FIITJEE SAMPLE PAPER

(Big Bang Edge Test / Talent Recognition Exam-2020)
for students presently in
Class 7 (Paper 1)

Time: 3 Hours (9:30 am – 12:30 pm) **Code | 7000** *Maximum Marks: 216*

<u>*Instructions:*</u>

> ***Caution: Class, Paper, Code as given above MUST be correctly marked on the answer OMR sheet before attempting the paper. Wrong Class, Paper or Code will give wrong results.***

1. **You are advised to devote 60 Minutes on Section-I, 75 Minutes on Section-II and 45 Minutes on Section-III.**

2. **This Question paper consists of 3 sections. Marking scheme is given in table below:**

Section	Subject		Question no.	Marking Scheme for each question	
				correct answer	**wrong answer**
SECTION – I	APTITUDE		1 to 30	**+3**	**0**
SECTION – II	PHYSICS	(PART-A)	31 to 39	**+2**	**0**
	CHEMISTRY	(PART-B)	40 to 48	**+2**	**0**
	MATHEMATICS	(PART-C)	49 to 57	**+2**	**0**
	BIOLOGY	(PART-D)	58 to 66	**+2**	**0**
SECTION – III	PHYSICS	(PART-A)	67 to 75	**+1.5**	**0**
	CHEMISTRY	(PART-B)	76 to 84	**+1.5**	**0**
	MATHEMATICS	(PART-C)	85 to 93	**+1.5**	**0**
	BIOLOGY	(PART-D)	94 to 102	**+1.5**	**0**

3. Answers have to be marked on the OMR sheet. The Question Paper contains blank spaces for your rough work. No additional sheets will be provided for rough work.

4. Blank papers, clip boards, log tables, slide rule, calculator, cellular phones, pagers and electronic devices, in any form, are not allowed.

5. **Before attempting paper write your OMR Answer Sheet No., Registration Number, Name** and **Test Centre** in the space provided at the bottom of this sheet.

Note: *Please check this Question Paper contains all **102** questions in serial order. If not so, exchange for the correct Question Paper.*

OMR Answer Sheet No. : _____

Registration Number : _____

Name of the Candidate : _____

Test Centre : _____

# Recommended Time: 60 Minutes for Section – I

Section – I

APTITUDE TEST

*This section contains **30 Multiple Choice Questions** number **1 to 30**. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.*

1. Mr. Chopra walks 6 km South, turns left and walks 4 km, again turns left and walks 5 km. Which direction is he facing now?
   (A) South   (B) North
   (C) East   (D) West

2. 'Doctor' is related to 'Patient' in the same way 'Lawyer' is related to …
   (A) Customer   (B) Criminal
   (C) Magistrate   (D) Client

3. If in a certain code, 'DICE' becomes 'BGAC' then what will 'HAREESH' be in that code?
   (A) JCTGGUJ   (B) FYPCCQF
   (C) JCTGGJU   (D) FPYCCQF

Direction (Question 4): Complete the incomplete pattern.

4.

(A)   (B)   (C)   (D)
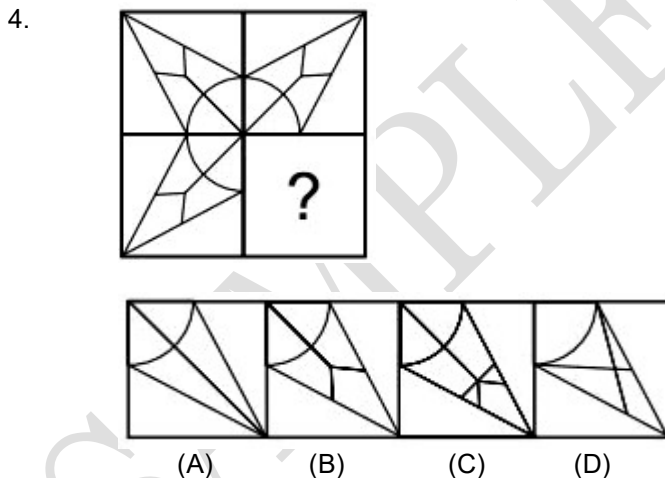
Space for Rough Work

Direction (Question 5): Find the odd one out:

5.   (A) Violet   (B) Indigo
        (C) Brown   (D) Blue

Direction (Question 6): Find the odd man out.

6.   (A) 508   (B) 328
        (C) 608   (D) 148

7.   A boy rides his bicycle Northward, then turned left and rode 1 km and again turned left and rode 2 km. He found himself 1 km west of his starting point. How far did he ride northward initially?
        (A) 1 km   (B) 2 km
        (C) 3 km   (D) 5 km

8.   A, B, C and D are four friends each of whom wear a shirt of different colour among – Red, White, Green and Yellow. C wear neither Red nor White shirt. B wear either Yellow or Red shirt. If D wears Green shirt, then what is the colour of A's shirt?
        (A) White   (B) Yellow
        (C) Red   (D) Either A or B

Directions (Questions 9 – 10): Find the next term in the series:

9.   5, 25, 100, 300, 600, ?
        (A) 1200   (B) 2400
        (C) 3000   (D) 600

10.   6, 9, 12, 15, 18, ?
        (A) 21   (B) 20
        (C) 19   (D) 22

11.   In a certain code language, if the word 'MODERATE' is coded as ETAREDOM, then how is the word 'EXHIBITION' coded in that language?
        (A) NOTITBIHXE   (B) NOITIDIHXE
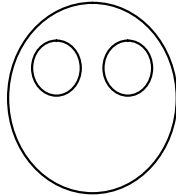   (C) NOITIBIHWE   (D) NOITIBIHXE

Space for Rough Work

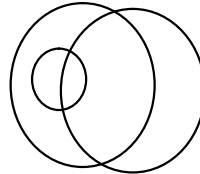**Directions (Questions 12 – 13):** These questions are based on the following information.

Each of the questions contains three objects. The relationship among these three objects can be represented by one of the Venn diagrams given below. Identify the appropriate diagram.
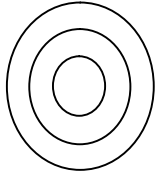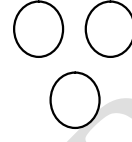

     (A)   (B)   (C)   (D)

12.   Tiger, Fox, Carnivore

13.   Kings, Men, Human Beings

Directions (Questions 14 – 15): These questions are based on the following information.

Five girls are sitting in a row, Jane, is not adjacent to Mary or Ria. Grace is not adjacent to Mary. Jane is adjacent to Kate. Kate is at the middle in the row.

14.   Grace is adjacent to whom out of the following?
        (A) Jane   (B) Mary
        (C) Ria   (D) Kate
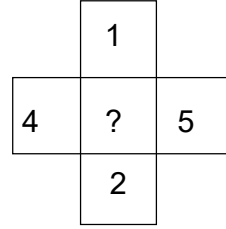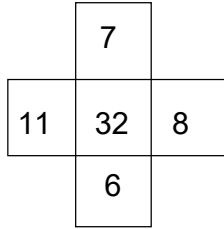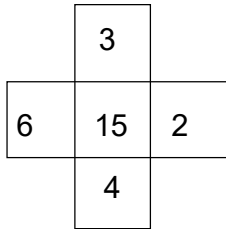
15.   Who among the following is definitely not adjacent to Kate?
        (A) Jane   (B) Mary
        (C) Ria   (D) Grace

Space for Rough Work

Direction (Question 16): In the following question, a set of figures taming certain characters, is given. Assuming that the characters in each set follow the similar pattern find the missing character in each case.

16.

	3	
6	15	2
	4	

	7	
11	32	8
	6	

	1	
4	?	5
	2	

(A) 19　　　　　　　　　　　　　　　　(B) 22
(C) 16　　　　　　　　　　　　　　　　(D) 12

17. If B's father is A, C is the son of B and D is C's mother then how is A related to D?
(A) Father　　　　　　　　　　　　　(B) Father – in – law
(C) Mother　　　　　　　　　　　　　(D) Grand father

18. In a certain code language 'MADRAS' is written as 'DAMSAR', how can 'MUMBAI' be written in that code language?
(A) BAIUMM　　　　　　　　　　　　(B) MUMIAB
(C) IABMUM　　　　　　　　　　　　(D) MBIAUM

Direction (Question 19): In the following question, a set of figures carrying certain characters is given. Assuming that the characters in each set follow a similar pattern, find the missing character in each case.

19.
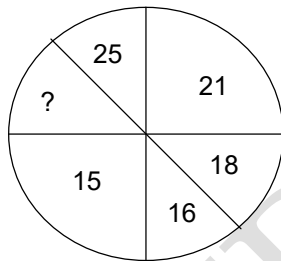
(A) 28　　　　　　　　　　　　　　　　(B) 30
(C) 35　　　　　　　　　　　　　　　　(D) 27

20. Find the odd word.
(A) Car　　　　　　　　　　　　　　　(B) Bus
(C) Scooter　　　　　　　　　　　　　(D) Jeep

21. Which of the following words is the odd one?
(A) AC　　　　　　　　　　　　　　　(B) Calculator
(C) Cooler　　　　　　　　　　　　　(D) Computer

Space for Rough Work

Directions (Questions 22 – 23): In the following series, replace the question mark (?) with the suitable option.

22.   15, 30, 60, 120, 240, ?
        (A) 480   (B) 518
        (C) 445   (D) 715

23.   4, 5, 7, 10, 14, 19, ?
        (A) 28   (B) 23
        (C) 22   (D) 25

24.   A person walks 1 mile to west, turns left and walks 1 mile and again turns left and walks 1 mile. What is the direction he is facing now?
        (A) North   (B) South
        (C) East   (D) West

Direction (Question 25): In a certain code language '+' means '–', '–' means 'x', 'x' means '÷', '÷' means 'x'. Answer the following questions using the data.

25.   15 ÷ 5 + 15 ÷ 10 x 2
        (A) 54   (B) 20
        (C) 0   (D) 225

26.   Five boys – Lalit, Mohan, Naveen, Omi and Pawan – are compared with each other in terms of their heights. Lalit is taller than Mohan but shorter than Pawan, who is shorter than Naveen, who is taller than Omi, who among than five friends is the second tallest?
        (A) Omi   (B) Pawan
        (C) Naveen   (D) Either (A) or (B)

Space for Rough Work

Directions (Questions 27 – 28): In the following questions, there is some relationship between the two terms to the left of : : and the same relationship holds between the two terms to its right. You are required to find out the relationship between the first two letters / numbers and choose the letter / number from the given alternatives, which bears the same relationship to the third letter / number as the first two bear.

27.   23 : 161 : : 19 : ___
       (A) 127   (B) 133
       (C) 1137   (D) 159

28.   24 : 47 : : 76 : ___
       (A) 149   (B) 153
       (C) 167   (D) 151

Directions (Questions 29 – 30): The following questions are to be answered based on the position of letters in the English alphabet, when they are written in reverse order i.e. Z to A.

29.   What is the fifth letter to the right of the third letter to the left of J?
       (A) J   (B) K
       (C) I   (D) H

30.   Which letter is second to the left of the letter, which is fourth to the left of E?
       (A) T   (B) N
       (C) K   (D) L

Space for Rough Work

# Recommended Time: 75 Minutes for Section – II

## Section – II

PHYSICS – (PART – A)

*This part contains **9 Multiple Choice Questions** number **31 to 39.** Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.*

31. The unit of latent heat is
    (A) cal.g
    (C) cal / g

    (B) cal / °C
    (D) °C

32. Displacement-time graph of two particles A and B is given. Which of the following is correct?
    (A) velocity of A is greater than B
    (B) velocity of B is greater than A
    (C) velocity of both A and B are same
    (D) None of these
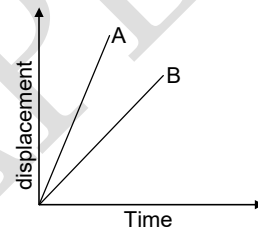
33. An object moves from A to C via B, as shown in figure. Calculate the displacement of the object.
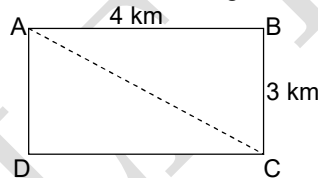
    (A) 7 km
    (C) 5 km

    (B) 3.5 km
    (D) None of these

Space for Rough Work

34. When the distance an object travels is directly proportional to the length of time, it is said to travel with
    (A) Zero velocity (B) Constant speed
    (C) Constant acceleration (D) Uniform velocity

35. Which of the following is **NOT** a vector?
    (A) Distance (B) Speed
    (C) Mass (D) All of the above

36. The value of 36 km/h in m/sec is
    (A) 36 m/s (B) 18 m/s
    (C) 10 m/s (D) 130 m/s

37. The centre of the cyclone is also called _____ of cyclone (Fill the correct option in the blank).
    (A) eye (B) nose
    (C) neck (D) none of these

38. The interval between two events is called
    (A) time (B) distance
    (C) speed (D) force

39. Instrument used to find wind direction is
    (A) Speedometer (B) Barometer
    (C) Wind vane (D) Odometer

Space for Rough Work

CHEMISTRY – (PART – B)

*This part contains **9 Multiple Choice Questions** number **40 to 48.** Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.*

40. A Lemon tastes sour. This is due to presence of
    (A) a base (B) an acid
    (C) a salt (D) a sugar

41. Which substance consists of a base?
    (A) An apple (B) Common salt
    (C) Curd (D) Soap

42. Usually salts are obtained by
    (A) neutralization (B) decomposition
    (C) combustion (D) rusting

43. Identify the mixture from the following:
    (A) alloy (B) aluminium
    (C) acetic acid (D) ammonia

44. Which is a chemical change?
    (A) Expansion of iron rod (B) Stretching rubber band
    (C) Cutting paper (D) Baking bread

45. Which one among the following is an element?
    (A) Water (B) Air
    (C) Soil (D) Metal

46. Which one is a plant fibre?
    (A) Rayon (B) Linen
    (C) Wool (D) Spandex

47. Silk fibres are obtained from
    (A) leaves (B) eggs
    (C) cocoons (D) worms

48. The fleece of sheep consists of
    (A) coarse hair (B) soft hair
    (C) both (A) & (B) (D) skin

Space for Rough Work

MATHEMATICS – (PART – C)

*This part contains **9 Multiple Choice Questions** number **49 to 57.** Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.*

49. Which congruence condition, if any can be used to prove the given triangles congruent?
    (A) SSS
    (B) SAS
    (C) AAS
    (D) None of these
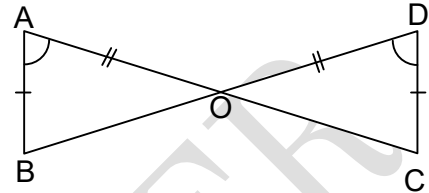
50. Find the additive inverse of –6 is
    (A) $\dfrac{1}{6}$
    (B) $-\dfrac{1}{6}$
    (C) 6
    (D) 5

51. If triangle PQR is congruent to triangle UVW then value of x is
    (A) 50°
    (B) 60°
    (C) 80°
    (D) 70°
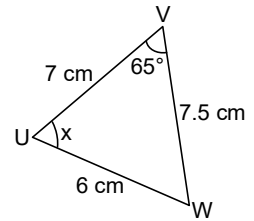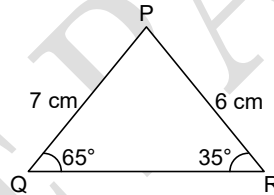
52. If 30243 × 11 = 332673, then value of 302.43 × 1.1 is
    (A) 33267.3
    (B) 3376.73
    (C) 33.2673
    (D) 332.673

Space for Rough Work

53. Find the mean of first five whole numbers.
    (A) 0   (B) 1
    (C) 2   (D) 3

54. The mean of 10, 12, 16, 20, x and 26 is 17. Find the value of x.
    (A) 16   (B) 17
    (C) 18   (D) 15

55. If $\dfrac{x-1}{x+1} = \dfrac{7}{9}$, then x = ?
    (A) 6   (B) 7
    (C) 8   (D) 10

56. The length of a rectangle is three times its width and its perimeter is 96 m. Then find the length of rectangle is
    (A) 12 m   (B) 24 m
    (C) 36 m   (D) 48 m

57. Two supplementary angles differ by 34°. Find the angles.
    (A) 73°, 107°   (B) 72°, 105°
    (C) 65°, 100°   (D) 90°, 180°

Space for Rough Work

BIOLOGY – (PART – D)

*This part contains **9 Multiple Choice Questions** number **58 to 66.** Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.*

58. The vitamin which helps our body to use calcium for bones and teeth.
    (A) Vitamin A   (B) Vitamin B
    (C) Vitamin C   (D) Vitamin D

59. The removal of undigested food from the body is called:
    (A) Absorption   (B) Digestion
    (C) Ingestion   (D) Egestion

60. Which of the following gas is a by-product of photosynthesis?
    (A) Nitrogen   (B) Carbon dioxide
    (C) Oxygen   (D) Hydrogen

61. The first set of teeth which grows during infancy and fall off at the age between six to eight years called as:
    (A) Milk teeth   (B) Permanent teeth
    (C) Molar teeth   (D) Premolar teeth

62. Which of these is an example of symbiosis?
    (A) Crab and Crane   (B) Fungi and Algae
    (C) Climber and Tree   (D) All of these

63. The amount of moisture in the air is known as:
    (A) Humidity   (B) Climate
    (C) Weather   (D) Precipitation

64. Which of the following statement is incorrect for Amarbel?
    (A) It is a parasitic plant
    (B) All species have chlorophyll
    (C) It takes readymade food from the plant on which it is climbing
    (D) All are correct

65. Lung contains many small balloons like air sacs, called as:
    (A) Gas spaces   (B) Alveoli
    (C) Bronchi   (D) Bronchioles

66. Vegetables are the main sources of:
    (A) protein   (B) carbohydrate
   (C) fat   (D) vitamins & minerals

Space for Rough Work

Recommended Time: 45 Minutes for Section – III

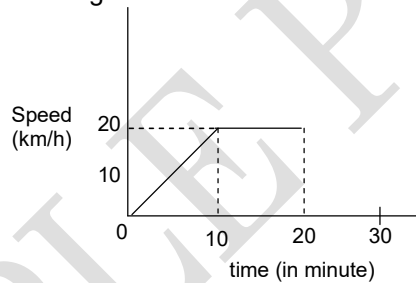## Section – III

PHYSICS – (PART – A)

*This part contains **9 Multiple Choice Questions** number **67 to 75.** Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.*

67. An object is moving on a circular path of diameter 20 m. What will be its displacement when it completes half revolution?
    (A) 20 m
    (B) 10 m
    (C) 5 m
    (D) 2 m

68. Reading of a Kelvin scale is 280 K for a particular temperature. The reading on Celsius scale for the same temperature is _____ °C.
    (A) 7
    (B) 553
    (C) 140
    (D) 5.53

69. Which of the following distance-time graph shows uniform speed

    (A)
    (B)
    (C)
    (D)
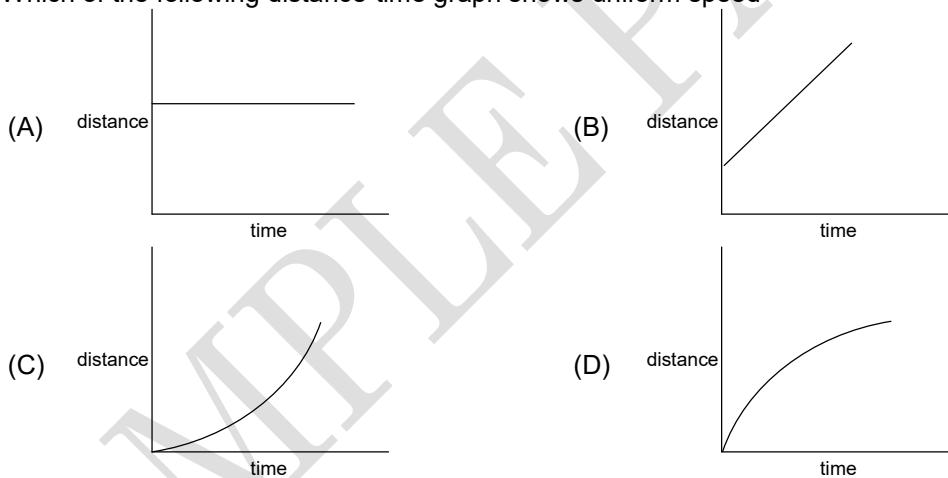
Space for Rough Work

70. Ventilation in our rooms is based on the phenomenon
    (A) condensation
    (B) convection
    (C) conduction
    (D) radiation

71. Which of these is not a unit of time?
    (A) Second
    (B) Hour
    (C) Light year
    (D) Year

72. The reading of a particular temperature on Fahrenheit scale is 122°F. Reading of Celsius scale for the same temperature will be
    (A) 122°C
    (B) 100°C
    (C) 90°C
    (D) 50°C

73. 'Green House Effect' is due to:
    (A) Trapping of violet rays
    (B) Trapping of Infrared radiation
    (C) Radio activity
    (D) Trapping of ultraviolet radiation

74. If rise in temperature on Celsius scale is 2°C then the rise in temperature on Fahrenheit scale will be _____.
    (A) 1°F
    (B) 1.8°F
    (C) 3.6°F
    (D) none of these

75. Speed-time graph of a particle is given. Find the distance travelled by it in first 20 minutes.

    (A) 300 km
    (B) 5 km
    (C) 30 km
    (D) 15 km

Space for Rough Work

CHEMISTRY – (PART – B)

*This part contains **9 Multiple Choice Questions** number **76 to 84**. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.*

76. The chemical name of common salt is
    (A) sodium carbonate
    (B) sodium chloride
    (C) sodium hydroxide
    (D) sodium oxide

77. When carbon dioxide is added to lime water, it turns the solution
    (A) colourless
    (B) dirty white
    (C) milky white
    (D) brown

78. Which is **NOT** a method to prevent iron from rusting?
    (A) Galvanization
    (B) Alloying
    (C) Painting
    (D) Steaming

79. The process of silk production is known as
    (A) apiculture
    (B) sericulture
    (C) pisciculture
    (D) floriculture

80. Thorough washing of wool is called
    (A) scouring
    (B) shearing
    (C) bleaching
    (D) cleaning

81. Silkworms shed their skin several times. What is the name of this process?
    (A) Moulting
    (B) Wilting
    (C) Weaving
    (D) Widening

82. Turmeric is a natural
    (A) acid
    (B) base
    (C) indicator
    (D) salt

83. Blue vitriol is formed when a base reacts with
    (A) nitric acid
    (B) sulphuric acid
    (C) hydrochloric acid
    (D) Phosphoric acid

84. What is the nature of wasp's sting?
    (A) acidic
    (B) basic
    (C) neutral
    (D) none of these

Space for Rough Work

MATHEMATICS – (PART – C)

*This part contains **9 Multiple Choice Questions** number **85 to 93.** Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.*

85. If AOC is a straight line, then find the measure of $\angle AOB$ in the figure given below:
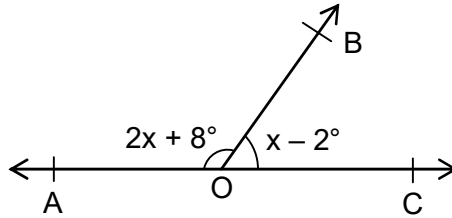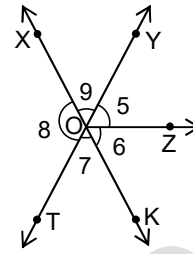

(A) 110°   (B) 113°
(C) 121°   (D) 124°

86. Which of the following is the complement of 17°?
(A) 70°   (B) 71°
(C) 72°   (D) 73°

87. In the given figure, AB is parallel to CD and PQ parallel to RS, then find the value of x.
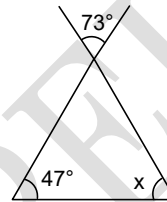(A) 40°
(B) 100°
(C) 140°
(D) 180°
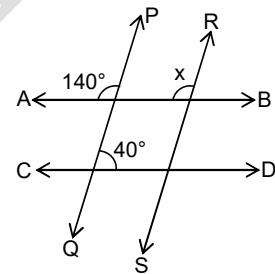
Space for Rough Work

88. What is the vertically opposite angle of $\angle 8$ in the given figure?
    (A) $\angle YOX$
    (B) $\angle KOT$
    (C) $\angle YOK$
    (D) $\angle XOT$

89. In the given figure find the value of x (in degree)
    (A) 73°
    (B) 47°
    (C) 60°
    (D) 120°

90. The base angle of an isosceles triangle is 55° then find the vertical angle of an Isosceles triangle.
    (A) 55°   (B) 35°
    (C) 70°   (D) 125°

91. This figure consists of an equilateral triangle and an isosceles triangle. If AB = BC = AC = CD, then find the value of x (in degree).
    (A) 60°
    (B) 120°
    (C) 45°
    (D) 30°
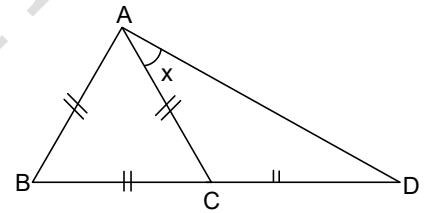
92. In the given figure find the value of $\angle P$.
    (A) 119°
    (B) 120°
    (C) 121°
    (D) 130°
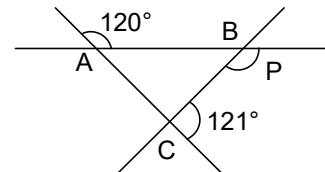
93. In $\triangle ABC$, $\angle A = \angle B = 80°$. Name the pair of sides which are equal.
    (A) AC = BC   (B) AB = BC
    (C) AC = AB   (D) None of these

Space for Rough Work

BIOLOGY – (PART – D)

*This part contains **9 Multiple Choice Questions** number **94 to 102.** Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.*

94. Which of the following equation correctly represents the process of photosynthesis in green plants?
    (A) $Carbon\ dioxide + hydrogen \xrightarrow[\text{chlorophyll}]{\text{sunlight}} carbohydrate + oxygen$
    (B) $Carbon\ dioxide + water \xrightarrow[\text{chlorophyll}]{\text{sunlight}} carbohydrate + oxygen$
    (C) $Oxygen + water \xrightarrow[\text{chlorophyll}]{\text{sunlight}} carbohydrate + carbon\ dioxide$
    (D) All of these correctly represents photosynthesis.

95. Which of the following statement defines weather?
    (A) Envelop of air surrounding earth
    (B) State of the atmosphere over an area at any point of time
    (C) Atmospheric conditions over a large area for a long period of time
    (D) None of these

96. Air is breathed through:
    (A) Trachea → lungs → larynx → pharynx → alveoli
    (B) Nose → larynx → pharynx → alveoli → lungs
    (C) Nostrils → pharynx → larynx → trachea → bronchi → bronchioles → alveoli
    (D) Nose → Mouth → lungs

97. The internal energy reserve in autotrophs is:
    (A) Glycogen   (B) Protein
    (C) Starch   (D) Fatty acids

98. The polar bear bears white fur which helps them to _____
    (a) Protect themselves from predators
    (b) Makes them invisible from their prey
    (c) Move from one place to another
    (d) All of these
    (A) a and c   (B) a and b
    (C) d   (D) b and c

Space for Rough Work

99. State whether the statements are true or false:
    (a) The leaves have green pigment called Chlorophyll
    (b) Bile juice is stored in sac like structure called liver
    (c) The vascular tissue for the transport of water and minerals in the plant is called the   xylem

	(a)	(b)	(c)
(A)	T	T	T
(B)	T	F	T
(C)	T	F	F
(D)	F	F	T

100. Right lungs have _____ lobes
    (A) 3   (B) 2
    (C) 4   (D) No lobes present

101. Vocal cords lies in
    (A) Pharynx   (B) Larynx
    (C) Trachea   (D) Oesophagus

102. Which of the following equation represents the anaerobic respiration in case of yeast?

    (A) $Glucose \xrightarrow[\text{presence of } O_2]{\text{in the}} carbon\ dioxide + water + energy$

    (B) $Glucose \xrightarrow[\text{absence of } O_2]{\text{in the}} alcohol + carbon\ dioxide + energy$

    (C) $Glucose \xrightarrow[\text{absence of } O_2]{\text{in the}} lactic\ acid + energy$

    (D) None of these

Space for Rough Work

FIITJEE SAMPLE PAPER – 2020
(Big Bang Edge Test / Talent Recognition Exam)
for **students presently in**
Class 7 (Paper 1)
ANSWERS

1.	**B**	2.	**D**	3.	**B**	4.	**B**
5.	**C**	6.	**C**	7.	**B**	8.	**A**
9.	**D**	10.	**A**	11.	**D**	12.	**B**
13.	**A**	14.	**A**	15.	**D**	16.	**D**
17.	**B**	18.	**B**	19.	**B**	20.	**C**
21.	**B**	22.	**A**	23.	**D**	24.	**C**
25.	**C**	26.	**D**	27.	**B**	28.	**D**
29.	**D**	30.	**C**	31.	**C**	32.	**A**
33.	**C**	34.	**B**	35.	**D**	36.	**C**
37.	**A**	38.	**A**	39.	**C**	40.	**B**
41.	**D**	42.	**A**	43.	**A**	44.	**D**
45.	**D**	46.	**B**	47.	**C**	48.	**C**
49.	**B**	50.	**C**	51.	**C**	52.	**D**
53.	**C**	54.	**C**	55.	**C**	56.	**C**
57.	**A**	58.	**D**	59.	**D**	60.	**C**
61.	**A**	62.	**B**	63.	**A**	64.	**B**
65.	**B**	66.	**D**	67.	**A**	68.	**A**
69.	**B**	70.	**B**	71.	**C**	72.	**D**
73.	**B**	74.	**C**	75.	**B**	76.	**B**
77.	**C**	78.	**D**	79.	**B**	80.	**A**
81.	**A**	82.	**C**	83.	**B**	84.	**B**
85.	**D**	86.	**D**	87.	**C**	88.	**C**
89.	**C**	90.	**C**	91.	**D**	92.	**A**
93.	**A**	94.	**B**	95.	**B**	96.	**C**
97.	**C**	98.	**B**	99.	**B**	100.	**A**
101.	**B**	102.	**B**				