



# Aakash

Medical | IIT-JEE | Foundations

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## Admission-cum-Scholarship Test (Sample Paper)

(Regular Course for AIPMT-2017)

(Syllabus of the Test : Physics, Chemistry & Biology of Class XII)

Roll No.: \_\_\_\_\_

Test Booklet Code : **A**

Time : 2 Hrs.

Max.Marks : 400

### INSTRUCTIONS TO THE CANDIDATES

1. The initial 10 minutes are earmarked for the candidates to carefully read the instructions. (Note : The candidates are not allowed to either look inside the question booklet or start answering during these initial 10 minutes.)
2. The question booklet and answer sheet are issued separately at the start of the examination.
3. This question booklet contains 100 questions.
4. Read each question carefully.
5. Determine the correct answer, one out of the four available choices given under each question.
6. It is mandatory to use Ball Point Pen to darken to appropriate circle in the answer sheet.
7. For each correct answer, **four** marks will be awarded. There is **no negative** marking.

#### For Example

Q. 12 : In the Question Booklet is: Which one of the following is linear in Geometry?

(Answer Sheet)

- (1)  $\text{SO}_2$
- (2)  $\text{CO}_2$
- (3)  $\text{NO}_2$
- (4)  $\text{KO}_2$

Q.12. ① ② ③ ④

Thus as the correct answer is choice 2, the candidate should darken completely (with a blue/black Ball point pen only) the circle corresponding to choice 2 against Question No. 12 on the Answer Sheet. If more than one circle is darkened for a given question such answer will be rejected.

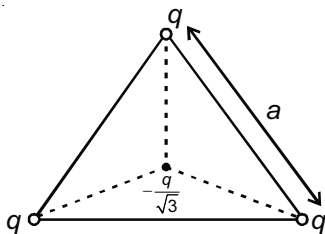
8. Do not use white-fluid or any other rubbing material on answer sheet. No change in the answer once marked is allowed. Before handing over the answer sheet to the invigilator, candidate should check that **Roll No.** and **Test-Booklet code** have been filled and marked correctly.
9. Rough work should be done only on the space provided in the question booklet.
10. Immediately after the prescribed examination time is over, the **Answer sheet and Question booklet are to be returned to the invigilator.** If the candidate wants to leave the examination hall before time, he/she should hand over the question paper and answer sheet to the invigilator. However, no student can leave the examination hall before half time.



PHYSICS

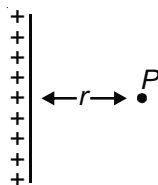
Choose the correct answer :

1. Which of the following is a property of charge
  - (1) Quantization of charge
  - (2) Invariance of charge
  - (3) Additivity of charge
  - (4) All of above
2. Three charges ( $q$ ) are placed on the vertices of an equilateral triangle and a charge  $\left(-\frac{q}{\sqrt{3}}\right)$  is placed at the centroid. Find the net force on a charge at the vertex



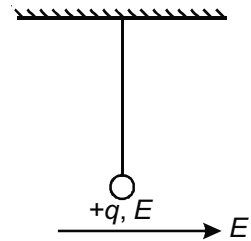
- (1) Zero
  - (2)  $\frac{kq}{a^2}$
  - (3)  $\frac{2kq}{a^2}$
  - (4)  $\frac{kq}{a^2\sqrt{2}}$
3. The number of electrons present in 1 C of charge is
    - (1)  $6.25 \times 10^{18}$
    - (2)  $6.25 \times 10^{17}$
    - (3)  $6.27 \times 10^{16}$
    - (4)  $6.25 \times 10^{15}$
  4. If a wire having infinite length has a linear charge density ' $\lambda$ ', find the electric field at a distance ' $r$ '

- (1)  $\frac{\lambda}{\pi\epsilon_0 r}$
- (2)  $\frac{\lambda}{2\pi\epsilon_0 r}$
- (3)  $\frac{\lambda}{4\pi\epsilon_0 r}$
- (4)  $\frac{\lambda}{\epsilon_0 r}$



5. A simple pendulum whose bob has a mass ' $m$ ' and charge ' $q$ ' is placed in a horizontal electric field  $E$ . Find the angle which the string makes with the downward vertical line, when the bob is in equilibrium

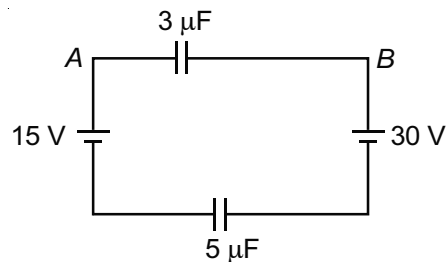
- (1)  $\tan^{-1} \frac{mg}{qE}$
- (2)  $\tan^{-1} mg$
- (3)  $\tan^{-1} \frac{qE}{mg}$
- (4)  $\tan^{-1} qE$



6. Electric potential at any point is given by  $v = -4x + 5y + \sqrt{15}z$  then magnitude of the electric field is

- (1)  $\sqrt{56}$
- (2)  $\sqrt{40}$
- (3)  $\sqrt{41}$
- (4) 6

7. In the given figure find  $V_A - V_B$ .



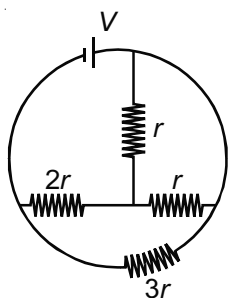
- (1) 7 V
- (2) -7 V
- (3) 8 V
- (4)  $-\frac{75}{8}$  V

8. A capacitor of capacity  $5 \mu\text{F}$  is charged to 20 volt and a second capacitor of capacity  $8 \mu\text{F}$  is charged to 15 V. If they are connected in parallel then amount of charge that flows from the  $5 \mu\text{F}$  capacitor to  $8 \mu\text{F}$  capacitor is

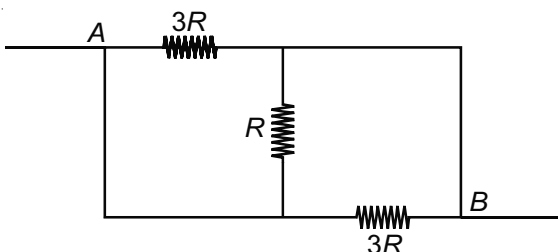
- (1)  $\frac{200}{13} \mu\text{C}$
- (2)  $-\frac{46}{3} \mu\text{C}$
- (3)  $10 \mu\text{C}$
- (4)  $-10 \mu\text{C}$

Space For Rough Work

9. The total current supplied to the circuit by the battery is



- (1)  $\frac{11V}{15r}$  (2)  $\frac{2V}{3r}$   
 (3)  $\frac{3V}{2r}$  (4)  $\frac{13V}{11r}$
10. Resultant resistance of the circuit between point A and B is



- (1)  $\frac{R}{2}$  (2)  $\frac{3R}{5}$   
 (3)  $\frac{4R}{3}$  (4)  $4R$
11. Two bulbs of rating 500 W and 200 W are manufactured to operate on 220 V line. The ratio of heat produced in 500 W and 200 W bulb when they are connected in series.
- (1)  $\frac{5}{2}$  (2)  $\frac{2}{5}$   
 (3)  $\frac{5}{7}$  (4)  $\frac{2}{7}$
12. A proton moving with a velocity of  $10^6$  m/s describes a circle of radius  $R$  in a magnetic field. What will be the speed of an  $\alpha$ -particle to describe a circle of same radius in the same magnetic field?

- (1)  $2 \times 10^6$  m/s (2)  $0.5 \times 10^6$  m/s  
 (3)  $4 \times 10^5$  m/s (4)  $6 \times 10^5$  m/s
13. The sensitivity of a moving coil galvanometer increases with the decrease in
- (1) Number of turns  
 (2) Area of coil  
 (3) Magnetic field  
 (4) Torque required for unit twist
14. Which of the following property makes soft iron as the suitable core for transformers?
- (1) High hysteresis loss, low permeability  
 (2) High hysteresis loss, high permeability  
 (3) Low hysteresis loss, low permeability  
 (4) Low hysteresis loss, high permeability
15. A current of 4000 A is flowing at 220 V in the primary coil of a transformer. The voltage across the secondary is 10000 V and 10% of power is lost. What is the current through secondary?
- (1) 8.8 A (2) 88 A  
 (3) 79.2 A (4) 80 A
16. Self inductance of the motor of an electric fan is 10 H. In order to impart maximum power at 50 Hz, it should be connected to a capacitance of (approximately)
- (1) 4  $\mu$ F (2) 2  $\mu$ F  
 (3) 1  $\mu$ F (4) 8  $\mu$ F
17. A photosensitive metallic surface has work function  $h\nu_0$ . If photons of energy  $2h\nu_0$  fall on this surface, the electrons come out with a maximum velocity of  $4 \times 10^6$  ms<sup>-1</sup>. When the photon energy is increased to  $5h\nu_0$ , then maximum velocity of photoelectrons will be
- (1)  $2 \times 10^7$  ms<sup>-1</sup> (2)  $2 \times 10^6$  ms<sup>-1</sup>  
 (3)  $8 \times 10^5$  ms<sup>-1</sup> (4)  $8 \times 10^6$  ms<sup>-1</sup>
18. If the critical angle be  $\theta$ , then the Brewster's angle is
- (1)  $\sin^{-1}[\cot \theta]$  (2)  $90 - \theta$   
 (3)  $\tan^{-1}[\operatorname{cosec} \theta]$  (4)  $\sin^{-1}[\tan \theta]$

Space For Rough Work

19. To achieve good contrast between maxima and minima in the interference pattern of Young's double slit experiment, the ratio of intensity of light emerging out of the two slits should be
- (1) 1 (2) 2  
(3) 3 (4) 4
20. A plano-convex lens is made of refractive index 1.6. The radius of curvature of curved surface is 60 cm. Focal length of the lens is
- (1) 200 cm (2) 100 cm  
(3) 50 cm (4) 400 cm
21. Refracting angle of a prism is  $\theta$  and refractive index of the material of the prism is  $\cot \frac{\theta}{2}$ . The angle of minimum deviation is
- (1)  $180^\circ - 2\theta$  (2)  $90^\circ - \theta$   
(3)  $180^\circ + 2\theta$  (4)  $180^\circ - 3\theta$
22. For hydrogen atom if the energy of  $n^{\text{th}}$  orbit is  $E_n$ , then energy in the  $n^{\text{th}}$  orbit of a doubly ionized lithium atom will be
- (1)  $4 E_n$  (2)  $9 E_n$   
(3)  $\frac{E_n}{9}$  (4)  $\frac{E_n}{4}$
23. Two radioactive materials A and B have decay constants  $5\lambda$  and  $\lambda$  respectively. If initially they have the same number of nuclei, then the ratio of the number of nuclei of A to B will be  $\frac{1}{e^2}$  after a time
- (1)  $\frac{1}{\lambda}$  (2)  $\frac{1}{2\lambda}$   
(3)  $\frac{3}{4\lambda}$  (4)  $\frac{1}{4\lambda}$
24. The ratio of electric force of interaction to gravitational force of interaction between two protons is of the order of ( $m_p = 1.67 \times 10^{-27}$  kg)
- (1)  $10^{36}$  (2)  $10^{38}$   
(3)  $10^{42}$  (4)  $10^{43}$
25.  $n$  small drops of mercury, each of radius  $r$  and charge  $q$ , coalesce to form a big drop. The ratio of surface charge density of small drop with that of the big drop is
- (1)  $n^{\frac{1}{3}}$  (2)  $n^{-\frac{1}{3}}$   
(3)  $n^{\frac{2}{3}}$  (4)  $n^{-\frac{2}{3}}$

## CHEMISTRY

26. Number of NaCl molecules present in the per unit cell of rock-salt is
- (1) 4 (2) 6  
(3) 2 (4) 1
27. The solutions of KCl,  $\text{BaCl}_2$  and  $\text{FeCl}_3$  each one of 0.5 m molality show boiling points  $T_1$ ,  $T_2$  and  $T_3$ . How are these temperatures related to one another?
- (1)  $T_3 < T_2 < T_1$  (2)  $T_2 < T_1 < T_3$   
(3)  $T_2 < T_3 < T_1$  (4)  $T_1 < T_2 < T_3$
28. Find out correct relation for equivalent conductivity and molar conductivity
- (1)  $\wedge_{\text{eq}}^\infty = \frac{\lambda_m^\infty}{\text{Charge}}$  (2)  $\wedge_m^\infty = \frac{\lambda_{\text{eq}}^\infty}{\text{Charge}}$   
(3)  $\lambda_{\text{eq}}^\infty = \lambda_m^\infty \times \text{Charge}$  (4) All of these
29. Van't Hoff factor of  $\text{Hg}_2\text{Cl}_2$  in its aqueous solution will be ( $\text{Hg}_2\text{Cl}_2$  is 80% ionized in the solution)
- (1) 1.6 (2) 2.6  
(3) 3.6 (4) 4.6

Space For Rough Work

30. The spin only magnetic moment of an element can be calculated by ( $n$  = number of unpaired electron)

(1)  $\mu = \sqrt{n(n-2)}$  B.M. (2)  $\mu^2 = \sqrt{n(n+2)}$  B.M.

(3)  $\mu = \sqrt{n(n+2)}$  B.M. (4)  $\frac{\mu^2}{n} = \sqrt{n+2}$  B.M.

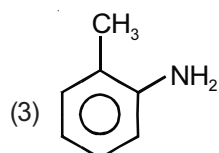
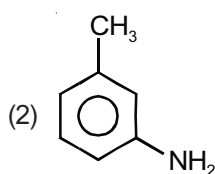
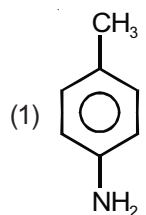
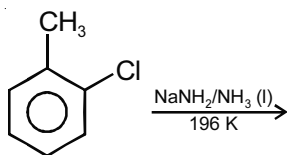
31. Which of the following will oxidise KI to  $\text{KIO}_3$ ?



32. M in  $[\text{ML}_6]^{3+}$  has  $(n-1)d^6$  configuration and +3 oxidation state. L is a strong ligand. The complex is likely to be

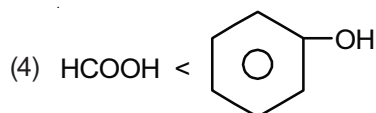
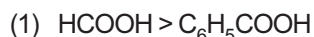
- (1) Paramagnetic due to 1-unpaired electron  
 (2) Paramagnetic due to 2-unpaired electrons  
 (3) Paramagnetic due to 4-unpaired electrons  
 (4) Diamagnetic

33. What is the product of the following reaction?



(4) Both (2) & (3)

34. Which of the following is correct for acidic strength

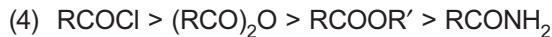
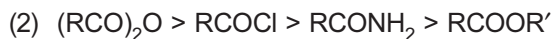
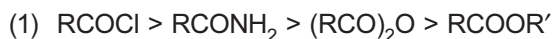


35. The number of isomers possible (structural only) for  $\text{C}_4\text{H}_{11}\text{N}$  is

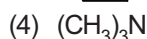
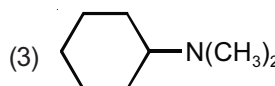
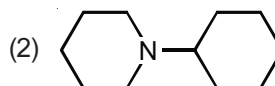
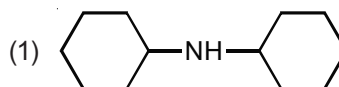
(1) 4 (2) 8

(3) 6 (4) 7

36. The ease of hydrolysis of the acid derivatives is in the order



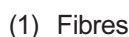
37. Which of the following gives precipitates with Hinsberg reagent?



38. Mendius reaction converts acetonitrile into



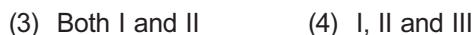
39. The class of polymers that has weakest intermolecular forces is



40. Out of the following, select the derivative of carbohydrates



41. Reaction of which of the chemical with glucose shows the ring structure of glucose and absence of CHO group?



Space For Rough Work

42. Which of the following method can be used for the reduction of aldehydes to hydrocarbons?

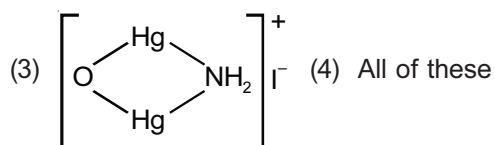
- (1) Zn-Hg/HCl
- (2)  $\text{NH}_2 - \text{NH}_2/\text{KOH}/\text{glycol}/\Delta$
- (3) HI/Red/P/ $\Delta$
- (4) All of these

43. How many P – O – P bond in  $\text{P}_4\text{O}_{10}$

- (1) 4
- (2) 5
- (3) 6
- (4) 8

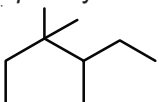
44. The presence of  $\text{NH}_3$  or  $\text{NH}_4^+$  can be detected by using test with Nessler's reagent, whereby brown ppt. of Millon's base are produced. The formula of compound appearing as brown ppt. is

- (1)  $\text{K}_2\text{HgI}_4/\text{KOH}$
- (2)  $\text{HgI}_2$



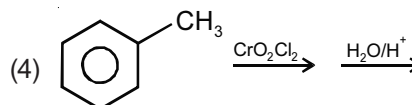
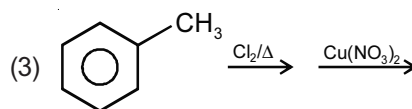
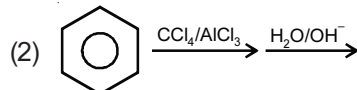
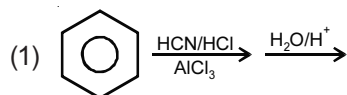
45. Which of the following statement is incorrect?

- (1) Cl in  $\text{ClO}_3^-$  is  $sp^3$  hybridised
- (2) Xe in  $\text{XeO}_3$  is  $sp^2$  hybridised
- (3) S in  $\text{H}_2\text{SO}_4$  is  $sp^3$  hybridised
- (4) P in  $\text{PCl}_5$  is  $sp^3d$  hybridised

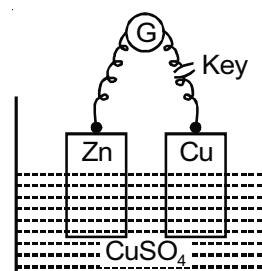
46. IUPAC name of  is

- (1) 1-Ethyl-2,2-dimethylcyclopentane
- (2) 2-Ethyl-1,1-dimethylcyclohexane
- (3) 2-Ethyl-1,1-dimethylcyclopentane
- (4) 1-Ethyl-2,2-dimethylcyclohexane

47. Which of the following will not give benzaldehyde?

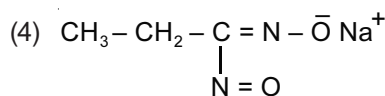
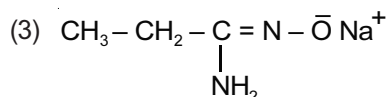
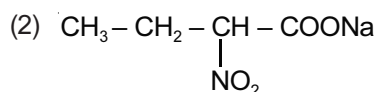
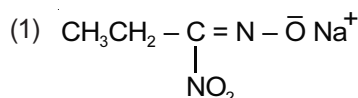


48. In the arrangement shown below, what will happen when the key is pressed to on-position?



- (1) Current will flow in the wire from Zn to Cu
- (2) Current will flow in the wire from Cu to Zn
- (3)  $\text{Cu}^{2+}$  ions will move towards Cu metal
- (4) No current will flow

49. In the Victor Meyer's test of alcohols,  $\text{CH}_3 - \text{CH}_2 - \text{OH}$  gives red colour due to the formation of the product



50. Cottrell precipitator is used to

- (1) Remove carbon from the smoke
- (2) Burn the waste gases
- (3) Study suspended particles in a gas
- (4) Purifying city water supply

Space For Rough Work

## BIOLOGY

51. Potato tuber multiply vegetatively by \_\_\_A\_\_\_ and contain \_\_\_B\_\_\_ buds.

**A**

- (1) Rhizome
- (2) Rhizome
- (3) Tuber
- (4) Tuber

**B**

- Axillary
- Adventitious
- Axillary
- Adventitious

52. Identify the **correct** statement.

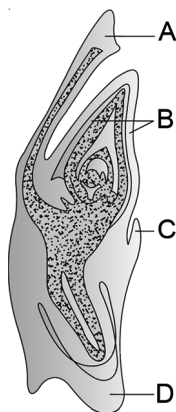
- A. All organisms have to reach a certain stage of growth and maturity in their life before they reproduce sexually. That period of growth is called reproductive phase
- B. Gametes are haploid though the parent plant body from which they arise may be either haploid or diploid
- C. In algae, bryophytes and pteridophytes, water is the medium for pollination
- D. Further development of the zygote depends on the type of life cycle the organism has and the environment it is exposed to

- |           |              |
|-----------|--------------|
| (1) A & B | (2) B & D    |
| (3) B & C | (4) B, C & D |

53. The wall of microsporangium which produce IAA for the developing pollen grains is

- |                  |                 |
|------------------|-----------------|
| (1) Epidermis    | (2) Endothecium |
| (3) Middle layer | (4) Tapetum     |

54. Identify **A, B, C** and **D** in the given diagram.



(1) A– Scutellum

B– Coleorhiza

C– Epiblast

D– Coleoptile

(2) A– Scutellum

B– Coleoptile

C– Epiblast

D– Coleorhiza

(3) A– Tigellum

B– Coleorhiza

C– Scutellum

D–Coleoptile

(4) A– Tigellum

B– Coleoptile

C– Scutellum

D– Coleorhiza

55. Pollination by water is quite rare in flowering plants and is limited to about \_\_\_A\_\_\_ which are mostly \_\_\_B\_\_\_

**A**

- (1) 35 genera
- (2) 30 genera
- (3) 30 genera
- (4) 35 genera

**B**

- Dicot
- Dicot
- Monocot
- Monocot

56. Which one of the following statement is/are correct

- (1) Dehydration and dormancy of the mature seed is crucial for storage of seeds
- (2) *Lupinus* oldest seeds were evacuated from king Herod's palace near dead sea
- (3) Grasses and cucurbitaceae member show apomixis
- (4) More than one option is correct

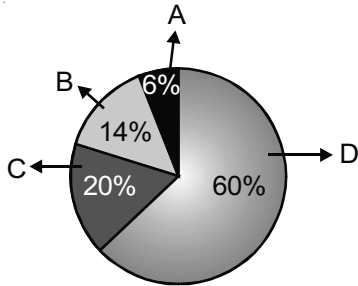
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57. How many individual will resemble dominant parental phenotype if cross between pure tall and dwarf plant produce 4000 individual in  $F_2$  generation
- (1) 1000 (2) 4000  
(3) 3000 (4) 2000
58. Given below are the few characteristic features of a genetic disorder
- A. Short statured with small round head  
B. Furrowed tongue  
C. Partially open mouth  
D. Retarded physical, psychomotor and mental development
- The genetic disorder is
- (1) Autosomal mendelian disorder  
(2) Autosomal chromosomal disorder  
(3) Sex chromosomal disorder  
(4) Sex linked recessive
59. A man with blood group AB, marries a woman with blood group O. The possible blood group of the offsprings is/are
- (1) AB, O (2) A, B  
(3) A, B, AB (4) A, B, O
60. Identify A, B and C w.r.t. the central dogma of molecular biology.
- A
B
C
- (1) Replication      Translation      Transcription  
(2) Transduction      Transformation      Translation  
(3) Reverse Transcription      Translocation  
(4) Replication      Transcription      Translation
61. DNA dependent RNA polymerases catalyse polymerisation in \_\_\_\_\_ direction.
- (1)  $5' \rightarrow 3'$   
(2)  $3' \rightarrow 5'$   
(3) Both  $5' \rightarrow 3'$  &  $3' \rightarrow 5'$   
(4) Either  $5' \rightarrow 3'$  or  $3' \rightarrow 5'$
62. Match the following w.r.t. genetic code
- | Column-I   | Column-II           |
|--|---------------------|
| a. One codon codes for only one amino acid           | (i) Universal       |
| b. Same from bacteria to humans                      | (ii) No punctuation |
| c. Some amino acids are coded by more than one codon | (iii) Unambiguous   |
| d. Codon is read in mRNA in a contiguous fashion     | (iv) Degenerate     |
- (1) a(iii), b(iv), c(i), d(ii)  
(2) a(iv), b(i), c(iii), d(ii)  
(3) a(iv), b(ii), c(iii), d(i)  
(4) a(iii), b(i), c(iv), d(ii)
63. Identify the **correct** statement w.r.t. Human Genome Project.
- (1) The average gene consists of 3000 kilobases  
(2) More than 2 percent of the genome codes for proteins  
(3) Human DNA contain  $316.47 \times 10^7$  BP  
(4) Chromosome 1 contain 2698 genes
64. The variety of cow pea resistant to bacterial blight is
- (1) Pusa Swarnim (2) Himgiri  
(3) Pusa Komal (4) Pusa Shubhra
65. Virus-free plants can be obtained from
- (1) Apical and axillary meristem culture  
(2) Embryo culture  
(3) Pollen culture  
(4) Organ culture
66. Cyclosporine A is produced by
- (1) *Monascus purpureus*  
(2) *Trichoderma polysporum*  
(3) *Aspergillus niger*  
(4) *Acetobacter aceti*

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67. Given below is the relative contribution of various green house gases to total global warming. Identify A, B, C & D.



- | A                    | B                | C                | D                |
|----------------------|------------------|------------------|------------------|
| (1) CO <sub>2</sub>  | CH <sub>4</sub>  | CFC              | N <sub>2</sub> O |
| (2) N <sub>2</sub> O | CFC              | CH <sub>4</sub>  | CO <sub>2</sub>  |
| (3) CFC              | N <sub>2</sub> O | CO <sub>2</sub>  | CH <sub>4</sub>  |
| (4) CH <sub>4</sub>  | CO <sub>2</sub>  | N <sub>2</sub> O | CFC              |

68. The blend of polyblend and bitumen, when used to lay roads, enhanced road life by a factor of

- |          |           |
|----------|-----------|
| (1) Two  | (2) Three |
| (3) Four | (4) One   |

69. Given below is an equation describing increase or decrease in population size (N) during a unit time period t [dN/dt]

$$\frac{dN}{dt} = rN \left[ \frac{K-N}{K} \right]$$

It represents

- |                     |                        |
|---------------------|------------------------|
| (1) Logistic growth | (2) Exponential growth |
| (3) Mortality       | (4) Natality           |

70. Which of the following is an example of Commensalism?

- (1) Orchid growing on a mango branch
- (2) Sea anemone and hermit crab
- (3) Fig and wasp
- (4) Plower bird and crocodile

71. The pyramid of biomass in sea is generally

- |             |                |
|-------------|----------------|
| (1) Upright | (2) Inverted   |
| (3) Spindle | (4) Triangular |

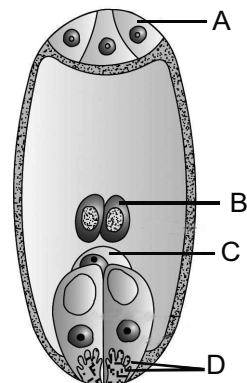
72. Identify the correct statement

- (1) A community that is in near equilibrium with the environment is called climax community
- (2) In the successive seral stages there is an increase in the number of species but there is decrease in total biomass
- (3) Primary succession begins in area where natural biotic communities have been destroyed
- (4) Secondary succession is slower than primary succession

73. Match the following:

- | Column-I                | Column-II               |
|-------------------------|-------------------------|
| a. The Earth Summit     | (i) Canada              |
| b. World Summit         | (ii) Johannesburg       |
| c. Montreal Protocol    | (iii) Rio de Janeiro    |
| (1) a(i), b(iii), c(ii) | (2) a(iii), b(ii), c(i) |
| (3) a(ii), b(iii), c(i) | (4) a(iii), b(i), c(ii) |

74. Identify A, B, C and D in the given diagram w.r.t. embryo sac.



- (1) A–Antipodal cells  
B–Central cell  
C–Egg  
D–Synergids
- (2) A–Egg apparatus  
B–Polar nuclei  
C–Antipodal cell  
D–Filliform apparatus

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- (3) A–Antipodal cells  
B–Polar nuclei  
C–Egg  
D–Filliform apparatus
- (4) A–Antipodal cells  
B–Secondary nucleus  
C–Egg  
D–Synergids
75. Mendel crossed pure tall (dominant) plant with pure dwarf (recessive) plant. The  $F_2$  generation from the cross should show
- (1) 50% tall and 50% dwarf  
(2) All tall plants  
(3) 75% tall plants and 25% dwarf plants  
(4) All dwarf plants
76. What will be the chromosomes number in human meiocyte cell?
- (1) 46 (2) 23  
(3) 22 + X (4) 22 + Y
77. Which of the following structure does not participate in the formation of male sex accessory ducts system?
- (1) Rete testis (2) Epididymis  
(3) Vas deferens (4) Urethra
78. Which part of human female fallopian tube is present closer to the uterus is called
- (1) Fimbriae (2) Isthmus  
(3) Ampulla (4) Infundibulum
79. Which hormone released from corpus luteum is essential for maintenance of the endometrium of human female?
- (1) Estrogen (2) Progesterone  
(3) Relaxin (4) Testosterone
80. During embryonic development of human embryo, heart is formed at
- (1) Fourth month (2) Sixth month  
(3) First month (4) Third month
81. Which of the following is used as barrier method in human family planning program?
- (1) Diaphragm (2) LNG-20  
(3) Saheli pills (4) Multiload 375
82. Who amongst the following demonstrated through the experiments that life comes only from pre-existing life?
- (1) Oparin (2) Haldane  
(3) Louis Pasteur (4) S.L. Miller
83. Darwin finches are a good example of all **except**
- (1) Founder's effect  
(2) Adaptive radiation  
(3) Natural selection  
(4) Mutation
84. The Neanderthal man lived in near east and central Asia between 1,00,000 – 40,000 years back and had a brain size of
- (1) 1100 cc (2) 1650 cc  
(3) 900 cc (4) 1400 cc
85. Terminal method of contraception is
- (1) MTP (2) Vasectomy  
(3) ART (4) IUT
86. *Plasmodium* is responsible for causing malaria. Out of different type of malaria, the most common in India is
- (1) *Plasmodium vivax*  
(2) *Plasmodium malariae*  
(3) *Plasmodium ovale*  
(4) *Plasmodium falciparum*
87. *Wuchereria bancrofti* cause a slowly developing chronic inflammation of the organs in which they live for many years, usually the lymphatic vessels and the disease is called
- (1) Elephantiasis (2) Ascariasis  
(3) Amoebiasis (4) Typhoid

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88. Which of the following statement is/are true?
- Insulin chains and antibody monomer chains are attached through disulphide bond
  - Virus-infected cells secrete proteins called interferons which protect non-infected cells from further viral infection
  - Acid in stomach, saliva in the mouth, tears work as physiological barriers in innate immunity
- (1) a & b                      (2) b & c  
(3) a & c                      (4) All of these
89. Which of the following is a hallucinogen
- (1) Morphine                  (2) Cocaine  
(3) Caffeine                  (4) LSD
90. Marijuana effects cardiovascular system of the body. Marijuana is obtained from which plant?
- (1) *Erythroxylum coca*    (2) *Cannabis sativa*  
(3) *Papaver somniferum*    (4) *Atropa belladonna*
91. Which hormone will passout in urine after menopause
- (1) FSH                        (2) HCG  
(3) Progesterone            (4) Oestrogen
92. At what stage, fertilized eggs are recovered non surgically and transferred to surrogate mothers?
- (1) 32 cell stage only        (2) 100-112 cell stage  
(3) 8-32 cell stage          (4) After implantation
93. Hormone releasing IUDs like LNG-20 are \_\_\_\_\_ releasing devices
- (1) Oestrogen                (2) Copper  
(3) Progesterone            (4) Centchroman
94. Those enzymes which cut DNA at specific locations are called restriction endonuclease or molecular scissors. Which of the following restriction endonuclease is the first to be discovered?
- (1) *EcoR I*                      (2) *BamH I*  
(3) *Hind II*                      (4) *Sal I*
95. What is the correct sequence done during amplification of gene by PCR method?
- (1) Annealing → Denaturation → Extension  
(2) Extension → Annealing → Denaturation  
(3) Denaturation → Annealing → Extension  
(4) Annealing → Extension → Denaturation
96. During downstream processing which process can not be done?
- (1) Separation and purification  
(2) Product has to be formulated with suitable preservatives  
(3) Quality control testing for each product  
(4) Separation and isolation of DNA fragments by gel electrophoresis
97. Colostrum provide the infant with
- (1) Autoimmunity  
(2) Active immunity  
(3) Passive immunity  
(4) Innate immunity
98. Darwin was influenced by reading the book "An essays on Population", which was written by
- (1) Charles Lyell  
(2) Thomas Rev Malthus  
(3) Hugo de Vries  
(4) Hardy-Weinberg
99. Which nematode infects the roots of tobacco plants and causes a great reduction in yield?
- (1) *Meloidegyne incognitia*  
(2) *Bacillus thuringiensis*  
(3) *Ancylostoma duodenale*  
(4) *Trichuris trichura*
100. Prolonged intake of alcohol can cause
- (1) Emphysema                (2) Liver Cirrhosis  
(3) Tuberculosis              (4) Mumps



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## Admission-cum-Scholarship Test (Sample Paper)

(Regular Course for AIPMT-2017)

### Answers

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