FIITJEE Medical Admission Test

(SAMPLE PAPER)

for students presently in **Class XI**

Paper-1

Time: 3 Hours (9:00 am – 12:00 pm) | **CODE** | **1101** | ***Maximum Marks: 536***

Instructions:

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

1. **You are advised to devote 50 Minutes on Section-I, 90 Minutes on Section-II and 40 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	**+4**	**-1**
SECTION – II	PHYSICS (PART-A)	1 to 12	**+4**	**-1**
	CHEMISTRY (PART-B)	13 to 24	**+4**	**-1**
	BIOLOGY (PART-C)	25 to 48	**+4**	**-1**
SECTION – III	PHYSICS (PART-A)	1 to 14	**+4**	**-1**
	CHEMISTRY (PART-B)	15 to 28	**+4**	**-1**
	BIOLOGY (PART-C)	29 to 56	**+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 Registration Number, Name and Test Centre in the space provided at the bottom of this sheet

Note: Please check this Question Paper contains all **3** sections and **134** questions. If not so, exchange for the correct Question Paper

Registration Number : _____

Name of the Candidate : _____

Test Centre : _____

Recommended Time: 50 Minutes for 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. In a row of letters, a letter is 5th from left end and 12th from the right end. How many letters are there in a row?
   (A) 15 (B) 16 (C) 17 (D) 18

2. In a row of 25 children, Nayan is 14th from the right end. Arun is 3rd to the left of Nayan in the row. What is Arun's position from the left end of the row?
   (A) 8th (B) 9th (C) 7th (D) 10th

3. In arrow of girls, Veena is 12th from the start and 19th from the end. In another row of girls, Sunita is 14th from the start and 20th from the end. How many girls are there in both the rows together?
   (A) 72 (B) 65 (C) 63 (D) 61

4. Shalini is standing at the South-East corner of a rectangular filed. She starts crossing the field diagonally. After walking half the distance, she turns right, walks some distance and turns left. Which direction is Shalini facing now?
   (A) South-East (B) South-West (C) North-East (D) North-West

5. One morning after sunrise, Seema was standing facing a pole. The shadow of the pole fell exactly to her right. Which direction was she facing?
   (A) North (B) South (C) West (D) East

6. A watch reads 4 : 30. If the minute hand points East, in which direction will the hour hand point?
   (A) South-East (B) North-East (C) North (D) North-West

7. Find the 11th letter to the left of 20th letter from left in the English alphabet.
   (A) D (B) J (C) K (D) I

8. Which letter will be in the middle between 6th letter from the left and 14th letter from the left in the English alphabet?
   (A) K (B) L (C) J (D) O

9. Arrange the given words in an alphabetical order and choose the one that comes first.
   (A) Scenery (B) School (C) School (D) Scientist

10. If 'TEACHER' is coded as 'VGCEJGT'. Then, what will be code for 'CHILDREN'?
    (A) EJKNFTGP (B) EJKNFHTP (C) EJKNFGTO (D) EJKNEGTP

11. If the word 'CLERK' is coded as 'EOIWQ', then how would you code the word 'TABLE'?
    (A) VCDNG (B) VCDGIN (C) VDFQK (D) VDFOK

12. In a certain code, 'FORGET' is written as 'DPPHCU'. How would 'DOCTOR' be written in that code?
    (A) BPAUPS (B) EMDRPP (C) BPAUMS (D) BRARPP

13. Complete the given series.
    5, 9, 17, 29, 45, …
    (A) 60 (B) 65 (C) 70 (D) 68

14. Complete the given series.
    15, 51, 105, …
    (A) 501 (B) 51 (C) 15 (D) 105

15. Complete the given series.
    25, 20, 15, 10, …
    (A) 50 (B) 75 (C) 100 (D) 5

16. Complete the given series.
3, 7, 15, 31, …
(A) 63 (B) 53 (C) 43 (D) 73

17. Complete the given series.
1, 2, 6, 15, 31, …
(A) 56 (B) 55 (C) 57 (D) 58

18. Pointing to a man in a photograph, a woman said, 'His brother's father is the only son of my grandfather." How is the woman related to the man in the photograph?
(A) Mother (B) Aunt (C) Sister (D) Daughter

19. P and Q are brothers, X and Y are sisters, son of P is the brother of Y. How is Q related to X?
(A) Father (B) Brother (C) Daughter (D) Uncle

20. If Mohan says that his mother is the only daughter of Shyam's mother, then how is Shyam related to Mohan?
(A) Son (B) Father (C) Sister (D) Uncle

21. Pointing to a man on the stage, Rita said, "He is the brother of the daughter of the wife of my husband." How is the man on the stage related to Rita?
(A) Son (B) Husband (C) Cousin (D) Nephew

22. A woman introduces a man as the son of the brother of her mother. How is the man related to the woman?
(A) Nephew (B) son (C) Cousin (D) Uncle

23. If + means, $\times$, – means $\div$, $\times$ means + and $\div$ means –, then $10 \times 18 - 9 + 3 \div 1$ is equal to
(A) 16 (B) 15 (C) 17 (D) 18

24. If + means $\times$, – means $\div$, $\times$ means – and $\div$ means +, then the value of $9 + 8 \div 8 - 4 \times 9$ is
(A) 56 (B) 65 (C) 66 (D) 55

25. If – means $\times$, $\times$ means +, + means $\div$ and $\div$ means –, then the value of $14 - 10 \times 4 \div 16 + 8$ is
(A) 241 (B) 124 (C) 142 (D) 412

26. If + means $\times$, – means $\div$, $\times$ means – and $\div$ means +, then the value of $32 \div 8 - 4 \times 12 + 4$ is
(A) –14 (B) –41 (C) –40 (D) –12

27. If A means '+', B means ' – ', C means '$\times$' and D means '$\div$', then 18 C 14 A 6 B 16 D 4 is equal to
(A) 63 (B) 288 (C) 254 (D) 1208

28. If A denotes $\div$, B denotes +, C denotes – and D denotes $\times$, then which of the following is not true?
(A) 24 A 6 B 10 = 5 D 6 C 16 (B) 60 B 4 D 6 = 4 B 2 D 6
(C) 30 D 4 A 12 = 30 A 12 D 4 (D) 108 C 72 = 78 C 42

29. In the problem below instead of conventional +, – $\times$ and $\div$ symbols, some others are used. However, all lead to the same final answer. Correct final answer after assessing the new symbols.
(i) $10^*6^*7 = x$
(ii) $3^*10^*10 = x$
(iii) $8^*5^*10 = x$
(iv) $4^*8^*11 = x$
(A) 352 (B) –15 (C) 420 (D) 23

30. Interchange:
$12 \div 2 - 6 \times 3 + 8 = 16$
(A) $\div$ and + (B) – and + (C) $\times$ and + (D) $\div$ and $\times$

Recommended Time: 90 Minutes for Section – II

PHYSICS – (PART – A)

This part contains 12 ***Multiple Choice Questions*** *number 1* ***to 12.*** *Each question has 4 choices (A), (B), (C) and (D), out of which* ***ONLY ONE*** *is correct.*

1. A bus is moving with a velocity of 10 m/s on a straight road. A scooterist wishes to overtake the bus in 100 seconds. If the bus is at a distance of 1 km from the scooterist, at what velocity should the scooterist chase the bus?
   (A) 50 m/s (B) 40 m/s (C) 30 m/s (D) 20 m/s

2. The respective number of significant figures for numbers 23.023, 0.0003 and 2.1×10^{-3} are
   (A) 5,1,2 (B) 5,1,5 (C) 5,5,2 (D) 4,4,2

3. A rod of length L is placed on x-axis between x = 0 and x = L. The linear density i.e., mass per unit length denoted by ρ, of this rod, varies as, $\rho = a + bx$. What should be the dimensions of b?
   (A) $M^2L^1T^0$ (B) $M^1L^{-2}T^0$ (C) $M^{-1}L^3T^1$ (D) $M^{-1}L^2T^3$

4. A body is initially at rest. It undergoes a one-dimensional motion with constant acceleration. The power delivered to it at time t is proportional to,
   (A) $t^{1/2}$ (B) t (C) $t^{3/2}$ (D) t^2

5. A passenger arriving in a new town wishes to go from the station to a hotel located 10 km away on a straight road from the station. A dishonest cabman takes him along a circuitous path 23 km long and reaches the hotel in 28 min. The average speed of the taxi is:
   (A) $48\ km\ h^{-1}$ (B) $49.3\ km\ h^{-1}$ (C) $50\ km\ h^{-1}$ (D) $48.42\ km\ h^{-1}$

6. A particle in one-dimensional motion:
   (A) with zero speed at an instant may have non-zero acceleration at that instant.
   (B) with zero speed may have non-zero velocity.
   (C) with constant speed, must have non-zero acceleration.
   (D) with a positive value of acceleration must be speeding up.

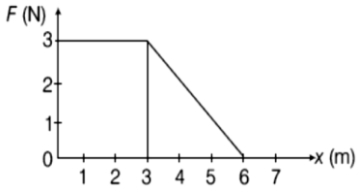
7. A stone tied to the end of a string 80 cm long is whirled in a horizontal circle at a constant speed. If the stone makes 14 revolutions in 25 sec, what is the magnitude of the acceleration of the stone?
   (A) $8.1 ms^{-2}$ (B) $7.7\ ms^{-2}$ (C) $8.7\ ms^{-2}$ (D) $9.9\ ms^{-2}$

8. A man of mass 70 kg stands on a weighing scale in a lift that is moving. What would be the reading if the lift mechanism failed and it hurtled down freely under gravity?
   (A) 105 kg (B) 70 kg (C) 0 (D) 10 kg

9. For a projectile, the angle between the velocity and the x-axis as a function of time is given by:
   (A) $\theta(t) = \cos^{-1}\left(\frac{u_y - gt}{u_x}\right)$ (B) $\theta(t) = \sin^{-1}\left(\frac{u_y - gt}{u_x}\right)$
   (C) $\theta(t) = \cot^{-1}\left(\frac{u_y - gt}{u_x}\right)$ (D) $\theta(t) = \tan^{-1}\left(\frac{u_y - gt}{u_x}\right)$

10. $\hat{i}$ and $\hat{j}$ are unit vectors along the x- and y-axis respectively. What is the magnitude and direction of the vector $\hat{i} - \hat{j}$?
    (A) $\sqrt{2}, 45^\circ$ with x –axis (B) $\sqrt{2}, -45^\circ$ with x –axis
    (C) $\frac{1}{\sqrt{2}}, 60^\circ$ with x –axis (D) $\frac{1}{\sqrt{2}}, -60^\circ$ with x –axis

11. A force F acting on an object varies with distance x as shown here. The force is newton and x is in metre. The work done by the force in moving the object from x = 0 to x = 6 m is



(A) 4.5 J (B) 13.5 J (C) 9.0 J (D) 18.0 J

12. The string of a pendulum is horizontal. The mass of bob attached to it is m. Now, the string is released. The tension in the string in the lowest position is
(A) mg (B) 2mg (C) 3mg (D) 4mg

CHEMISTRY – (PART – B)

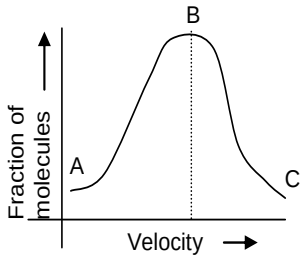
This part contains 12 ***Multiple Choice Questions*** *number 13* ***to 24.*** *Each question has 4 choices (A), (B), (C) and (D), out of which* ***ONLY ONE*** *is correct.*

13. Which has maximum number of atoms? (Atomic mass is given in bracket).
(A) 24 g of C (12) (B) 56 g of Fe (56) (C) 27 g of Al (27) (D) 108 g of Ag (108)

14. 6.02×10^{20} molecules of urea are present in 100 mL of its solution. The concentration of urea solution is
(A) 0.001 M (B) 0.1 M (C) 0.02 M (D) 0.01 M

15. For an ideal gas, the number of moles per litre in terms of its pressure P, gas constant R and temperature T is
(A) $\frac{PT}{R}$ (B) PRT (C) $\frac{P}{RT}$ (D) $\frac{RT}{P}$

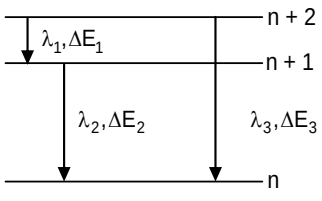
16. What does the following graph represent by dotted line at stage B?



(A) $\sqrt{\frac{2RT}{M}}$ (B) $\sqrt{\frac{3RT}{M}}$
(C) $\sqrt{\frac{8RT}{\pi M}}$ (D) Threshold energy

17. Energies of subshells in H-atom depend upon
(A) n value (B) (n + l) value (C) l value only (D) n, l and m values

18. Which of the following relations is correct for the facts shown in the given figure



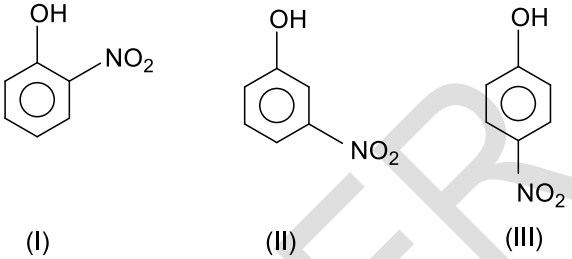
(A) $\lambda_3 = \lambda_1 + \lambda_2$ (B) $\lambda_1 + \lambda_2 + \lambda_3 = 0$ (C) $\lambda_3 = \frac{\lambda_1\lambda_2}{\lambda_1 + \lambda_2}$ (D) $\lambda_3^2 = \lambda_1^2 + \lambda_2^2$

19. Which of the following elements shows photoelectric effect even in the presence of candle light?
(A) P (B) Ra (C) Cs (D) Li

20. The cyanide ion CN^- and N_2 molecule are isoelectronic but in contrast to CN^-, N_2 is chemically inert, because of
(A) Low bond energy (B) Absence of bond polarity
(C) Unsymmetrical electron distribution (D) Presence of more number of electrons in bonding orbitals

21. Which of the following is the most volatile?

(A) I
(B) II
(C) III
(D) All are equally volatile



(I) (II) (III)

22. The shape of XeO_2F_2 molecule is
(A) Trigonal bipyramidal (B) Square planar (C) Tetrahedral (D) See-saw

23. Which of the following represents the correct order of increasing first ionisation enthalpy for Ca, Ba, S, Se and Ar?
(A) Ca < S < Ba < Se < Ar (B) S < Se < Ca < Ba < Ar
(C) Ba < Ca < Se < S < Ar (D) Ca < Ba < S < Se < Ar

24. $Cr_2O_7^{2-} + X \xrightarrow{H^+} Cr^{3+} + H_2O +$ Oxidation product of X. X cannot be
(A) $C_2O_4^{2-}$ (B) Fe^{2+} (C) SO_4^{2-} (D) S^{2-}

BIOLOGY – (PART – C)

*This part contains **24 Multiple Choice Questions** number 25 **to 48.** Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.*

25. The scientific name of shoe flower is written as Hibiscus rosasinensis L. which of the following is correct statement regrading this?
(A) Letter L signifies Latin language
(B) The L stands for Later word is rosasinensis
(C) Letter L signifies taxonomist Linnaeus
(D) rosasineses is the generic word

26. Which one of the following has the least similar characters?
(A) Genus (B) class (C) Family (D) Kingdom

27. Which type of nutrition is found in virus?
(A) Holozoic (B) Saprophytic (C) Holophytic (D) Parasitic

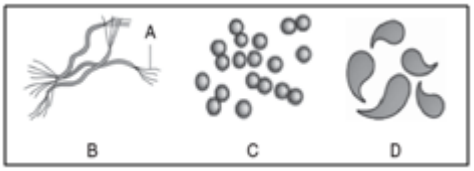
28. Which of the following suffix is used for units of classification in plants indicates a taxonomic category of 'family'?
(A) –ales (B) –onae (C) –aceae (D) –ae

29. Mode of nutrition in euglenoids is
(A) Autotrophic (B) Heterotrophic (C) Mixotrophic (D) Saprotrophic

30. The hyphae without cell wall, continuous tube filled with multinucleated cytoplasm is known as
(A) Septate hyphae (B) Coenocytic hyphae (C) Mycelium (D) None of these

31. Lichens are symbiotic association between
(A) Algae and bacteria (B) Bacteria and fungus
(C) Algae and Fungi (D) Fungus and root of higher plant

32. Identify the A, B, C and D in this figure.



(A) A–Spirilla, B–Vibrio, C–Flagellum, D–Cocci
(B) A–Cocci, B–Flagellum, C–Spirilla, D–Vibrio
(C) A–Vibrio, B–Spirilla, C–Cocci, D–Flagellum
(D) A–Flagellum, B–Spirilla, C–Cocci, D–Vibrio

33. Assertion: Bacteria are prokaryotic.
Reason: Bacteria do not possess true nucleus and membrane bound cell organelles.
(A) Assertion and Reason are true and reason is the correct explanation of the assertion
(B) Assertion and Reason are true but not the reason is a correct explanation of the assertion.
(C) If the assertion is true but the reason is false
(D) If both the assertion and reason are false

34. Organisms living in salty areas are called as
(A) Methanogens (B) Halophiles
(C) Heliophytes (D) Thermoacidophiles

35. A dikaryon is formed when
(A) Meiosis is formed (B) The nuclei of two haploid cells do not fuse
(C) Cytoplasm does not fuse (D) None of the above

36. Agar is commercially obtained from
(A) Gelidium and Gracilaria (B) Laminaria and spirulina
(C) Chlorella and spirullina (D) Chlamydomonas and spirogyra

37. The male sex organ of bryophyte is called
(A) Antheridium (B) Testes (C) Globule (D) Archegonium

38. The first terrestrial plants to posses vascular tissues are
(A) Gymnosperms (B) Bryophyte (C) Pteridophytes (D) All of these

39. Ovules are not enclosed by the ovaries in
(A) Pteridophytes (B) Angiosperms (C) Gymnosperms (D) All of these

40. Which is not a character of sponges?
(A) Multicellular (B) Cells are functionally independent
(C) Cellular level of organization (D) Tissue level of organization

41. Animals with notochord are called as
(A) Achordatata (B) chordates (C) non chordates (D) both B and C

42. Flame cells helps in excretion and osmoregulation in
(A) Earthworm (B) Hookworm (C) Roundworm (D) Tapeworm

43. Which of the following is the largest phylum?
(A) Mollusca (B) Echinodermata (C) Arthropoda (D) Annelida

44. Other name of limulus is
(A) Laccifer (B) Locust (C) King crab (D) Gregarious pest

45. Animal belonging to phylum chordata shows
(A) presence of notochord (B) presence of dorsal tubular nerve cord
(C) presence of Pharyngeal gill slits (D) All of the above

46. Which of the following is exoskeleton in vertebrates?
(A) Scales (B) Feathers (C) Hair (D) All of the above

47. Amphibian belong to super class
(A) Pisces (B) Agnatha (C) Gnathostomata (D) Tetrapoda

48. Four chambered heart is present in all except
(A) Crocodilus (B) Alligator (C) Corvus (D) Calotes

Recommended Time: 40 Minutes for Section – III

PHYSICS – (PART – A)

*This part contains **14 Multiple Choice Questions** number 1 **to 14.** Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.*

1. The momentum of a body is increased by 20%. The percentage increase in kinetic energy is
(A) 54% (B) 44% (C) 100% (D) 50%

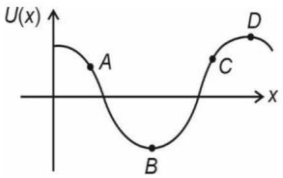
2. The time taken by a body to slide down a rough 45° inclined plane is twice that required to slide down a smooth 45° inclined plane. The coefficient of kinetic friction between the object and rough plane is given by
(A) $\frac{1}{3}$ (B) $\frac{3}{4}$ (C) $\sqrt{\frac{3}{4}}$ (D) $\sqrt{\frac{2}{3}}$

3. A body of mass 5 kg at rest is acted upon by two mutually perpendicular forces 6 N and 8 N simultaneously. Its kinetic energy after 10 s is
(A) 100 J (B) 200 J (C) 500 J (D) 1000 J

4. A uniform rope of length L lies on a table. If the coefficient of friction is μ, the maximum fractional length of the hanging part of the rope from the edge of the table without sliding down will be
(A) $\frac{L}{\mu}$ (B) $\frac{1}{\mu+1}$ (C) $\frac{\mu}{\mu+1}$ (D) $\frac{\mu}{\mu-1}$

5. A block A of mass m_1 rests on a horizontal table. A light string connected to it passes over a frictionless pulley at the edge of table and from its other end another block B of mass m_2 is suspended. The coefficient of kinetic friction between the block and the table is μ_k. When the block A is sliding on the table, the tension in the string is
(A) $\frac{(m_2+\mu_k m_1)g}{(m_1+m_2)}$ (B) $\frac{(m_2-\mu_k m_1)g}{(m_1+m_2)}$ (C) $\frac{m_1m_2(1-\mu_k)g}{(m_1+m_2)}$ (D) $\frac{m_1m_2(1+\mu_k)g}{m_1+m_2}$

6. A particle is moving along x-axis under conservative forces. Its potential energy U(x) varies with x co-ordinate as shown in the figure. The force is negative at



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

7. A vector can be resolved
(A) Only in two components (B) Only in three components
(C) In any number of components (D) Either two or three components

8. A body of mass 1 kg is moving according to the law $x(t) = (5t + 4t^2 + 6t^3)$ m. The force acting on the body at time t = 2 s is
(A) 8 N (B) 72 N (C) 80 N (D) 40 N

9. Which among the following statement is incorrect?
(A) Momentum has both direction and magnitude
(B) Momentum is a scalar quantity
(C) Rate of change of momentum of an object is in direction of net force
(D) Rate of change of momentum is a vector quantity.

10. A particle moves with the velocity $\vec{v} = (2\hat{i} - 3\hat{j} + \hat{k})\ m/s$ under the influence of a constant force $\vec{F} = (2\hat{i} + b\hat{j} - 3\hat{k})\ N$. If the instantaneous power delivered to particle is zero, then value of b is

(A) 1 (B) 3 (C) $\frac{1}{2}$ (D) $\frac{1}{3}$

11. To a person moving with a speed of 5 m/s towards east rain appears to be falling vertically downward with a speed of $5\sqrt{3}\ m/s$. The actual velocity of rain is
(A) 10 m/s at 30° with vertical
(B) 20 m/s at 30° with vertical
(C) 10 m/s at 60° with vertical
(D) 20 m/s at 60° with vertical

12. The work done by the gravity on a body moving upward is
(A) Zero
(B) Negative
(C) Positive
(D) Can be zero or positive

13. What is the angle between two vector forces of equal magnitude such that their resultant is one-third of either of the original forces?
(A) $\cos^{-1}\left(-\frac{17}{18}\right)$ (B) $\cos^{-1}\left(-\frac{1}{3}\right)$ (C) 45° (D) 120°

14. If vectors $\vec{A} = \hat{i} + 2\hat{j} + 4\hat{k}$ and $\vec{B} = 5\hat{i}$ represent the two sides of a triangle, then the third side of the triangle can have length equal to
(A) 6 (B) $\sqrt{56}$ (C) Either (A) or (B) (D) Neither (A) or (B)

CHEMISTRY – (PART – B)

*This part contains **14 Multiple Choice Questions** number 15 **to 28.** Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.*

15. When $KMnO_4$ acts as an oxidising agent and ultimately forms $MnO_4^{2-}, MnO_2, Mn_2O_3$ and Mn^{2+} in separate reactions then the number of electrons transferred in each case respectively is
(A) 4, 3, 1, 5 (B) 1, 5, 3, 7 (C) 1, 3, 4, 5 (D) 3, 5, 7, 1

16. The correct order of bond angle (smallest first) in H_2S, NH_3, BF_3 and SiH_4 is
(A) $H_2S < SiH_4 < NH_3, BF_3$
(B) $NH_3 < H_2S < SiH_4 < BF_3$
(C) $H_2S < NH_3 < SiH_4 < BF_3$
(D) $H_2S < NH_3 < BF_3 < SiH_4$

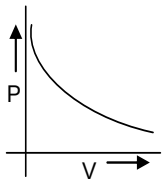
17. Hybridisation of the underlined atom changes in
(A) $\underline{Al}H_3$ changes to $\underline{Al}H_4^-$
(B) $H_2\underline{O}$ changes to $H_3\underline{O}^+$
(C) $\underline{N}H_3$ changes to $\underline{N}H_4^+$
(D) in all cases

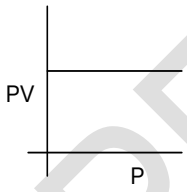
18. K^+ and F^- both have approximate ionic radii 135 pm each. Atomic radii (covalent) for these respectively are given by the set
(A) 196 pm and 68 pm (B) 68 pm and 196 pm (C) 196 pm each (D) 68 pm each

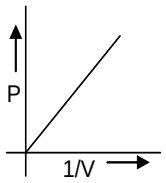
19. The highest velocity of electron is available in
(A) H, n = 2 (B) $He^+, n = 6$ (C) $Li^{2+}, n = 3$ (D) $Be^{3+}, n = 5$

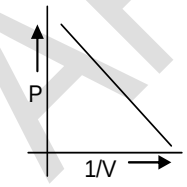
20. Among the following series of transition metal ions, the one where all metal ions have same 3d electronic configuration is
(A) $Ti^{2+}, V^{3+}, Cr^{4+}, Mn^{5+}$ (B) $Ti^{3+}, V^{2+}, Cr^{3+}, Mn^{4+}$
(C) $Ti^{+}, V^{4+}, Cr^{6+}, Mn^{7+}$ (D) $Ti^{4+}, V^{3+}, Cr^{2+}, Mn^{3+}$

21. Critical temperatures of some gases are
$H_2 = 33.2K,\ He = 5.3K, O_2 = 154.3K, N_2 = 126K$
Which of the following order is correct for ease of liquefaction?
(A) $He > H_2 > N_2 > O_2$ (B) $N_2 > O_2 > He > H_2$
(C) $O_2 > N_2 > H_2 > He$ (D) $O_2 > H_2 > N_2 > He$

22. Which of the following plots does not represent Boyle's law?
(A) 

(B) 

(C) 

(D) 

23. Two separate samples of O_2 and SO_2 contain equal weight. What is the ratio of their number of molecules?
(A) 1 : 1 (B) 1 : 2 (C) 2 : 1 (D) None of these

24. A compound has 28.57% sulphur in it. The minimum molecular mass of the compound is
(A) 50 (B) 90 (C) 112 (D) 224

25. To neutralise completely 20 mL of 0.1 M aqueous solution of phosphorus acid (H_3PO_3), the volume of 0.1 M aqueous KOH solution required is
(A) 10 mL (B) 60 mL (C) 40 mL (D) 20 mL

26. Molecular weight of H_3PO_4 is 98. Its equivalent weight related to the reaction given below is
$H_3PO_4 + NaOH \rightarrow H_2O + NaH_2PO_4$
(A) 98 (B) 49 (C) 294 (D) 32.67

27. Electronic configuration of four elements are given below. The element with the highest ionisation energy
(A) $[Ne]3s^2 3p^1$ (B) $[Ne]3s^2 3p^3$
(C) $[Ne]3s^2 3p^2$ (D) $[Ne]3s^2 3p^4$

28. Which of the following has shortest bond length?
(A) O_2^{2+} (B) O_2^{+} (C) O_2 (D) O_2^{2-}

BIOLOGY – (PART – C)

This part contains 28 ***Multiple Choice Questions*** *number* ***29 to 56.*** *Each question has 4 choices (A), (B), (C) and (D), out of which* ***ONLY ONE*** *is correct.*

29. Amongst the given taxonomic aids, how many are related to preservation of specimens? (Monograph, Key, Museums, Botanical Gardens, Catalogue, Herbarium)
(A) One (B) Three (C) Two (D) Four

30. Rattus rattus is a scientific name of the black rat, if the specific name is identical with the generic name, thus it is an example of
(A) Autonym (B) Tautonym (C) Synonym (D) Homonym

31. The term species was coined by
(A) Aristotle (B) Engler (C) John Ray (D) Linnaeus

32. Binomial nomenclature is
(A) Two words in the name of a species
(B) Two names are local and specific
(C) One scientific name with two components
(D) Two phases, asexual and sexual in the life cycle of a species

33. The link between the both plants and animals are
(A) Virus (B) Amoeba (C) Euglena (D) Parazoa

34. An attribute found in plants but not animals is
(A) Metabolism (B) Sexual reproduction
(C) Autotrophy (D) Asexual reproduction

35. Julian Huxley is father of
(A) Classical taxonomy (B) Artificial taxonomy
(C) Neo taxonomy (D) Adansonian taxonomy

36. Kingdom protista include
(A) Chrysophyte (B) Dinoflagellate (C) Euglenoids (D) All of these

37. Sleeping sickness is caused by
(A) Plasmodium (B) Paramoecium (C) Trypanosoma (D) Entamoeba

38. Who showed that virus can be crystallized out?
(A) Ivanowsky (B) Beijerinck (C) Stanley (D) Pasteur

39. Lichens are
(A) Pollution indicators
(B) Symbiotic association between algae and fungus
(C) Pioneer species in primary succession on rocks
(D) All of the above

40. What indicates A in the figure?

(A) Heterocyst (B) Mucilaginous sheath
(C) Cyanobacteria (D) ATP

41. Dikaryon formation occurs in
(A) ascomycetes (B) basidiomycetes (C) both a and b (D) phycomycetes

42. Protonema is found in
(A) Liverworts (B) Selaginella (C) Funaria (D) None

43. Zygote after multiplication in angiosperm develop in
(A) Endosperm (n) (B) Embryo (n) (C) Endosperm (D) Embryo (2n)

44. Closed type of circulatory system is found in
(A) Annelida (B) Cephalopods (C) Vertebrate (D) All of the above

45. Polyp → Asexually → Medusa → Sexually → Polyp
The above cycle is shown by
(A) Physalia (B) Aurelia (C) Obelia (D) Hydra

46. The following features belong to which of the following phylum?
(1) Triploblastic (2) Bilateral symmetry (3) Eucoelomate (4) Metamerism
(A) Mollusca (B) Aschelminthes (C) Platyhelminthes (D) Annelida

47. Ecdysis is seen in case of
(A) Nereis (B) Pila (C) Sea urchin (D) Cockroach

48. Respiratory system in the Phylum Mollusca is
(A) Gills (B) Pulmonary sac (C) book lung (D) both a and b

49. Water vascular system helps in
(A) Locomotion (B) Capture and transport of food
(C) Respiration (D) All of the above

50. What is/are the functions of tube feet in starfish
(A) Locomotion (B) Respiration
(C) capture and transport of food and excretion (D) all of the above

51. unique feature of Hemichordate is / are
(A) presence of stomochord (B) excretion is by proboscis gland
(C) worm like cylindrical body (D) All of the above

52. Vertebrates have
(A) Ventral muscular heart with 3, 2 or 4 chamber. (B) Kidneys for excretion and osmoregulation.
(C) Paired appendages which may be fins or limbs. (D) All of the above

53. The study of fishes is called
(A) Ichthyology (B) Serpentology (C) Saurology (D) Chonchology

54. Post anal tail part is present in
(A) Phylum Chordata (B) Phylum Hemichordata
(C) Phylum Echinodermata (D) Phylum Mollusc

55. The first vertebrate which are warm-blooded
(A) Reptilia (B) Amphibian (C) Birds (D) Mammals

56. Mammals are mostly
(A) Viviparous (B) Oviparous (C) Ovoviviparous (D) All of these

FIITJEE Medical Admission Test

for students presently in **Class XI**

(Paper-1)

Section – I

1.B	2.B	3.C	4.D	5. B	6.B	7. D	8.C	9.A	10.A
11.C	12. C	13.B	14.A	15.D	16.A	17.A	18.C	19.D	20.D
21.A	22.C	23.B	24.B	25.C	26.A	27.C	28.B	29.D	30.B

Section – II

PART - A

1.D	2.A	3.B	4.B	5.B	6.A	7.D	8.C	9.D	10.B
11.B	12.C								

PART - B

13.A	14.D	15.C	16.A	17.A	18.C	19.C	20.B	21.A	22.D
23.C	24.C								

PART - C

25.C	26.D	27.D	28.C	29.C	30.B	31.C	32.D	33.A	34.B
35.B	36.A	37.A	38.C	39.C	40.D	41.B	42.D	43.C	44.C
45.D	46.D	47.D	48.D						

Section – III

PART - A

1.B	2.B	3.D	4.C	5.D	6.C	7.C	8.C	9.B	10.D
1.A	12.B	13.A	14.C						

PART - B

15.C	16.C	17.A	18.A	19.C	20.A	21.C	22.D	23.C	24.C
25.C	26.A	27. B	28.A						

PART - C

29. B	30.B	31.C	32.C	33.C	34.C	35.C	36.D	37.C	38.A
39.D	40.A	41.C	42.C	43.D	44.D	45.C	46.D	47.D	48.D
49.D	50.D	51.D	52.D	53.A	54.A	55.C	56.A		