FIITJEE Big Bang Edge Test - 2022

for students presently in Class 9 (going to 10) (Paper 1)

Time: 3 Hours (9:00 am – 12:00 pm) **CODE: 910-1** ***Maximum Marks: 266***

Instructions:

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, 45 Minutes on Section-II, 30 Minutes on Section-III and 45 Minutes on Section-IV.**
2. **This Question paper consists of 4 sections. Marking scheme is given in table below:**

Section	Subject		Question no.	Marking Scheme for each question	
				Correct answer	Wrong answer
SECTION – I	APTITUDE TEST		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 72	**+1**	**0**
	CHEMISTRY	(PART-B)	73 to 78	**+1**	**0**
	MATHEMATICS	(PART-C)	79 to 84	**+1**	**0**
	BIOLOGY	(PART-D)	85 to 90	**+1**	**0**
SECTION – IV	PHYSICS	(PART-A)	91 to 94	**+4**	**–1**
	CHEMISTRY	(PART-B)	95 to 98	**+4**	**–1**
	MATHEMATICS	(PART-C)	99 to 102	**+4**	**–1**
	BIOLOGY	(PART-D)	103 to 110	**+4**	**–1**

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 below.

Note: ***Please check this Question Paper contains all 110 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. To pass an examination, 40% marks are essential. A obtains 10% marks less than the pass marks and B obtains 11.11% marks less than A. What percent less than the sum of A's and B's marks should C obtain to pass the exam ?
   (A) $39\frac{4}{17}\%$ (B) $39\frac{5}{17}\%$ (C) $41\frac{5}{17}\%$ (D) $41\frac{3}{17}\%$

2. 1 Men, 3 women & 4 boys can do a work in 96 hours. 2 men & 8 boys can do the same work in 80 hours. 2 men & 3 women can do the same work in 120 hours. then in how many hours 5 men and 12 boys can do the same work ?
   (A) $39\frac{1}{11}$ hours (B) $42\frac{7}{11}$ hours (C) $43\frac{7}{11}$ hours (D) 44 hours

3. Two pipes A & B together can fill tank in 4 hours. If these pipes are opened separately then B tanks 6 hours more than A to fill the tank. Then in how much time A can fill the tank standoff ?
   (A) 1 hour (B) 2 hour (C) 4 hour (D) 6 hour

4. The value added up by the coins of Rs. 1, paise 50 &paise25 is in the ratio 13 : 11 : 7. The total coins Rs. 378. Then find the no. of 50 paise coins.
   (A) 128 (B) 132 (C) 133 (D) 136

5. In the time a fox do 5 jumps, a dog do 3 jumps. If the distance covered in a jump by a dog is 3 times that of fox. Find the ratio of the speed of dog to that of fox.
   (A) 5 : 8 (B) 3 : 5 (C) 5 : 13 (D) 13 : 15

6. Replace the question mark (?) in the following number series with suitable option.
   3, 3, 4.5, 9, 22.5, ?
   (A) 27.3 (B) 24 (C) 55 (D) 67.5

Space for Rough Work

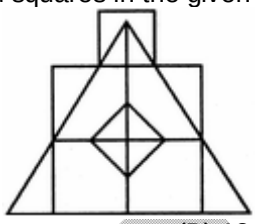
7. _st_tr_srs_r_srst_
(A) ttssrr (B) tsrtsr (C) strtrs (D) tstttr

8. It was Sunday on Jan 1, 2006. What was the day of the week Jan 1, 2010?
(A) Monday (B) Friday (C) Sunday (D) Tuesday

9. The calendar for the year 2007 will be the same for the year
(A) 2014 (B) 2016 (C) 2017 (D) 2018

10. A clock is set right at 8 a.m. The clock gains 10 minutes in 24 hours. What will be the true time when the clock indicates 1 p.m. on the following day?
(A) 48 min. past 12. (B) 46 min. past 12. (C) 45 min. past 12. (D) 47 min. past 12.

11. Count the number of triangles and squares in the given figure.



(A) 21 triangles, 7 squares (B) 18 triangles, 8 squares
(C) 22 triangles, 8 squares (D) 22 triangles, 7 squares

12. In a certain code language, 519 means SWEET AND HOT 753 means MANGO IS SWEET 147 means MILK IS HOT. Which digit stands for MILK?
(A) 7 (B) 1 (C) 4 (D) 9

Directions (Question 13 to 14) :
From a group of 6 men and 4 women a committee of 4 persons is to be formed.

13. In how many different ways can it be done so that the committee has atleast one woman?
(A) 210 (B) 225 (C) 195 (D) 185

14. In How many different ways can it be done so that the committee has at least 2 men?
(A) 210 (B) 225 (C) 195 (D) 185

Space for Rough Work

Directions (Question 15 to 17): Study the following information carefully and answer the questions given below.

P,Q,R,S,T and M are six students of a school, one each studies in class I to VI each of them has a favouritecolour from red, black, blue, yellow, pink and green, not necessarily in the same order. Q likes black and does not study in class IV or V. The one who studies in class IV does not like green. P studies in class II. M likes blue and does not study in class IV. The one who likes yellow studies in class VI. S likes pink and studies in class I. R does not study in class VI.

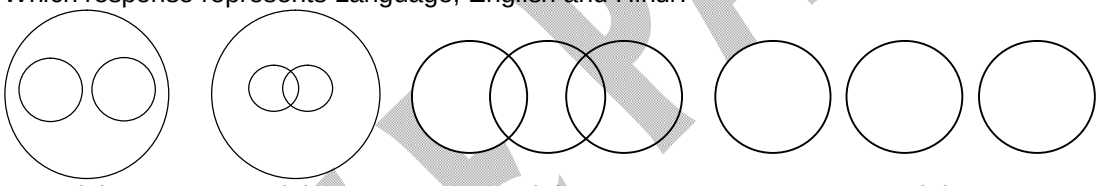
15. In which class does R study?
(A) V (B) III (C) IV (D) Data inadequate

16. Which colour does R like ?
(A) Black (B) Yellow (C) Green (D) None of these

17. Which of the following combinations is correct?
(A) P-II-Yellow (B) Q-III-Green (C) S-I-Black (D) None of these

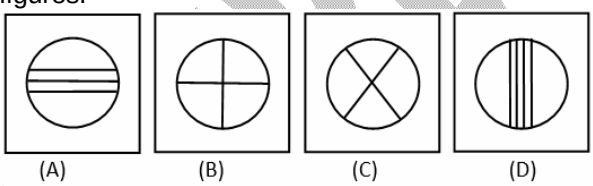
18 Prateek travelled from a point A to B, a distance of 12 km. He turned right and travelled 8 km and reached point C. From that point took right turn and travelled 6 km, and reached point D. How far is he away from the starting point?
(A) 10 km (B) 12 km (C) 13 km (D) 14 km

19. Which response represents Language, English and Hindi?



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

20. In each of the following questions select the one figure which is different from the other three figures.



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

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

Space for Rough Work

21. When the clock shows 20 minutes past 11 O'clock, what is the angle between the two hands of the clock?
(A) 110^o (B) 120^o (C) 130^o (D) 140^o

22. A sum invested at 5% simple interest per annum grows to Rs. 504 in 4 years. The same amount at 10% simple interest per annum in $2\frac{1}{2}$ years will grow to :
(A) Rs. 420 (B) Rs. 452 (C) Rs. 525 (D) Rs. 550

Directions (23 - 24): Read the following information carefully and answer the questions give below.
An unusual signpost indicates 8 cities with their distance from the signpost. These cities are AGRA, JAIPUR, AJMER, DELHI, PANIPAT, ROPAR, AMBALA and BOMBAY. Each alphabet in the name of cities is assign a numeric value, Total value of the letters in each city gives the corresponding distance. Signpost indicates distance 186 km for AMBALA, 168 km for DELHI, 231 km for JAIPUR and 198 km for ROPAR while other distances are missing.

23. What is the distance indicated for AJMER on the signpost?
(A) 205 km (B) 177 km (C) 138 km (D) None

24. For which of the following cities corresponding distance is maximum?
(A) BOMBAY (B) PANIPAT (C) AGRA (D) JAIPUR

25. What is the unit digit in $(3^{65} \times 6^{59} \times 7^{71})$?
(A) 6 (B) 4 (C) 2 (D) 1

26. When 17^{200} is divided by 18, find the remainder.
(A) 1 (B) 4 (C) 5 (D) 3

Space for Rough Work

Directions (27 to 28): In each of the questions below are given four statements followed by four conclusions numbered I, II, III & IV. You have to take the given statements to be true even if they seem to be at variance with commonly known facts. Read all the conclusions and then decide which of the given conclusions logically follows from the given statements disregarding commonly known facts.

27. **Statements:**
Some trains are cars.
All cars are branches.
All branches are nets.
Some nets are dresses.
Conclusions:
I. Some dresses are cars.
II. Some nets are trains.
III. Some branches are trains.
IV. Some dresses are trains.
(A) Only I and III follow (B) Only II and III follow
(C) Only I and IV follow (D) Only II, III and IV follow

28. Statements:
Some pencils are kites.
Some kites are desks.
All desks are jungles.
All jungles are mountains.

Conclusions:
I. Some mountains are pencils.
II. Some jungles are pencils.
III. Some mountains are desks.
IV. Some jungles are kites.
(A) Only I and III follow (B) Only I, II and III follow
(C) Only III and IV follow (D) Only II, III and IV follow

29. If male and female students of section B in DPS and DAV are in ratio 3 : 2 and 4 : 3 respectively, then male students of section B are how much percent more than female students of section B considering both the schools (approx).
(A) 50% (B) 25% (C) 36% (D) 40%

30. A trader marked his goods at 20% above the cost price. He sold half the stock at the marked price, one quarter at a discount of 20% on the marked price and the rest at a discount of 40% on the marked price. His total gain is
(A) 2% (B) 4.5% (C) 13.5% (D) 15%

Space for Rough Work

Recommended Time: 45 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. Displacement is always
(A) Shortest path length between two points (B) Total path length between two points
(C) Product of length and time (D) None of these

32. Slope of distance-time graph gives _____ and SI unit of obtained physical quantity is _____.
(A) velocity, km/h (B) speed, m/s
(C) acceleration, m/s^2 (D) displacement, metre

33. In 10hrs, a car is moving with speed of 60 kmh^{-1}. Then it travels a distance of
(A) 6 km (B) 600 km
(C) 10 km (D) 7 km

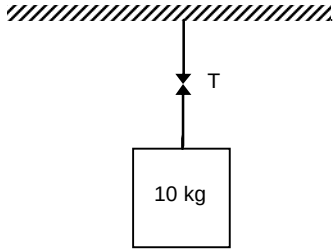
34. A body is said to be at rest if
(A) Its position with respect to the observer remain same
(B) Its position with respect to the observer keep on changing
(C) Both (A) and (B)
(D) Neither (A) nor (B)

35. A stone of mass 5 kg is thrown vertical upward direction. (Take g = 10 ms^{-2}). Neglect air friction. The net force acting on stone at the highest point where it is momentarily at rest is
(A) 0.5 N, upward (B) 50 N, downward
(C) 500 N, upward (D) zero

Space for Rough Work

36. The momentum of a system is conserved
(A) Always
(B) Never
(C) In the absence of an external force on the system
(D) None of the above

37. Tension in the string is
(A) $T = 100\,N$
(B) $T = 1N$
(C) $T = 50\,N$
(D) none of these



38. A ball is thrown straight up. The magnitude of acceleration at the top point on its path is
(A) g (B) $\frac{g}{2}$
(C) Zero (D) $\frac{2g}{3}$

39. A body goes 3 km north and 4 km east. What will be the displacement from initial point ?
(A) zero (B) 2 km
(C) 5 km (D) 20 km

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. Homogeneous mixture is formed by mixing
(A) Benzene and water (B) iron filing and sand
(C) Silver chloride and water (D) ethanol and water

41. Milk is
(A) fat dispersed in water (B) water dispersed in fat
(C) fat and water dispersed in an oil (D) a homogeneous solution of fat and water

42. Alum helps in purifying water by:
(A) forming Si complex with clay particles
(B) Phosphate part which combines with the dirt and remove it.
(C) Coagulating the mud particles
(D) Making the mud water soluble

43. Ethanol has a melting point of -114^{o}C, and a boiling point of 79^{o}C. What state will it have at a temperature of 65^{o}C?
(A) Liquid (B) Gas
(C) Solid (D) both (A) and (C)

44. Sol and gel are examples of
(A) Solid-solid colloids
(B) sol is a solid-liquid colloid and gel is liquid solid colloid
(C) Sol is a solid-solid colloid and gel is solid-liquid colloid
(D) Sol is a liquid solid colloid and gel is a solid liquid colloid

45. A mixture of methyl alcohol and acetone can be separated by:
(A) Distillation (B) Fractional distillation
(C) Steam distillation (D) Distillation under reduced pressure

46. The path of light gets illuminated when passed through the
(A) Blood (B) Brine solution (aq)
(C) Copper soulphate solution (aq) (D) Acetic acid solution (aq)

47. Peptization process involves
(A) precipitation of colloidal particles (B) purification of colloidal particles
(C) dispersion of precipitate into colloidal sol (D) movement of colloidal particles in an electric

48. Which one of the following applications is not shown by chromatogrphy?
(A) To separate colours in a dye
(B) Used in forensic science to detect and identify trace amounts of substances in the content of bladder or stomach.
(C) Used in diagnostic laboratories for testing blood/urine
(D) To separate drugs from blood.

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. If the coordinates of three consecutive vertices of a parallelogram are $(1,3),(-1,2)$ and (2, 5) then coordinates of the fourth vertex are
(A) (6, 4) (B) (4, 6) (C) (-2, 0) (D) None of these

50. If the sides of a triangle are 5 cm, 12 cm and 13 cm respectively then length of the shortest altitude is
(A) 5 cm (B) $\frac{60}{13}$ cm (C) 12 cm (D) 8.5 cm

51. ABC is an isosceles triangle in which $\angle B = 90^o$ and D is midpoint of AC. If BD = 8 cm then area of ΔABC is:
(A) 64 cm^2 (B) $64\sqrt{2}\,cm^2$ (C) 32 cm^2 (D) $32\sqrt{3}\,cm^2$

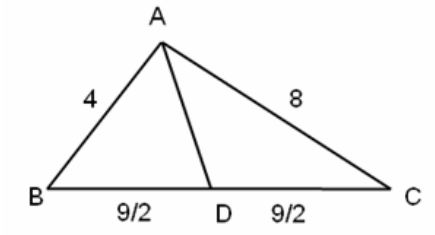
52. Triangle formed by the lines y = 0, 4x + 3y = 12 and 4x – 3y = – 12 is :
(A) an equilateral triangle (B) A scalene triangle
(C) Triangle not possible (D) An isosceles triangle

53. The perimeter of the triangle formed by the points (0, 0), (1, 0) and (0, 1) is
(A) $1\pm\sqrt{2}$ (B) $\sqrt{2}+1$ (C) 3 (D) $2+\sqrt{2}$

54. If $a = \frac{9}{\sqrt{11}-\sqrt{2}}$, $b = \frac{6}{3\sqrt{3}}$ then
(A) $a > b$ (B) $a < b$ (C) $a = b$ (D) $a = \frac{3}{2}$

Space for Rough Work

55. If the length of sides of a triangle are 4, 8, 9. Find the length of median from vertex A



(A) $\frac{\sqrt{79}}{2}$ (B) $\frac{\sqrt{11}}{2}$ (C) $\sqrt{11}$ (D) $\frac{\sqrt{89}}{4}$

56. Six years ago, the ratio of the ages of Kunal and Sagar was 6:5, Four years hence, the ratio of their ages will be 11:10. What is Sagar's age at present?
(A) 10 years (B) 12 years (C) 14 years (D) 16 years

57. Two lines AB and CD intersect at O. If $\angle AOC + \angle COB + \angle BOD = 270^o$ the measure of $\angle AOC$, $\angle COB$, $\angle BOD$ and $\angle DOA$
(A) 80^o (B) 90^o (C) 110^o (D) 130^o

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. Bacteria lack
(A) cell wall (B) cell membrane
(C) mitochondria (D) cytoplasm

59. The plastids that give fruits and flowers their orange and yellow colours are
(A) chromoplasts (B) coloroplasts
(C) cyanoplasts (D) anthoplasts

60. Mitosis can occur in
(A) haploid cells only (B) diploid cells only
(C) both (A) and (B) (D) pollen mother cells

61. The substance being dissolved in a solution is called:
(A) Solution (B) Solvent
(C) Colloid (D) Solute

62. The main function of a plasma membrane is to
(A) prevent water from entering or leaving (B) control what goes into and out of the cell
(C) act as a sieve, allowing only lipids to pass (D) move the cell from place to place

63. Muscles of the heart are. :
(A) Voluntary and striated (B) Involuntary and striated
(C) Involuntary and smooth (D) Voluntary and smooth

64. Skeletal muscle has
(A) many nuclei (B) two nuclei
(C) no nuclei (D) one nucleus

65. Which of the following is important in blood clotting?
(A) Plasma (B) RBC
(C) WBC (D) Blood platelets

66. Sieve tubes and companion cells occur in
(A) xylem (B) cambium
(C) meristem (D) phloem

Space for Rough Work

Recommended Time: 30 Minutes for Section – III

Section – III

PHYSICS – (PART – A)

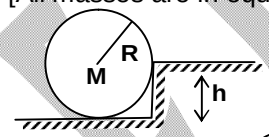
*This part contains **6 Multiple Choice Questions** number **67 to 72.** Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.*

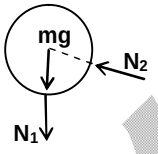
67. A speed of 36 kmph is equivalent to
(A) 10 m/s (B) 20 m/s
(C) 30 m/s (D) 324 m/s

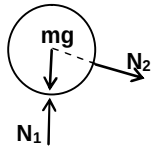
68. A ball is thrown upwards. After leaving the hand, the acceleration of ball
(A) remains constant (B) increases
(C) decreases (D) is zero

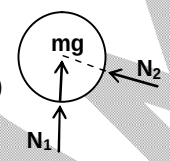
69. The slope of distance-time graph gives
(A) speed (B) Change in acceleration
(C) displacement (D) (A), (B) & (C) all are correct

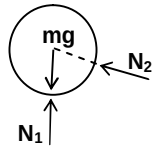
70. The free body diagram of sphere [All masses are in equilibrium] is



(A) 

(B) 

(C) 

(D) 

71. A passenger in a moving train tosses a coin which falls behind him, this shows that the motion of train is:
(A) Accelerated (B) Uniform
(C) Retarded (D) Along circular track

72. What is the correct relation between force (F), changing momentum ($P_2 - P_1$) and time of action (t)
(A) $F = (P_2 - P_1)/t$ (B) $F/t = P_1$
(C) $F = (P_2)t$ (D) $F/t = P_2$

Space for Rough Work

CHEMISTRY – (PART – B)

*This part contains **6 Multiple Choice Questions** number **73 to 78.** Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.*

73. Principle of chromatography is:
(A) Rate of absorption (B) Rate of adsorption
(C) Rate of diffusion (D) None of these

74. The effect of temperature on solubility of a sugar in water is that, it
(A) decreases with increase in temperature (B) increases with increase in temperature
(C) no change (D) may increase or decrease

75. Separating funnel is useful in separating the following
(A) miscible liquids with same density (B) miscible liquids with same colour
(C) miscible liquids with variable density (D) immiscible liquids with variable density

76. Filtration is used to separate
(A) one insoluble solid from another solid (B) an insoluble solid from a liquid
(C) two immisible liquids (D) a solute from a solution

77. What mass of sulphuric acid present in 100 mL of 15% mass by mass solution of sulphuric acid(density = 1.10 g/mL)?
(A) 16.5 g (B) 15.5 g
(C) 15 g (D) 10 g

78. Purity of a solid substance can be checked by its
(A) boiling point (B) melting point
(C) solubility in water (D) solubility in alcohol

Space for Rough Work

MATHEMATICS – (PART – C)

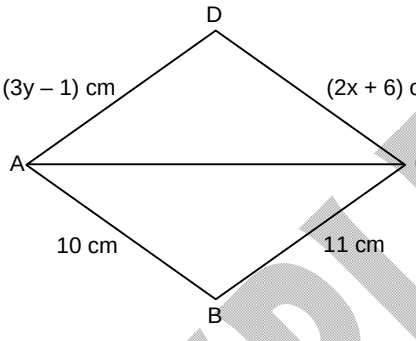
*This part contains **6 Multiple Choice Questions** number **79 to 84.** Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.*

79. If the sides of a triangle are 8 cm, 5 cm and 3 cm less than its semi perimeter then perimeter of triangle is
(A) 16 cm (B) 24 cm (C) 32 cm (D) 48 cm

80. If $5a+\frac{1}{3a}=5$, then the value of $9a^2+\frac{1}{25a^2}$ is
(A) $\frac{51}{5}$ (B) $\frac{29}{5}$ (C) $\frac{52}{5}$ (D) $\frac{39}{5}$

81. Cost of 5 pens and 7 pencils is Rs. 103 and cost of 4 pens and 9 pencils is Rs. 96. Find the total cost of one pen and one pencil
(A) 19 (B) 20 (C) 21 (D) 22

82. In the given figure if $\Delta ADC \cong \Delta CBA$ then x + y is equal to



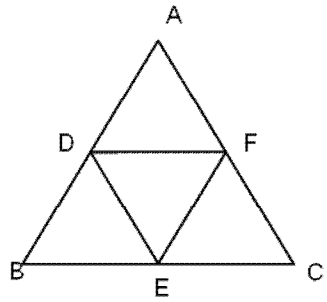
(A) 6 (B) 8 (C) $\frac{37}{6}$ (D) 5

Space for Rough Work

83. Find the value of $(256)^{0.16} \times (256)^{0.09}$

(A) 4 (B) 16
(C) 64 (D) 256.25

84. In the given figure D, E, F are points on AB, BC & AC. Such that BD= BE & CF = CE. If ΔADF is equilateral and $\angle DEF = x$, Find x



(A) 30 (B) 45 (C) 60 (D) 75

Space for Rough Work

BIOLOGY – (PART – D)

*This part contains **6 Multiple Choice Questions** number **85 to 90.** Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.*

85. Cork cambium is an example of
(A) lateral meristem (B) primary meristem
(C) apical meristem (D) intercalary meristem

86. Bases of leaves and internodes have
(A) lateral meristem (B) apical meratem
(C) intercalary meristem (D) none of these

87. The longest phase of cell cycle is
(A) telophase (B) anaphase
(C) interphase (D) metaphase

88. Antibodies are formed by
(A) Platelets (B) Red blood corpuscles
(C) White blood corpuscles (D) Bone marrow

89. During muscle contraction
(A) chemical energy is changed into electrical (B) chemical energy is changed into mechanical
(C) mechanical energy is changed into electrical (D) mechanical energy is changed into chemical

90. Which of the following organelles are cellular garbage disposal systems?
(A) endoplasmic reticulum (B) golgi complex
(C) lysosomes (D) mitochondria

Space for Rough Work

Recommended Time: 45 Minutes for Section – IV

Section – IV

PHYSICS – (PART – A)

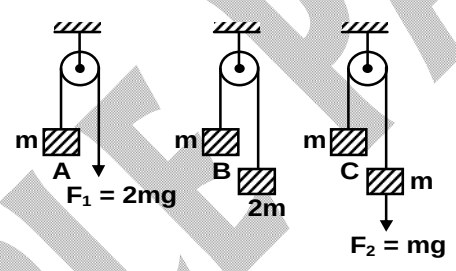
*This part contains **4 Multiple Choice Questions** number **91 to 94.** Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.*

91. Three different objects of masses m_1, m_2 and m_3 are allowed to fall from rest and from the same point '*O*' along three different frictionless paths. The speeds of the three objects, on reaching the ground, will be in the ratio of

(A) $m_1 : m_2 : m_3$ (B) $m_1 : 2m_2 : 3m_3$

(C) 1 : 1 : 1 (D) $\frac{1}{m_1} : \frac{1}{m_2} : \frac{1}{m_3}$

92. In the figure, the blocks A, B and C of mass m each have accelerations a_1, a_2 and a_3 respectively. F_1 and F_2 are external forces of magnitudes 2mg and mg respectively.



(A) $a_1 = a_2 = a_3$ (B) $a_1 > a_2 > a_3$

(C) $a_1 > a_3 > a_2$ (D) $a_1 > a_2, a_2 = a_3$

93. A force F_1 acts on a particle so as acclerate it from rest to a velocity v. The force F_1 is then replaced by F_2 which decelerates it to rest

(A) F_1 must be equal to F_2 (B) F_1 may be equal to F_2

(C) F_1 must be unequal to F_2 (D) none of these

94. If the normal force is doubled, then coefficient of friction is

(A) halved (B) tripled

(C) doubled (D) not changed

Space for Rough Work

CHEMISTRY – (PART – B)

*This part contains **4 Multiple Choice Questions** number **95 to 98.** Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.*

95. A China dish weighs 25 g when empty. When a saturated solution of potassium chloride is poured into it at 40°C, the weight of the dish is 63g. When the solution is totally evaporated, the china dish along with the crystals weighs 40g.
Find the solubility of potassium chloride at 40°C in solvent.
(A) 35 (B) 65.2
(C) 39.5 (D) 7.5

96. What is the percent by volume of ethanol in a solution that contains 35 milliliters of ethanol dissolved in 115 milliliters of water?
(A) 23.3% (B) 25%
(C) 0.23% (D) 2.3%

97. The example of solution of liquid in gas is
(A) Dry air (B) Sugar in water
(C) Mercury in gold (D) Chloroform in nitrogen

98. What is called a dispersion medium?
(A) It is where the dispersed phase settles (B) It is where the solute particles settle
(C) It is where the dispersed phase is dispersed (D) It is the primary medium

Space for Rough Work

MATHEMATICS – (PART – C)

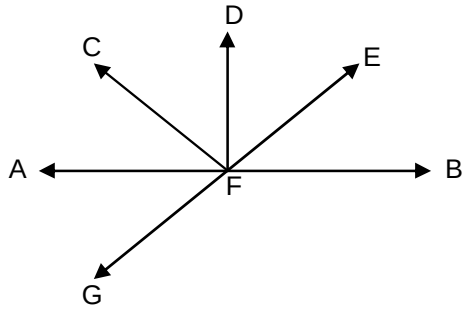
*This part contains **4 Multiple Choice Questions** number **99 to 102.** Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.*

99. The area enclosed by the lines x = 0, x = 2, y = x and y = 3 is:
(A) 2 sq. unit (B) 4 sq. unit (C) 8 sq. unit (D) 16 sq. unit

100. The value of $\sqrt{6+\sqrt{6+\sqrt{6+.....\text{to }\infty}}}$
(A) 3 (B) 2 (C) 1 (D) ± 3

101. $\frac{xy}{x+y}=\frac{2}{3},\ \frac{xy}{y-x}=2$
(A) x = 2 (B) y = 1 (C) x = 1 (D) y = 3

102. In the given figure, if ∠AFC : ∠CFD : ∠DFE : ∠EFB are in ratio 1 : 2 : 3 : 4, then the value of ∠BFG is



(A) 72º (B) 144º (C) 108º (D) 36º

Space for Rough Work

BIOLOGY – (PART – D)

*This part contains **8 Multiple Choice Questions** number **103 to 110.** Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.*

103. Chemical nature of ribosomes is
(A) proteins and RNA (B) beta galactosidase
(C) proteins and lipids (D) glucose and mannans

104. In the fluid-mosaic membrane model, the phospholipid bilayer
(A) is sandwiched between two protein layers (B) has proteins embedded in it
(C) lies on top of a single protein layer (D) is covered by a single protein layer

105. Membranes occur in
(A) cytoplasm, chloroplasts and mitochondria
(B) cytoplasm, nuclei and starch grains
(C) chromosomes, chloroplasts and starch grains.
(D) nuclei, chromosomes and mitochondria

106. Mitotic cell division occurs in
(A) germ cells (B) somatic cells
(C) roots only (D) shoots only

107. Meiosis involves two divisions; these divisions are
(A) one nuclear division and one somatic division
(B) one reduction division and one mitotic division
(C) one reduction division and one cell division.
(D) one equatorial division and one nuclear division

108. The main difference between active and passive transport across cell membranes is that
(A) passive transport is nonselective
(B) passive transport requires a concentration gradient across the cell membrane whereas active transport requires metabolic energy
(C) passive transport is confined to anions and active transport for cations only
(D) active transport occurs more rapidly than passive transport

109. Histone proteins are synthesised in
(A) M-phase (B) S-phase
(C) G_1 phase (D) G_2 phase

110. The function of cork cambium is to produce
(A) cork and secondary cortex (B) secondary cortex and phloem
(C) cork (D) secondary xylem and secondary phloem

Space for Rough Work

FIITJEE Big Bang Edge Test - 2022

for students presently in Class 9 (going to 10) (Paper 1)

SAMPLE PAPER ANSWER KEY

1.	**D**	2.	**C**	3.	**D**	4.	**B**
5.	**B**	6.	**D**	7.	**D**	8.	**B**
9.	**D**	10.	**A**	11.	**A**	12.	**C**
13.	**C**	14.	**D**	15.	**C**	16.	**D**
17.	**D**	18.	**A**	19.	**A**	20	**D**
21.	**D**	22.	**C**	23.	**B**	24.	**D**
25.	**B**	26.	**A**	27.	**B**	28.	**C**
29.	**D**	30.	**A**	31.	**A**	32.	**B**
33.	**B**	34.	**A**	35.	**B**	36.	**C**
37.	**A**	38.	**A**	39.	**C**	40.	**D**
41.	**A**	42.	**C**	43.	**A**	44.	**B**
45.	**B**	46.	**A**	47.	**C**	48.	**C**
49.	**B**	50.	**B**	51.	**A**	52.	**D**
53.	**D**	54.	**A**	55.	**A**	56.	**D**
57.	**B**	58.	**C**	59.	**A**	60.	**C**
61.	**D**	62.	**B**	63.	**B**	64.	**A**
65.	**D**	66.	**D**	67.	**A**	68.	**A**
69.	**A**	70.	**D**	71.	**A**	72.	**A**
73.	**B**	74.	**B**	75.	**D**	76.	**B**
77.	**A**	78.	**B**	79.	**C**	80.	**D**
81.	**A**	82.	**A**	83.	**A**	84.	**C**
85.	**A**	86.	**C**	87.	**C**	88.	**C**
89.	**B**	90.	**C**	91.	**C**	92.	**C**
93.	**B**	94.	**D**	95.	**B**	96.	**A**
97.	**D**	98.	**C**	99.	**B**	100.	**A**
101.	**C**	102.	**C**	103.	**A**	104.	**B**
105.	**D**	106.	**B**	107.	**B**	108.	**B**
109.	**B**	110.	**A**				