

SAMPLE PAPER - SCHOLARSHIP TEST

Dual / Integrated Program for Two Year (DIPTY / IPTY)

Time Allowed: 1½ Hours

Maximum Marks: 400

Student's Name : _____

Roll No. :

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Centre Name : _____

Contact No. : _____

INSTRUCTIONS FOR MARKING ON ANSWER SHEET

1. Use only ball point pen to darken the appropriate circle.
2. Mark should be dark and completely fill the circle.
3. Darken **ONLY ONE CIRCLE** for each question .
4. Each question carries 4 marks and there is no negative marking for wrong answer.
5. Candidate should check the test paper carefully, in case of any discrepancy, the candidate should report immediately to the invigilator for replacement of the both i.e. the test booklet and answer-sheet.
6. Rough work must not be done on the answer sheet.

SIGNATURE OF THE CANDIDATE

SIGNATURE OF THE INVIGILATOR



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PHYSICS

Choose the correct answer:

1. Two plane mirrors are inclined to each other such that a ray of light incident on the first mirror and parallel to the second is reflected from the second mirror parallel to the first mirror. The angle between the two mirrors is
 - (1) 30°
 - (2) 45°
 - (3) 60°
 - (4) 75°
2. An object is at a distance 0.5 m in front of a plane mirror. Distance between the object and image is
 - (1) 0.5 m
 - (2) 1 m
 - (3) 0.25 m
 - (4) 1.5 m
3. An object of length 6 cm is placed on the principal axis of a concave mirror of focal length f at a distance of $4f$. The length of the image will be
 - (1) 2 cm
 - (2) 12 cm
 - (3) 4 cm
 - (4) 1.2 cm
4. When white light enters a prism, it gets split into its constituent colours. This is due to
 - (1) High density of prism material
 - (2) μ is different for different λ
 - (3) Diffraction of light
 - (4) Velocity changes for different frequencies
5. In the formation of a rainbow light from the sun on water droplets undergoes
 - (1) Dispersion only
 - (2) Only total internal reflection
 - (3) Dispersion and total internal reflection
 - (4) None of these
6. A convex lens of focal length 2m has an object placed at a distance of 0.5 m from it. The image formed is
 - (1) Real, at a distance of $2/3$ m from the lens
 - (2) Virtual, at a distance of $2/3$ m from the lens
 - (3) Real, at a distance of 0.4 m from the lens
 - (4) Virtual, at a distance of 0.4 m from the lens
7. A convex lens forms a real image of a point object placed on its principal axis. If the upper half of the lens is painted black, the image will
 - (1) Be shifted downwards
 - (2) Be shifted upwards
 - (3) Not be shifted
 - (4) Shift on the principal axis
8. A real object is placed in front of a concave lens of focal length f , at a distance equal to f from the lens, then the image is formed at:
 - (1) Infinity
 - (2) A distance $2/f$
 - (3) A distance $f/2$
 - (4) A distance $2f$
9. A plane mirror is approaching you at 10 cm per second. You can see your image in it. At what speed will your image approach you:
 - (1) 10 cm/sec
 - (2) 5 cm/sec
 - (3) 20 cm/sec
 - (4) 15 cm/sec
10. A virtual image is formed by a plane mirror when the pencil of light is incident on the mirror, then the incident pencil on the mirror is:
 - (1) Diverging
 - (2) Parallel
 - (3) Converging
 - (4) All of these
11. The laws of reflection hold good for
 - (1) convex mirror only
 - (2) concave mirror only
 - (3) plane mirror only
 - (4) all mirrors irrespective of their shape
12. The focal length of a small concave mirror is 2.5 cm. In order to use this concave mirror as a dentist's mirror, the distance of tooth from the mirror should be:
 - (1) 4.5cm
 - (2) 1.5cm
 - (3) 3.5cm
 - (4) 2.5cm
13. The angle of incidence for a ray of light passing through the centre of curvature of a concave mirror is:
 - (1) 45 degree
 - (2) 90 degree
 - (3) 180 degree
 - (4) 0 degree

Space For Rough Work

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| <p>14. The real image formed by a concave mirror is larger than the object when the object is:</p> <ol style="list-style-type: none"> (1) between focus and centre of curvature (2) at a distance less than the focal length (3) at a distance greater than radius of curvature (4) at a distance equal to radius of curvature <p>15. The angle between an incident ray and the plane mirror is 30°. The total angle between the incident ray and reflected ray will be:</p> <ol style="list-style-type: none"> (1) 120° (2) 90° (3) 60° (4) 30° <p>16. The value of least distance of distinct vision for a normal human eye is ____.</p> <ol style="list-style-type: none"> (1) 25 cm (2) 70 cm (3) 35 cm (4) 45 cm <p>17. The part of the eyes refracts light entering the eye from external objects?</p> <ol style="list-style-type: none"> (1) Lens (2) Pupil (3) Cornea (4) Iris <p>18. If a person can see a doll at the far distance, but he cannot have the newspaper in his hands. What lens should he wear to make correct his eyesight?</p> <ol style="list-style-type: none"> (1) Concave lens (2) Prism (3) Convex lens (4) Bi-focal lens <p>19. The image formed by the retina of the human eye is:</p> <ol style="list-style-type: none"> (1) Real and erect (2) Virtual and inverted (3) Virtual and erect (4) Real and inverted | <p>20. The amount of light entering the human eye is controlled by:</p> <ol style="list-style-type: none"> (1) Pupil (2) Cornea (3) Iris (4) Ciliary muscles <p>21. Light travelling from a denser medium to a rarer medium along a normal to the boundary:</p> <ol style="list-style-type: none"> (1) goes along the bounding (2) is refracted away from the normal (3) is refracted towards the normal (4) is not refracted <p>22. If the angle of incidence is increased for a pair of air - glass interface, then the angle of refraction will</p> <ol style="list-style-type: none"> (1) increase (2) remains the same (3) decrease (4) first increases and then decreases <p>23. If the focal length of a spherical mirror is 12.5 less cm, its radius of curvature will be:</p> <ol style="list-style-type: none"> (1) 35 cm (2) 20 cm (3) 15 cm (4) 25 cm <p>24. The defect of vision in which a person is able to see nearby objects clearly, but not far objects is called:</p> <ol style="list-style-type: none"> (1) Long-sightedness or Hypermetropia (2) Short-sightedness or myopia (3) Astigmatism (4) Cataract <p>25. Which is the correct condition for the total internal reflection to occur?</p> <ol style="list-style-type: none"> (1) All of these (2) light should pass from rarer to denser medium (3) light should pass from denser to rarer medium (4) Critical angle should be greater than angle of incidence |
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CHEMISTRY

26. Which of the following is a thermal decomposition reaction?
- $2\text{H}_2\text{O} \rightarrow 2\text{H}_2 + \text{O}_2$
 - $2\text{AgCl} \rightarrow 2\text{Ag} + \text{Cl}_2$
 - $\text{ZnCO}_3 \rightarrow \text{ZnO} + \text{CO}_2$
 - $2\text{NaCl} \rightarrow 2\text{Na} + \text{Cl}_2$
27. $3\text{Cl}_2 + 6\text{NaOH} \rightarrow 5\text{NaCl} + \text{NaClO}_3 + 3\text{H}_2\text{O}$
In the above reaction Cl_2 acts as
- Oxidising agent
 - Reducing agent
 - Both (1) and (2)
 - Catalyst
28. $\text{Fe(s)} + \text{CuSO}_4\text{(aq)} \rightarrow \text{FeSO}_4\text{(aq)} + \text{Cu(s)}$
- Displacement reaction
 - Redox reaction
 - Combination reaction
 - Double displacement reaction
- The reaction is
- I and II
 - I and III
 - II and IV
 - I, II and IV
29. $2\text{KCl(s)} + 3\text{O}_2\text{(g)} \rightarrow 2\text{KClO}_3\text{(s)}$
The correct statement is
- Reaction is endothermic
 - KCl is reducing agent
 - Reverse reaction is combination reaction
 - Reaction is not redox
30. $\text{C}_6\text{H}_5\text{COOH} + x\text{O}_2 \rightarrow y\text{CO}_2 + z\text{H}_2\text{O}$
 x and y are
- 17 and 6
 - $\frac{17}{2}$ and 7
 - 15 and 6
 - $\frac{15}{2}$ and 7
31. Maximum H^+ concentration will be in
- 0.03 M H_2SO_4
 - 0.04 M HCl
 - 0.5 M NaOH
 - 0.05 M H_3PO_4
32. Chemical formula of plaster of paris will be
- CaSO_4
 - $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$
 - $(\text{CaSO}_4)_2 \cdot \text{H}_2\text{O}$
 - $\text{CaSO}_4 \cdot \text{H}_2\text{O}$
33. Which of the following is monobasic acid?
- H_3BO_3
 - HCl
 - H_3PO_2
 - All
34. Which of the following is incorrect match?
- NaOH Caustic soda
 - $\text{CaCl}_2 + \text{Ca(OC}_2\text{H}_3\text{O}_2)_2$ Bleaching powder
 - Na_2CO_3 Washing soda
 - $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$ Gypsum
35. Many salts absorb water from atmosphere. This property is called
- Deliquescence
 - Efflorescence
 - Hydration
 - Chemiluminescence
36. Second most abundant metal in the earth's crust is
- O
 - Si
 - Al
 - Fe
37. Process used for purification of aluminium is called
- Bayer's process
 - Hoope's process
 - Hall Haroult's process
 - Aluminothermy
38. Which is isoelectronic to CO_2 ?
- N_2O
 - NO_2^+
 - Both (1) and (2)
 - None of these
39. Curd can be stored in
- Brass vessel
 - Copper vessel
 - Steel
 - Bronze
40. Which of the following does not contain covalent bond?
- AlCl_3
 - KCN
 - Al_2O_3
 - All of these
41. The metals that float when treated with water (hot or cold) are:
- Mn and Na
 - Na and Ca
 - Mg and Ca
 - Mg and Na

42. From the following, which one is an example of a chemical reaction?
- Grapes get fermented
 - Breakdown of food
 - Formation of curd
 - All the above
43. Which will not react with Na_2CO_3 ?
- HCl
 - H_2SO_4
 - CH_3COOH
 - $\text{CH}_3\text{CH}_2\text{OH}$
44. Which of the following chemical reactions is used in black and white photography?
- $\text{CaCO}_3 \xrightarrow{\text{heat}} \text{CaO} + \text{CO}_2$
 - $2\text{FeSO}_4 \xrightarrow{\text{heat}} \text{Fe}_2\text{O}_3 + \text{SO}_2 + \text{SO}_3$
 - $2\text{AgBr} \xrightarrow{\text{sunlight}} 2\text{Ag} + \text{Br}_2$
 - $2\text{H}_2\text{O} \xrightarrow{\text{electricity}} 2\text{H}_2 + \text{O}_2$
45. Which of the following observations will be made when a copper coin is placed in a test tube containing ferrous sulphate solution?
- The ferrous sulphate solution will turn blue and a grey substance will be deposited on the copper coin
 - The ferrous sulphate solution will turn colourless and a grey substance will be deposited on the copper coin
 - The ferrous sulphate solution will turn colourless and a reddish-brown substance will be deposited on the copper coin
 - No change will occur
46. Which one of the following will have the highest hydroxyl concentration?
- pH = 1.1
 - pH = 2.2
 - pH = 3.3
 - pH = 9
47. How is the hydronium ion concentration and pH related to each other?
- They are logarithmically inversely proportional
 - They are directly proportional
 - They are equal
 - They have no relation
48. Zinc granules on treating with an acid X, form the zinc sulphate (ZnSO_4) salt along with the evolution of a gas
- X-Sulphuric acid and Y-Oxygen gas
 - X-Hydrochloric acid and Y-Oxygen gas
 - X-Sulphuric acid and Y-Hydrogen gas
 - X-Hydrochloric acid and Y-Hydrogen gas
49. On electrolysis of brine solution, the product formed are
- Sodium and chloride
 - Hydrogen, chlorine and oxygen
 - Hydrogen, oxygen and NaOH
 - Hydrogen, chlorine and Sodium hydroxide
50. A salt whose aqueous solution will have a pH more than 7 will be
- K_2CO_3
 - K_2SO_4
 - NaCl
 - NH_4Cl

BIOLOGY

51. Which statement is correct?
- In man, all cells carry 46 chromosomes
 - Man contain 46 set of chromosomes
 - In flowering plants, pollen grain germinate in ovary
 - All of these
52. *Rhizopus* is
- Unicellular
 - Multicellular
 - Water mould
 - Colonial
53. A plant root bending towards earth is said to show
- Hydrotropism
 - Phototropism
 - Geotropism
 - Chemotropism
54. Technique of growing new plants by removing tissue or separating cells from the growing tip of a plant is known as

Space For Rough Work

- (1) Grafting (2) Tissue culture
(3) Layering (4) Cutting
55. If the transfer of pollen occurs in the same flower from stamen to stigma, it is known as
(1) Cross pollination (2) Self pollination
(3) Self fertilisation (4) Cross fertilisation
56. Which plant movement is due to growth?
(1) Sensitive plant movement
(2) Geotropism
(3) Stomatal movement
(4) Shrinkage of plant cell
57. Which part of plant contain germ cells?
(1) Stamen (2) Ovary
(3) Fruit (4) Both (1) and (2)
58. Which structure represent future plant in seed?
(1) Plumule (2) Tissue
(3) Epicotyl (4) Embryo
59. Match the following:
A. Unisexual flower (i) Watermelon
B. Bisexual flower (ii) *Hibiscus*
C. Bengal gram (iii) *Channa*
D. Buds (iv) *Bryophyllum*
(1) A-iv, B-iii, C-ii, D-i
(2) A-iii, B-i, C-ii, D-iv
(3) A-i, B-ii, C-iii, D-iv
(4) A-iv, B-i, C-iii, D-ii
60. Son inherit X chromosome from
(1) Father (2) Mother
(3) Both (1) and (2) (4) None of these
61. Common feature between Syphilis and AIDS is/are
(1) Both caused by virus
(2) Both are case of Sexually Transmitted Disease (STD)
(3) Both caused by bacteria
(4) Both (1) and (2)
62. Mark the correct statement for Human male testes
(1) Present in Scrotum
(2) Scrotum provides more temperature to testes than body
(3) Testes are abdominal
(4) Both (1) and (2)
63. Pick the correct statement
(1) Adrenaline is secreted directly into the blood and carried to different parts of body
(2) Testosterone is male sex hormones and is responsible for secondary sexual characters
(3) Thyroxine regulates metabolism of carbohydrates, proteins and fats
(4) All of these
64. Which lobe of brain acts as region for sight?
(1) Occipital lobe (2) Temporal lobe
(3) Frontal lobe (4) Parietal lobe
65. Damage to which part of brain effects posture of body
(1) Cerebellum (2) Cerebrum
(3) Pons (4) Medulla
66. Hyposecretion of growth hormone leads to
(1) Acromegaly (2) Dwarfism
(3) Gigantism (4) Goitre
67. Junction between two neurons called
(1) Neuromuscular junction
(2) Synapse
(3) Synovial joint
(4) Synovial cleft
68. Absence of HCl in stomach will effect action of
(1) Pepsin (2) Trypsin
(3) Chymotrypsin (4) Lipase
69. Body temperature is related to
I. Body size
II. Basal Metabolic Rate (BMR)
III. Size of Brain
(1) I and III
(2) II and III
(3) I, II and III
(4) I and II

70. The main difference between an enzyme catalyzed and uncatalyzed reaction is that the former has
- Lower energy of activation
 - Lower free energy
 - Ability to use all available substrate
 - Little influence of external conditions
71. In the overall process of photosynthesis the number of CO_2 , water molecule utilized and sugar and O_2 , water molecule produced are
- 12
 - 13
 - 19
 - 31
72. Which of the following statements is correct about receptors ?
- Gustatory receptors detect taste while olfactory receptors detect smell
 - Both gustatory and olfactory receptors detect smell
 - Auditory receptors detect smell and olfactory receptors detect taste
 - Olfactory receptors detect taste and gustatory receptors detect smell
73. Which of the following statements are true?
- Sudden action in response to something in the environment is called reflex action
 - Sensory neurons carry electrical signals from spinal cord to muscles in a reflex action
- Motor neurons carry signals from receptors to spinal cord in a reflex action
 - The pathway of transmitting signals from a receptor to a muscle is a reflex action
- (i) and (ii)
 - (i) and (iii)
 - (i) and (iv)
 - (i), (ii) and (iii)
74. Which among the following statement is incorrect regarding life processes?
- Since life on earth depends on carbon based molecules, most of the food sources are carbon-based
 - Oxidising-reducing reactions are some of the common chemical means to break down molecules
 - In the case of single celled organism, no specific organ for taking in food, exchange of gases or removal of wastes may be needed
 - In multi-cellular organisms, simple diffusion process will meet all the requirements of cells and various body parts have specialised in the functions they perform
75. Which of the following is the correct sequence of events of sexual reproduction in a flower?
- Pollination, fertilization, seedling, embryo
 - Seedling, embryo, fertilization, pollination
 - Pollination, fertilization, embryo, seedling
 - Embryo, seedling, pollination, fertilization

MATHEMATICS

76. The value of $\sqrt{6 + \sqrt{6 + \sqrt{6 + \dots}}}$ is
- 4
 - 3
 - 2
 - 8
77. If α and β are the zeroes of the quadratic polynomial $f(x) = x^2 - 2x + 1$. Then a quadratic polynomial whose zeroes are $\frac{2\alpha}{\beta}$ and $\frac{2\beta}{\alpha}$ would be
- $x^2 - 4x + 4$
 - $x^2 + 4x - 4$
 - $x^2 - 6x - 4$
 - $x^2 - 6x + 4$
78. a and b are the two sides adjacent to the right angle of a right angled triangle and p is the perpendicular drawn to the hypotenuse from the opposite vertex. Then p^2 is equal to
- $a^2 + b^2$
 - $\frac{1}{a^2} + \frac{1}{b^2}$
 - $\frac{a^2 b^2}{a^2 + b^2}$
 - $a^2 - b^2$
79. In a right angled triangle ABC right angled at A , perpendicular D is drawn from A to the hypotenuse BC , then which of the following is true?

- I. $\triangle ABD \sim \triangle CAD$
 II. $\triangle ABD \cong \triangle CAD$
 III. $\triangle ADB \sim \triangle CAB$
 Of these statements the correct ones are combination of
 (1) I and II (2) I and III
 (3) II and III (4) I, II and III
80. The sum of the third and seventh term of an A.P. is 8. Then the sum of the first nine terms of this progression is
 (1) 24 (2) 32
 (3) 36 (4) Cannot be determined
81. For any real values of θ , $\sqrt{\frac{\sec \theta - 1}{\sec \theta + 1}} = ?$
 (1) $\cot \theta - \operatorname{cosec} \theta$ (2) $\sec \theta - \tan \theta$
 (3) $\operatorname{cosec} \theta - \cot \theta$ (4) $\tan \theta - \sec \theta$
82. If $x = a(\sin \theta + \cos \theta)$; $y = b(\sin \theta - \cos \theta)$ then the value of $\frac{x^2}{a^2} + \frac{y^2}{b^2}$ is
 (1) 0 (2) 1
 (3) 2 (4) -2
83. A motor boat whose speed is 18 km/h in still water takes 1 hour more to go 24 km upstream than to return down stream to the same spot. Then the speed of the stream is
 (1) 5 (2) 6
 (3) 7 (4) 8
84. The ratio in which the y-axis divides the line segment joining the points (5, -6) and (-1, -4)
 (1) 5 : 1 (2) 1 : 5
 (3) 2 : 3 (4) 1 : 1
85. Let $\triangle ABC \sim \triangle PQR$, area of $\triangle ABC = 81 \text{ cm}^2$, area of $\triangle PQR = 144 \text{ cm}^2$ and $QR = 6 \text{ cm}$, then length of BC is
 (1) 4 cm (2) 4.5 cm
 (3) 9 cm (4) 12 cm
86. Area of the triangle formed by the graph of the straight lines $x - y = 0$, $x + y = 2$ and x-axis is
 (1) 1 sq. unit (2) 2 sq. unit
 (3) 4 sq. unit (4) None of these
87. The side QR of $\triangle PQR$ is produced to S . The bisectors of $\angle PQR$ and $\angle PRS$ meet at T , if $\angle QPR = 80^\circ$, then $\angle QTR$ is
 (1) 30° (2) 40°
 (3) 60° (4) 80°
88. If one of the zeroes of the quadratic polynomial $(k-1)x^2 + kx + 1$ is -3, then the value of k is
 (1) $-\frac{4}{3}$ (2) $\frac{4}{3}$
 (3) $\frac{2}{3}$ (4) $-\frac{2}{3}$
89. Graphically, the pair of equations $6x - 3y + 10 = 0$, $2x - y + 9 = 0$ represents two lines which are
 (1) Intersecting at exactly one point
 (2) Intersecting at exactly two points
 (3) Coincident
 (4) Parallel
90. The sum of digits of a two digit number is 9. If 27 is added to it, the digits of the number get reversed. The number is
 (1) 25 (2) 72
 (3) 63 (4) 36
91. If $4 \tan \theta = 3$, then $\left(\frac{4 \sin \theta - \cos \theta}{4 \sin \theta + \cos \theta} \right)$ is equal to
 (1) $\frac{2}{3}$ (2) $\frac{1}{3}$
 (3) $\frac{1}{2}$ (4) $\frac{3}{4}$
92. If $\sin A + \sin^2 A = 1$, then the value of the expression $(\cos^2 A + \cos^4 A)$ is
 (1) 1 (2) $\frac{1}{2}$
 (3) 2 (4) 3

93. The point which lies on the perpendicular bisector of the line segment joining the points $A(-2, -5)$ and $B(2, 5)$ is
- (1) $(0, 0)$ (2) $(0, 2)$
 (3) $(2, 0)$ (4) $(-2, 0)$
94. The coordinates of vertex A of $\triangle ABC$ are $(-4, 2)$ and a point D which is mid-point of BC are $(2, 5)$. The coordinates of centroid of $\triangle ABC$ are
- (1) $(0, 4)$ (2) $\left(-1, \frac{7}{2}\right)$
 (3) $\left(-2, \frac{7}{3}\right)$ (4) $(0, 2)$
95. The coordinates of the point where line $\frac{x}{a} + \frac{y}{b} = 7$ intersects y -axis are
- (1) $(a, 0)$ (2) $(0, b)$
 (3) $(0, 7b)$ (4) $(2a, 0)$
96. What is the largest number that divides 70 and 125, leaving remainders 5 and 8 respectively?
- (1) 13 (2) 9
 (3) 3 (4) 585
97. The least number that is divisible by all the numbers from 1 to 10 (both inclusive) is
- (1) 10 (2) 100
 (3) 504 (4) 2520
98. If the zeroes of the quadratic polynomial $x^2 + (a + 1)x + b$ are 2 and -3 , then
- (1) $a = -7, b = -1$ (2) $a = 5, b = -1$
 (3) $a = 2, b = -6$ (4) $a = 0, b = -6$
99. The value of p for which the polynomial $x^3 + 4x^2 - px + 8$ is exactly divisible by $(x - 2)$ is
- (1) 0 (2) 3
 (3) 5 (4) 16
100. In an equilateral triangle with side a , length of altitude is
- (1) $\frac{\sqrt{3}}{2}a$ (2) $\frac{\sqrt{3}}{4}a$
 (3) $\frac{\sqrt{3}}{2}a^2$ (4) $\frac{\sqrt{3}}{4}a^2$

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