) 100 W   B) 200 W   C) 300 W   D) 400 W

62. A circular shaft is subjected to a bending moment M and a torque T. The maximum principal stress occurs at an angle θ from the axis, where:
    A) $\tan(2\theta) = 0$ B) $\tan(2\theta) = T/M$ C) $\tan(2\theta) = M/T$ D) $\tan(2\theta) = 2T/M$

63. In orthogonal cutting, if the rake angle is increased, what happens to the shear angle (φ)?
    A) Increases
    B) Decreases
    C) Remains constant
    D) First increases, then decreases

64. In a slider-crank mechanism, if the crank rotates uniformly, the acceleration of the slider is maximum when:
    A) Crank is at top dead center
    B) Crank is at 90°
    C) Crank is at bottom dead center
    D) Connecting rod is horizontal

65. The mean effective pressure (MEP) in an ideal Otto cycle depends on:
    A) Only on compression ratio
    B) Only on heat added
    C) Compression ratio and specific heat ratio
    D) Stroke length

66. In CCT (Continuous Cooling Transformation) diagrams, the transformation of austenite to pearlite occurs at:
A) Higher cooling rates than for martensite
B) Lower cooling rates than for martensite
C) Instantaneously
D) In a time-temperature-independent manner

67. A riser in casting serves the primary purpose of:
A) Increasing the cooling rate
B) Preventing gas porosity
C) Compensating for shrinkage during solidification
D) Improving mold surface finish

68. The unit of dynamic viscosity is:
A) N.s/m²   B) kg/m²   C) m/s²   D) N/m

69. Knocking in SI engines can be reduced by:
A) Using fuel with lower octane number   B) Retarding spark timing
C) Increasing compression ratio   D) Pre-heating intake air

70. The casting defect 'cold shut' occurs due to:
A) High pouring temperature   B) Excessive turbulence
C) Low fluidity   D) Improper gating

71. The efficiency of Carnot engine increases if:
A) Source temperature increases
B) Sink temperature increases
C) Source temperature decreases
D) Sink temperature remains constant

72. In forging, the metal flow is:
A) Random   B) Controlled by die shape
C) Outward only   D) Uniform in all directions

73. In orthogonal cutting, the chip thickness ratio is:
A) t2/t1   B) t1/t2   C) h1/h2   D) Vc/Vf

74. In a boiler, economizer is used to:
A) Increase steam pressure   B) Superheat steam
C) Preheat feed water   D) Reduce exhaust temperature

75. In PERT, the expected time (te) is:
A) (a + b + m)/3   B) (a + 4m + b)/6   C) (m + 4a + b)/6   D) (a + b + 2m)/4

76. A 4-bar chain with all links of unequal lengths can form a crank-rocker if:
A) Shortest link is fixed   B) Longest link is fixed
C) Link adjacent to shortest is fixed   D) Any link is fixe

77. In co-ordinate measuring machines (CMM), the probe system is used to:
A) Control thermal expansion   B) Measure surface roughness
C) Digitize geometric dimensions   D) Reduce vibrations in machining

78. The velocity profile for laminar flow in a pipe is:
A) Linear   B) Parabolic   C) Exponential   D) Hyperbolic

79. Which of the following theories of failure is best suited for ductile materials?
A) Maximum shear stress theory   B) Maximum principle stress theory
C) Strain energy theory   D) Maximum distortion energy theory

80. In a simple harmonic motion, the acceleration is maximum when:
A) Displacement is zero   B) Velocity is zero
C) Displacement is maximum   D) Kinetic energy is maximum

81. The break-even point occurs when:
A) Profit is maximum
B) Fixed cost = Variable cost
C) Total cost = Total revenue
D) Contribution = Variable cost

82. Unit of entropy is:
A) J
B) J/kg
C) J/kg·K
D) J/K

83. In a CNC machine, G01 command denotes:
A) Rapid movement
B) Linear interpolation
C) Circular interpolation
D) Return to zero

84. Which of the following materials has the highest thermal conductivity?
A) Stainless steel
B) Copper
C) Glass
D) Brass

85. The displacement thickness in boundary layer theory represents:
A) Velocity drop
B) Pressure loss
C) Mass flow displacement
D) Thermal effect

86. Tool life increases with:
A) Increase in feed rate
B) Increase in cutting speed
C) Use of cutting fluid
D) Increase in depth of cut

87. During solidification of pure metals:
A) Freezing point varies
B) Solidification occurs over a range
C) Solidification is instantaneous
D) Solidification occurs at constant temperature

88. A system is said to be isochoric when:
A) Pressure is constant
B) Volume is constant
C) Temperature is constant
D) Internal energy is constant

89. The Poisson's ratio for perfectly incompressible material is:
A) 0.25
B) 0.33
C) 0.5
D) 1.0

90. In rolling, the neutral point is the location where:
A) Entry speed equals roll speed
B) Exit speed equals roll speed
C) Friction reverses direction
D) Maximum deformation occurs

91. S-N curve is used to represent:
A) Hardness
B) Ductility
C) Fatigue life
D) Impact strength

92. The number of degrees of freedom for a planar mechanism with 6 links and 7 joints is:
A) 1
B) 2
C) 3
D) 4

93. The Prandtl number is the ratio of:
A) Kinematic viscosity to thermal diffusivity
B) Thermal conductivity to viscosity
C) Specific heat to thermal conductivity
D) None of the these

94. Which one of the following is a non-conventional machining process?
A) Turning
B) Milling
C) EDM
D) Drilling

95. Flash is provided in forging to:
A) Ensure dimensional accuracy
B) Act as a heat sink
C) Avoid cold shut
D) Remove excess material

96. Which gas has the highest calorific value?
A) Methane
B) Propane
C) Hydrogen
D) Butane

97. The major function of riser in casting is:
A) Act as heat source
B) Act as feeder head
C) Remove gases
D) Avoid turbulence

98. In gas turbines, reheating increases:
   A) Efficiency
   B) Specific work output
   C) Thermal losses
   D) Air-fuel ratio

99. Cutting fluids are not used in:
   A) Thread cutting   B) Turning   C) Grinding   D) Sand casting

100. In LVDT, the output is:
   A) Digital   B) Linear AC voltage   C) Displacement in mm   D) Frequency

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Answer key (07) ASSTT. ENGG. (MECHANICAL)

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