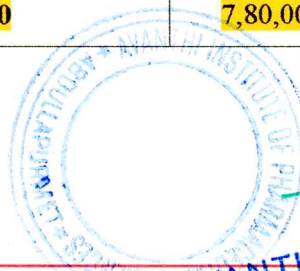




**5.1.1: Number of students benefited by Scholarships and Freeships provided by the institution, Government & Non – Government bodies, industries, individuals philanthropists during the academic year 2021-2022**

INDEX

S.NO	NAME OF THE SCHEME	NO OF BENEFITED STUDENTS	AMOUNT (RS.)	PAGE NO
1	AIPS Freeship policy	All freeship and merit scholarship	-----	02 - 03
2	Model freeship question paper	-----	-----	04 - 20
3	Model freeship student papers	-----	-----	21 - 105
4	Qualified freeship merit list and test marks	51	-----	106 - 113
5	Freeship students with sanctioned amount	51	2,56,000	114 - 120
6	Freeship to poor and economically backward students	109	4,44,000	121 - 142
7	Merit scholarship students list with amount	20	80,000	143 -144
<b>TOTAL STUDENTS COUNT :</b>		<b>180</b>	<b>7,80,000</b>	



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## POLICY DOCUMENT

### AVANTHI FREESHIP AND MERIT SCHOLARSHIP POLICY

**OBJECTIVE:** The objective of the scheme is to provide financial assistance to the scheduled students studying at Avanathi Institute of Pharmaceutical Sciences to enable to complete their education.

The management of Avanathi Institute of Pharmaceutical Sciences is committed to promote and support higher education opportunities for students from diverse backgrounds.

In recognition of the importance of financial aid in facilitating access to quality education, the institution has established a policy framework for the fair and transparent distribution of non-government scholarships and free ships.

The institution has taken several initiations to motivate students to perform well in their academics, sports and extra-curricular activities,

The student's eligibility for award, medals and other financial assistance is based on their academic performance, financial background and other needs.

This policy document outlines the guidelines, procedures and criteria for the awarding of merit scholarships and free-ships.

**The financial assistance to the students will be provided based on the following criteria:**

- 1) To encourage and reward academic excellence, recognizing outstanding achievements by students at Avanathi Institute of Pharmaceutical Sciences.
- 2) To provide financial assistance to students from poor background, enabling them pursue higher education.
- 3) To promote a diverse and inclusive student community by supporting students with exceptional talents in sports, cultural activities or other areas of achievement.
- 4) To ensure transparency, fairness and accountability in the process of Scholarships and free-ships.
- 5) Financial support shall be provided to needy students to take-up quality projects

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- 6) Admission through free ship will be offered on a first- come, first- served basis financial status of applicant.
- 7) The students who are eligible can apply for AVANTHI FREESHIP AND MERIT SCHOLARSHIP (INTERNAL POLICY) and must attend the counseling for as per the schedule.
- 8) The Freeships offered through Avanthi Freeship Test, is applicable for the first year students at the time of admission. The same freeship will be continued in subsequent years of study based on the student performance
- 9) After first year and for the consequent years, the students must attain the attendance percentage  $\geq 80$  and should not have more than two backlogs in the previous academic year.
- 10) The list of short listed students who obtain merit marks in Avanthi Freeship Test are forwarded by the Principal to the Governing Body for approval Freeships are implemented after the approval in Governing body council.
- 11) Concession / Freeships can also be given to other senior students based on the annual income of the parents and also on the socio – economic condition of the students, the decision will be purely based on the institution

## **STUDENT MERIT SCHOLARSHIP FRAME WORK**

The merit scholarship will be provided for all First and Second TOPPERS of the students year wise and programwise.

- 1.For 1<sup>ST</sup> TOPPER awarded ..... Rs 5000 /-
- 2.For 2<sup>nd</sup> TOPPER awarded ..... Rs 3000 /-

The Avanthi Freeships and Merit Scholarships Policy is adapted on this day Dec 4<sup>th</sup> 2017 at Avanthi Institute of Pharmaceutical Sciences, Hyderabad. According to the Merit scholarship Policy, those who are academic toppers will be awarded on Anniversary Day of the institution



  
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09


**AVANTHI INSITUTE OF PHARMACEUTICAL SCEINCES**  
**FREESHIP EXAMINATION TEST**  
**2021-2022**

**Question Paper Name:** PHARMACY  
**Name of the student:** \_\_\_\_\_  
**Avanthi Freeship No:** \_\_\_\_\_

**Date:** \_\_\_\_\_  
**Duration:** 180min  
**Total Marks:** 100

1. Nuclear membrane is absent in ( )  
I. Mycoplasma    II. Actinomycetes    III. Diniflagellates    IV. Euglenoids  
1. A & B    2. B & C    3. C & D    4. A, B, C & D
2. Yeast is unicellular, eukaryote. It is included in ( )  
1. Mycetae    2. Monera    3. Protista    4. Mycobacteria
3. Chitin is cell wall component of  
1. *Spirogyra*    2. *Ustilago*    3. *Cuscuta*    4. *Riccia*
4. True statement regarding Monera is ( )  
1. All are uninucleate    2. Nucleus is absent in most  
3. Some of them are photosynthetic    4. Sexual reproduction is common
5. Assertion (A): *Chlorella* cannot be included in plant kingdom Reason(R): *Chlorella* is unicellular.  
( )  
1) Both A and R are correct and R is the correct explanation of A.  
2) Both A and R are correct but R is not the correct explanation of A.  
3) A is true, R is false  
4) A is false, R is true.
6. Cell membrane of Archae bacteria shows ( )  
1. Only protein    2. Branched chain lipids  
3. Independent lipid molecules    4. Pseudomurein
7. Genetic material is naked in ( )  
A. *Escherichia coli*    B. *Streptomyces*    C. *Saccharomyces*    D. *Alternaria*  
1. A & B    2. B & C    3. A, B & C    4. A, B, C & D




  
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8. **Common character between *Nostoc* and higher plants** ( )
1. Presence of chlorophyll 'a'                      2. They releases oxygen during photosynthesis
3. Flagellated sex organs are absent              4. All the above
9. **Tetanus is** ( )
1. Bacterial disease    2. Fungal disease    3. Nutritional disorder    4. Viral infection
10. **Red colour of the red is due to** ( )
1. Dinoflagellates                      2. Cyanobacteria    3. Archaeobacteria    4. Reflection of light
11. **True statement regarding protista** ( )
1. Cell wall is well developed                      2. Nuclear membrane is absent
3. Nutrition is heterotrophic                      4. All the above
12. **Plasmodium is a stage of** ( )
1. Protozoa                      2. Euglenoids                      3. Slime molds                      4. Fungi
13. **Mesokaryon is seen in** ( )
1. Eubacteria                      2. Dinoflagellates                      3. Virus                      4. Prion
14. **Colour of the desmids is** ( )
1. Green                      2. Red                      3. Brown                      4. Golden brown
15. **Assertion (A): Sunlight is necessary for *Euglena*. Reason(R): *Euglena* shows photosynthetic pigments( )**
- 1) Both A and R are correct and R is the correct explanation of A.
- 2) Both A and R are correct but R is not the correct explanation of A.
- 3) A is true, R is false
- 4) A is false, R is true.
16. **Number of flagella in *Euglena*** ( )
1. Two                      2. One                      3. Four                      4. One or two
17. **Saprophytic organisms from the following** ( )
1. *Puccinia*                      2. *Colletotrichum*                      3. *Euglena*                      4. Slime molds

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18. Spore dispersal is by wind in ( )  
 1. Slime molds                      2. *Aspergillus*                      3. *Penicillium*                      4. *Chlorella*
19. Binary fission is longitudinal in ( )  
 1. Bacteria                      2. Yeast                      3. *Euglena*                      4. Dinoflagellates
20. Silica is embedded in the walls of ( )  
 1. Dinoflagellates                      2. Desmids                      3. Diatoms                      4. *Chlorella*
21. Zygote undergoes meiosis in ( )  
 1. Fungi                      2. Protozoa                      3. Plants                      4. Slime molds
22. Conidia are ( )  
 1. Prokaryotes    2. Protista    3. Spores    4. Sexual stage
23. Reserve food in fungi is ( )  
 1. Starch                      2. Glycogen                      3. Protein                      4. Sugars
24. The parasite on mustard is ( )  
 1. *Colletotrichum*    2. *Alternaria*                      3. *Aspergillus*                      4. *Albugo*
25. Saucer shaped fruiting body is called as ( )  
 1. Perithecium    2. Apothecium    3. Cleistothecium    4. Basidiocarp
26. The entire nervous system is divided into two main regions: The ( )  
 A) Brain and the spinal chord  
 B) CNS and the PNS  
 C) Neurons and the glial cells  
 D) Motor neurons and the sensory neurons
27. All the nervous tissue outside the brain and spinal cord is the \_\_\_\_\_ nervous system. ( )  
 a. Peripheral  
 b. Autonomic  
 c. Somatic  
 d. Central

  
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28. Which of the following is not one of the basic functions of the nervous system? ( )
- a. Formulate responses to sensory stimulation
  - b. Send signals rapidly between body parts
  - c. Produce major body fluids such as plasma and interstitial tissue fluid
  - e. Detect sense stimuli


29. The cells of nervous tissue that are not neurons but that assist neurons are called ( )
- A. Amyloid plaques
  - B. Fibroblasts
  - C. Leukocytes
  - D. Neuroglia

30. The white fatty substance that coats axons to increase signal speed is ( )
- A. Myelin
  - B. Microfibrils
  - C. Dendrites
  - D. Adipocytes

31. A movement of  $K^+$  out of the cell makes the inside of the cell less positive (more negative) and acts to restore the original resting voltage of the neuron - a process called ( )
- a. Depolarization
  - b. Hyperpolarization
  - c. Repolarization
  - d. Overshoot

32. Arrange these action potential events in their proper sequence: ( )
- (1) The neuron is stimulated at the dendrites
  - (2)  $K^+$  gates open
  - (3) The neuron is in a polarized "resting" state
  - (4)  $Na^+$  gates open
  - (5) The cell is fully depolarized
  - (6) The cell is fully repolarized

- A) 1, 2, 4, 3, 5, 6      B) 3, 1, 4, 5, 2, 6      C) 4, 6, 2, 1, 5, 3      D) 1, 4, 2, 6, 5, 3

  
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33. When the neurotransmitter molecules released from the axon terminals of a neuron have diffused across the synapse and have reached the dendrites of the target neuron, the neurotransmitters ( )

1. Enter the target neuron by membrane transport proteins (ion channels)
2. Diffuse out of the synapse without causing any response in the target neuron
3. Bind to receptor proteins
4. Stimulate neuron growth

34. When a neurotransmitter binds to a receptor on the target cell, it causes the target cell to have a (n)... ( )

1. Repolarization
2. Growth phase
3. Growth inhibition
4. Action potential

35. A bundle of axons in the PNS is called a ( )

- A. Tract.
- B. Nerve
- C. Nucleus
- D. Ganglion

36. The right and left halves of the cerebrum (the cerebral hemispheres) are connected to each other mainly by a bundle of neuron axons called the ( )

- a. Thalamus.
- b. Insula.
- c. Corpus cavernosum.
- d. Corpus callosum.

37. Which are not areas of the cerebrum? ( )

- A. Sensory signal receiving areas
- B. Heart rate and breathing rate control areas
- C. Logic and language areas
- D. Motor signal generating areas

38. Sensations from the skin are converted to perceptions in which part of the cerebrum? ( )

- a. The primary motor area
- b. The primary sensory area
- c. Wernicke's area
- d. Broca's area

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39. Signals from the sense organs (such as the ears, eyes, nose, and mouth) are received and analyzed in what part of the brain? ( )

1. The cerebellum
2. The cerebrum
3. The brainstem
4. The diencephalon

40. A block of mass  $M$  is resting on an inclined plane. When the angle of inclination is gradually increased to  $\theta$ , the block just begins to slide down the plane. What minimum force applied parallel to the plane on the block would just make the block move up the plane? ( )

- (1)  $Mg \sin\theta$                       (2)  $Mg \cos\theta$                       (3)  $2 Mg \cos\theta$                       (4)  $2 Mg \sin\theta$

41. A cylinder rolls up an inclined plane, reaches some height and then rolls down (without slipping through out these motions). The directions of frictional force acting on the cylinder are ( )

- 1) Up the incline while ascending and down the incline while descending
- 2) Up the incline while ascending as well as descending
- 3) Down the incline while ascending and up the incline while descending
- 4) Down the incline while ascending as well as descending

42. Consider the following A and B, and identify the correct choice in the given answers. ( )

A) For a body resting on a rough horizontal table, it is easier to pull at angle that pushes at the same angle to cause motion.

B) A body sliding down a rough inclined plane of inclination equal to angle of friction has non-zero acceleration.

- 1) Both A and B are true
- 2) A is true but B is false.
- 3) A is false but B is true.
- 4) Both A and B are false.

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43. (A): The time of ascent for a body projected to move up a rough inclined plane is less than the time of descent.

(R): The retardation for upward motion is more than the acceleration for downward motion. ( )

- (1) Both (A) and (R) are true and (R) is the correct explanation of (A).  
 (2) Both (A) and (R) are true and (R) is not the correct explanation of (A).  
 (3) (A) is true but (R) is false.  
 (4) (A) is false but (R) is true.

44. A block is pushed up a rough inclined plane of  $45^\circ$ . If the time of descent is twice the time of ascent, the coefficient of friction is ( )

- 1) 0.6                      2) 0.4                      3) 0.5                      4) 0.2

45. The minimum force required to move a body up an inclined plane is three times the minimum force required to prevent it from sliding down the plane. If coefficient of friction between the body and inclined plane is  $1/2$ , the angle of inclined plane ( )

- 1)  $60^\circ$                       2)  $45^\circ$                       3)  $30^\circ$                       4)  $15^\circ$

46. Sand is piled up on a horizontal ground in the form of a regular cone of a fixed base radius  $R$ . The coefficient of static friction between sand layers is  $\mu$ . The maximum volume of sand that can be piled up, without the sand slipping on the surface is ( )

- 1)  $\frac{\mu R^3}{3\pi}$                       2)  $\frac{\mu R^3}{3}$                       3)  $\frac{\pi R^3}{3\mu}$                       4)  $\frac{\mu \pi R^3}{3}$

47. A body is moving up an inclined plane of angle  $\theta$  with an initial kinetic energy  $E$ . The coefficient of friction between the plane and body is  $m$ . The work done against friction before the body comes to rest is (2002 E) ( )

- 1)  $\frac{\mu \cos \theta}{E \cos \theta + \sin \theta}$                       2)  $2\mu E \cos \theta$                       3)  $\frac{\mu E \cos \theta}{\mu \cos \theta - \sin \theta}$                       4)  $\frac{\mu E \cos \theta}{\mu \cos \theta + \sin \theta}$



48. A block of mass 2kg is lying on an inclined plane at an angle of  $30^\circ$  with the horizontal the coefficient of friction between the block and the plane is 0.7 the frictional force acting on the inclined plane will be ( )

- (1) Zero (2) 9.8N (3)  $9.8 \times \sqrt{3}$  N (4)  $9.8 \times 0.7 \times \sqrt{3}$  N

49. The coefficient of friction between the object and the surface is the force applied to the object so that the object moves down on the surface with a uniform speed is ( )

- (1) 11.2N (2) 15N (3) 5N (4) None

50. A body slides down a rough inclined plane of angle of inclination  $30^\circ$  and takes times twice as great as the time taken in slipping down a similar frictionless plane. The coefficient of friction between the body and the plane is \_\_\_\_\_

- (1)  $\frac{\sqrt{3}}{4}$  (2)  $\sqrt{3}$  (3)  $\frac{4}{3}$  (4)  $\frac{3}{4}$

51. A body slides down a smooth inclined plane of height h and angle of inclination  $30^\circ$  reaching the bottom with a velocity v. Without changing the height, if the angle of inclination is doubled, the velocity with which it reaches the bottom of the plane is

1. Vv 2. v/2 3. 2v 4.  $\sqrt{2}v$

52. A particle is projected up along a rough plane of inclination  $45^\circ$  with the horizontal. If the coefficient of friction is 0.5, the retardation is (g = acceleration due to gravity) \_\_\_\_\_

1.  $\frac{g}{2}$  2.  $\frac{g}{2\sqrt{2}}$  3.  $\frac{3g}{2\sqrt{2}}$  4.  $\frac{g}{\sqrt{2}}$

53. The minimum force required to move a body up an inclined plane of inclination  $30^\circ$  is found to be thrice the minimum force required to prevent it from sliding down the plane. The coefficient of friction between the body and the plane is

1.  $1/\sqrt{3}$  2. 1/2 3. 1/3 4. 1/4

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60. The wavelength corresponding to electronic transition between two orbits of hydrogen atom is 912 Å. The wavelength (in Å) for the same electronic transition in Li is ( )

- 1) 101.3
- 2) 202.6
- 3) 303.9
- 4) 50.65

61. The ratio of lowest energy in terms of wave numbers of Balmer and Lyman series of lines of atomic spectrum of hydrogen is ( )

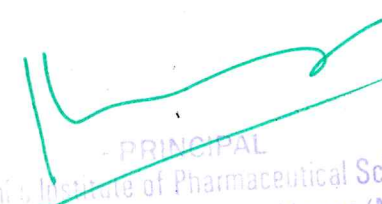
- 1) 5:27
- 2) 27:5
- 3) 20:27
- 4) 27:2

62. Which of the following represents the correct order of ionic radii? ( )

- 1)  $\text{Al}^{3+} > \text{Mg}^{2+} > \text{Na}^+ > \text{O}^{2-} > \text{F}^-$
- 2)  $\text{O}^{2-} > \text{F}^- > \text{Na}^+ > \text{Mg}^{2+} > \text{Al}^{3+}$
- 3)  $\text{Mg}^{2+} > \text{Al}^{3+} > \text{O}^{2-} > \text{F}^- > \text{Na}^+$
- 4)  $\text{O}^{2-} > \text{F}^- > \text{Al}^{3+} > \text{Mg}^{2+} > \text{Na}^+$

63. The temperature of 4.0 moles of a gas occupying  $5 \text{ dm}^3$  at 3.32 bar is ( $R = 0.0083 \text{ bar dm}^3 \text{ K}^{-1} \text{ mol}^{-1}$ ) ( )

- 1) 25 K
- 2) 50 K
- 3) 75 K
- 4) 100 K

  
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64. Match the following

( )

List - I

List-II

A) At constant volume the change in internal Energy of a system

I)  $W = 2.3.3Nrt \log V_f/V_i$

B) Isothermal irreversible change

II)  $W_{\text{adia}} = \Delta U$

C) Isothermal reversible change

III)  $q_v = \Delta U$

D) Adiabatic change

IV)  $W = -P_{\text{ex}} (V_f - V_i)$

V)  $\Delta U = \Delta H - \Delta nRT$

The correct answer is

1) A - V; B - III; C - IV; D - I

2) A - IV; B - I; C - III; D - V

3) A - III; B - IV; C - I; D - II

4) A - III; B - V; C - I; D - II

65. The pH of a buffer solution formed by mixing 30 mL of 0.1 M  $\text{NH}_4\text{OH}$  and 30 mL of 1M  $\text{NH}_4\text{Cl}$  solutions is 8.6. The  $\text{pK}_b$  of  $\text{NH}_4\text{OH}$  is

( )

1) 5.4

2) 4.4

3) 5.6

4) 4.2

66. The solubility products of three sparingly soluble salts AB,  $\text{A}_2\text{B}$  and  $\text{AB}_3$  are respectively  $4.0 \times 10^{-20}$ ,  $3.2 \times 10^{-11}$  and  $2.7 \times 10^{-31}$ . The increasing order of their solubility is

( )

1)  $\text{AB} < \text{AB}_3 < \text{A}_2\text{B}$

2)  $\text{AB}_3 < \text{AB} < \text{A}_2\text{B}$

3)  $\text{A}_2\text{B} < \text{AB}_3 < \text{AB}$

4)  $\text{A}_2\text{B} < \text{AB} < \text{AB}_3$

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67. Identify the correct statements from the following

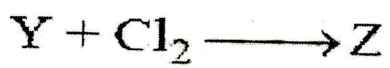
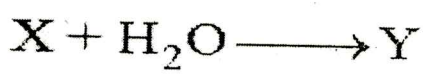
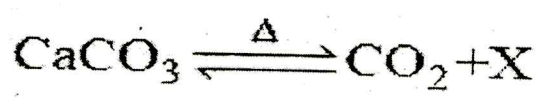
( )

- a) Zn reacts with dilute HCl and aqueous NaOH solution separately and liberates hydrogen
- b) Ti and Zr form interstitial hydrides
- c) The viscosity of H<sub>2</sub>O is more than the viscosity of D<sub>2</sub>O


- 1) a, b, c
- 2) a, c
- 3) a, b
- 4) b, c

68. What are X, Y and Z in the following reactions?

( )



- |                               |                            |  |
|-------------------------------|----------------------------|--|
| 1) X - CaO;                   | Y - Ca(OH) <sub>2</sub> ;  | Z - CaOCl <sub>2</sub> .H <sub>2</sub> O |
| 2) X - CaO;                   | Y - Ca(OCl) <sub>2</sub> ; | Z - Ca(OH) <sub>2</sub>                  |
| 3) X - Ca(OCl) <sub>2</sub> ; | Y - Ca(OH) <sub>2</sub> ;  | Z - CaO                                  |
| 4) X - Ca(OH) <sub>2</sub> ;  | Y - CaO;                   | Z - Ca(OCl) <sub>2</sub>                 |

  
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69. Identify the correct set of 13<sup>th</sup> group elements which do not form amphoteric oxides ( )

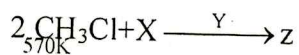
1) B, In, Tl

2) B, Al, Ga

3) Al, Ga, Tl

4) Al, Tl, In

70. Identify X, Y and Z in the following reaction ( )



1) X - C; Y - Ni; Z - (CH<sub>3</sub>)<sub>2</sub>Si(OH)<sub>2</sub>

2) X - Si; Y - Zn; Z - (CH<sub>3</sub>)<sub>2</sub>SiCl<sub>2</sub>

3) X - Si; Y - Cu; Z - (CH<sub>3</sub>)<sub>2</sub>SiCl<sub>2</sub>

4) X - H<sub>2</sub>O; Y - Si; Z - (CH<sub>3</sub>)<sub>2</sub>Si(OH)<sub>2</sub>

71. Which of the following is not a greenhouse gas? ( )

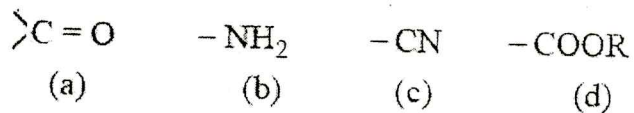
1. CO<sub>2</sub>

2. O<sub>3</sub>

3. CH<sub>4</sub>

4. N<sub>2</sub>

72. The order of priority of the following functional groups in IUPAC method of naming organic compounds is ( )

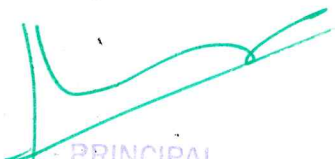


1) b, a, d, c

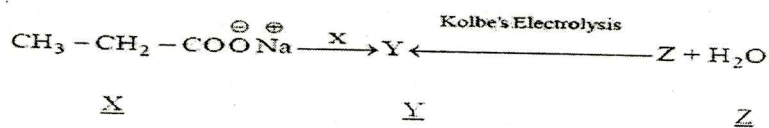
2) c, d, b, a

3) d, c, a, b

4) a, c, d, b

  
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73. What are X, Y and Z in the following reactions? ( )



- |  |   |  |
|--|---|--|
| 1. NaOH + CaO/Δ                            | CH <sub>3</sub> CH <sub>2</sub> CH <sub>2</sub> CH <sub>3</sub> | CH <sub>3</sub> CH <sub>2</sub> COO <sup>⊖</sup> Na <sup>⊕</sup> |
| 2. MnO <sub>2</sub>                        | C <sub>2</sub> H <sub>6</sub>                                   | CH <sub>3</sub> CH <sub>2</sub> COO <sup>⊖</sup> Na <sup>⊕</sup> |
| 3. NaOH + CaO/Δ                            | C <sub>2</sub> H <sub>6</sub>                                   | CH <sub>3</sub> COO <sup>⊖</sup> Na <sup>⊕</sup>                 |
| 4. (CH <sub>3</sub> COO) <sub>2</sub> Mn/Δ | C <sub>3</sub> H <sub>8</sub>                                   | CH <sub>3</sub> CH <sub>2</sub> COO <sup>⊖</sup> Na <sup>⊕</sup> |

1) 1

2) 2

3) 3

4) 4

74. Which one of the following compounds will not show geometrical isomerism? ( )

- 1) Prop -2-enoic acid
- 2) 2-butene
- 3) 2-methyl-2-butenic acid
- 4) 3-methyl-2-pentenoic acid

75. Which of the following is a pair of viral diseases? ( )

- |                             |                              |
|-----------------------------|------------------------------|
| a) Typhoid and tuberculosis | b) Ring worm and AIDS        |
| c) Common cold and AIDS     | d) Dysentery and common cold |

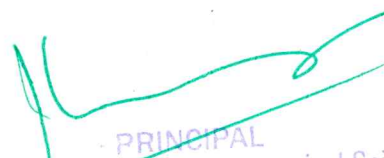
76. At T (K), the vapour pressure of pure benzene is 0.85 bar. A non-volatile, non-electrolyte substance weighing 0.5g when added to 39g of benzene, the vapour pressure of the solution is 0.845 bar. The molar mass (in g mol<sup>-1</sup>) of the substance is ( ).

1) 180

2) 270

3) 160

4) 169

  
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77. 0.1m solution each of sodium sulphate, urea and sodium chloride are taken. The correct ratio of elevation of boiling point of these solutions is ( )

- 1) 1 : 1 : 1      2) 3 : 1 : 2      3) 1 : 2 : 3      4) 2 : 3 : 1

78. At T(K) if the rate constant for a zero order reaction is  $2.5 \times 10^{-3} \text{ Ms}^{-1}$ , the time required for the initial concentration of reactant, R to fall from 0.10 M to 0.075M at the same temperature in seconds is ( )

- 1) 25      2) 5      3) 10      4) 20

79. The temperature above which, formation of micelles takes place is called ( )

- 1) Boyle's temperature      2) Kraft temperature  
3) Critical temperature      4) Inversion temperature

80. A bomb travelling in a parabolic path under the effect of gravity explodes in mid air. The centre of mass of fragments will ( )

- 1) Move vertically upwards and then vertically downwards  
2) Move vertically upwards  
3) Move in an irregular path  
4) Move in the parabolic path the unexploded bomb would have travelled.

81. The centre of mass of fragments will ( )

- a) Algebraic sum of moments of masses about centre of mass is zero  
b) For small bodies centre of mass coincides with centre of gravity  
c) Position of centre of mass depends on co-ordinate system  
d) Position of centre of mass is independent of mass distribution  
1) a and b are correct      2) b and c are correct  
3) a, b and c are correct      4) a, b, c, d are correct

82. A certain patient is suspected to be suffering from Acquired immune deficiency syndrome. Which diagnostic technique will you recommend for its detection? ( )

- a) Ultra sound      b) Widal      c) Elisa      d) MRI



83. When no external force is acting on a system of particles, the centre of mass of the system ( )

- a) Remains at rest only                      b) Moves with constant velocity only  
c) Moves with constant velocity or will be at rest    d) Moves with variable velocity

84. Gamma interferon's are produced by ( )

- a) B lymphocytes    b) Macrophages    c) T lymphocytes    d) Dendritic cells

85. An example for the less organized secondary lymphoid tissue ( )

- a) Thymus    b) Spleen    c) Lymph nodes    d) Mucosal - associated lymphoid tissue

86. Antibodies are produced by ( )

- a) B-lymphocytes only                      b) Plasma cells only  
c) B-lymphocytes and T-lymphocytes    d) B-lymphocytes and plasma cells

87. Antigen presenting cells are

- a) Dendritic cells                              b) Activated macrophages  
c) B-Cells                                      d) Dendritic cells, activated macrophages and B-Cells

88. The term 'Health' is defined in many ways. The most accurate definition of the health would be: ( )

- a. Health is the state of body and mind in a balanced condition  
b. Health is the reflection of a smiling face  
c. Health is a state of complete physical, mental and social well-being  
d. Health is the symbol of economic prosperity.

89. The chemical test that is used for diagnosis of typhoid is: ( )

- a. ELISA-Test    b. ESR - Test    c. PCR - Test    d. Widal-Test

90. Diseases are broadly grouped into infectious and non-infectious diseases. In the list given below, identify the infectious diseases ( )

- i. Cancer    ii. Influenza    iii. Allergy    iv. Small pox  
(a) i and ii    (b) ii and iii    (c) iii and iv    (d) ii and iv

91. The substance produced by a cell in viral infection that can protect other cells from further infection is: ( )  
 a. Serotonin      b. Colostrums      c. Interferon      d. Histamine
92. Antibodies present in colostrums which protect the new born from certain diseases is of ( )  
 a. Ig G type      b. Ig A type      c. Ig D type      d. Ig E type
93. Which of the following is not a lymphoid tissue? ( )  
 a. Spleen      b. Tonsils      c. Appendix      d. Thymus
94. Identify the third line of defense from the following ( )  
 a) NK cells      b) Tears      c) T cells      d) Phagocytes
95. Two T cell subpopulations can be distinguished by the type of the membrane glycoprotein molecules called ( )  
 a) Opsonization      b) CD markers      c) MHC molecules      d) BCR
96. When an animal moves towards the source of light it is called ( )  
 a) phototropes      b) photoperiodism  
 c). phototoxis      d) all the above
97. Water vascular system is found in ( )  
 a). Porefera      b) Mollusca      c) Econadermermata      d) Colelenterata
98. Yeast is important source of ( )  
 a) Vitamin B      b) invertase      c) vitamin C      d). More than one of the above
99. Which of the following is a warm-blooded ( )  
 a) pigeon      b) crocodile      c) toad      d) fish
100. Bacilli are bacteria which are ( )  
 a) Comma-shaped      b) rod-shaped      c) spiral      d) spherical

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**AVANTHI INSITUTE OF PHARMACEUTICAL SCEINCES**  
**FREESHIP EXAMINATION TEST**  
**2021-2022**

Question Paper Name: PHARMACY  
Name of the student: B. Sangeetha  
Avanthi Freeship No: ATPS2021041

Date: 16/11/2021  
Duration: 180min  
Total Marks: 100

85  
-----  
100

1. Nuclear membrane is absent in (4)  
I. Mycoplasma    II. Actinomycetes    III. Diniflagellates    IV. Euglenoids  
1. A & B                      2. B & C                      3. C & D                      4. A, B, C & D
2. Yeast is unicellular, eukaryote. It is included in (1)  
1. Mycetae                      2. Monera                      3. Protista                      4. Mycobacteria
3. Chitin is cell wall component of (2)  
1. *Spirogyra*                      2. *Ustilago*                      3. *Cuscuta*                      4. *Riccia*
4. True statement regarding Monera is (3)  
1. All are uninucleate    2. Nucleus is absent in most  
3. Some of them are photosynthetic    4. Sexual reproduction is common
5. Assertion (A): *Chlorella* cannot be included in plant kingdom Reason(R): *Chlorella* is unicellular.  
(3)  
1) Both A and R are correct and R is the correct explanation of A.  
2) Both A and R are correct but R is not the correct explanation of A.  
3) A is true, R is false  
4) A is false, R is true.
6. Cell membrane of Archae bacteria shows (2)  
1. Only protein    2. Branched chain lipids  
3. Independent lipid molecules    4. Pseudomurein
7. Genetic material is naked in (1)  
A. *Escherichia coli*    B. *Streptomyces*    C. *Saccharomyces*    D. *Alternaria*  
1. A & B                      2. B & C                      3. A, B & C                      4. A, B, C & D



8. **Common character between *Nostoc* and higher plants** (4)
- 1. Presence of chlorophyll 'a'
  - 2. They releases oxygen during photosynthesis
  - 3. Flagellated sex organs are absent
  - 4. All the above

9. **Tetanus is** (1)
- 1. Bacterial disease
  - 2. Fungal disease
  - 3. Nutritional disorder
  - 4. Viral infection

10. **Red colour of the red is due to** (2)
- 1. Dinoflagellates
  - 2. Cyanobacteria
  - 3. Archaeobacteria
  - 4. Reflection of light

11. **True statement regarding protista** (4)
- 1. Cell wall is well developed
  - 2. Nuclear membrane is absent
  - 3. Nutrition is heterotrophic
  - 4. All the above

12. **Plasmodium is a stage of** (3)
- 1. Protozoa
  - 2. Euglenoids
  - 3. Slime molds
  - 4. Fungi

13. **Mesokaryon is seen in** (2)
- 1. Eubacteria
  - 2. Dinoflagellates
  - 3. Virus
  - 4. Prion

14. **Colour of the desmids is** (3)
- 1. Green
  - 2. Red
  - 3. Brown
  - 4. Golden brown

15. **Assertion (A): Sunlight is necessary for *Euglena*. Reason(R): *Euglena* shows photosynthetic pigments** (4)
- 1) Both A and R are correct and R is the correct explanation of A.
  - 2) Both A and R are correct but R is not the correct explanation of A.
  - 3) A is true, R is false
  - 4) A is false, R is true.

16. **Number of flagella in *Euglena*** (3)
- 1. Two
  - 2. One
  - 3. Four
  - 4. One or two

17. **Saprophytic organisms from the following** (4)
- 1. *Puccinia*
  - 2. *Colletotrichum*
  - 3. *Euglena*
  - 4. Slime molds

18. Spore dispersal is by wind in  
 1. Slime molds                      2. *Aspergillus*                      3. *Penicillium*                      4. *Chlorella*                      (4)
19. Binary fission is longitudinal in  
 1. Bacteria                      2. Yeast                      3. *Euglena*                      4. Dinoflagellates                      (3)
20. Silica is embedded in the walls of  
 1. Dinoflagellates                      2. Desmids                      3. Diatoms                      4. *Chlorella*                      (3)
21. Zygote undergoes meiosis in  
 1. Fungi                      2. Protozoa                      3. Plants                      4. Slime molds                      (1)
22. Conidia are  
 1. Prokaryotes                      2. Protista                      3. Spores                      4. Sexual stage                      (3)
23. Reserve food in fungi is  
 1. Starch                      2. Glycogen                      3. Protein                      4. Sugars                      (2)
24. The parasite on mustard is  
 1. *Colletotrichum*                      2. *Alternaria*                      3. *Aspergillus*                      4. *Albugo*                      (4)
25. Saucer shaped fruiting body is called as  
 1. Perithecium                      2. Apothecium                      3. Cleistothecium                      4. Basidiocarp                      (3)
26. The entire nervous system is divided into two main regions: The  
 A) Brain and the spinal chord  
 B) CNS and the PNS  
 C) Neurons and the glial cells  
 D) Motor neurons and the sensory neurons                      (2)
27. All the nervous tissue outside the brain and spinal cord is the \_\_\_\_\_ nervous system.  
 a. Peripheral  
 b. Autonomic  
 c. Somatic  
 d. Central                      (1)

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28. Which of the following is not one of the basic functions of the nervous system? (4)

- a. Formulate responses to sensory stimulation
- b. Send signals rapidly between body parts
- c. Produce major body fluids such as plasma and interstitial tissue fluid
- e. Detect sense stimuli

29. The cells of nervous tissue that are not neurons but that assist neurons are called (4)

- A. Amyloid plaques
- B. Fibroblasts
- C. Leukocytes
- D. Neuroglia

30. The white fatty substance that coats axons to increase signal speed is (2)

- A. Myelin
- B. Microfibrils
- C. Dendrites
- D. Adipocytes

31. A movement of  $K^+$  out of the cell makes the inside of the cell less positive (more negative) and acts to restore the original resting voltage of the neuron - a process called (1)

- a. Depolarization
- b. Hyperpolarization
- c. Repolarization
- d. Overshoot

32. Arrange these action potential events in their proper sequence: (2)

- (1) The neuron is stimulated at the dendrites
- (2)  $K^+$  gates open
- (3) The neuron is in a polarized "resting" state
- (4)  $Na^+$  gates open
- (5) The cell is fully depolarized
- (6) The cell is fully repolarized

A) 1, 2, 4, 3, 5, 6    B) 3, 1, 4, 5, 2, 6    C) 4, 6, 2, 1, 5, 3    D) 1, 4, 2, 6, 5, 3

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33. When the neurotransmitter molecules released from the axon terminals of a neuron have diffused across the synapse and have reached the dendrites of the target neuron, the neurotransmitters

- 1. Enter the target neuron by membrane transport proteins (ion channels)
- 2. Diffuse out of the synapse without causing any response in the target neuron
- 3. Bind to receptor proteins
- 4. Stimulate neuron growth

(2)

34. When a neurotransmitter binds to a receptor on the target cell, it causes the target cell to have a (n)...

- 1. Repolarization
- 2. Growth phase
- 3. Growth inhibition
- 4. Action potential

(1)

35. A bundle of axons in the PNS is called a

- A. Tract.
- B. Nerve
- C. Nucleus
- D. Ganglion

(1)

36. The right and left halves of the cerebrum (the cerebral hemispheres) are connected to each other mainly by a bundle of neuron axons called the

- a. Thalamus.
- b. Insula.
- c. Corpus cavernosum.
- d. Corpus callosum.

(3)

37. Which are not areas of the cerebrum?

- A. Sensory signal receiving areas
- B. Heart rate and breathing rate control areas
- C. Logic and language areas
- D. Motor signal generating areas

(2)

38. Sensations from the skin are converted to perceptions in which part of the cerebrum?

- a. The primary motor area
- b. The primary sensory area
- c. Wernicke's area
- d. Broca's area

(3)

39. Signals from the sense organs (such as the ears, eyes, nose, and mouth) are received and analyzed in what part of the brain?

1. The cerebellum
2. The cerebrum
3. The brainstem
4. The diencephalon

(4)



40. A block of mass  $M$  is resting on an inclined plane. When the angle of inclination is gradually increased to  $\theta$ , the block just begins to slide down the plane. What minimum force applied parallel to the plane on the block would just make the block move up the plane?

- (1)  $Mg \sin\theta$                       (2)  $Mg \cos\theta$                       (3)  $2 Mg \cos\theta$                       (4)  $2 Mg \sin\theta$

(2)



41. A cylinder rolls up an inclined plane, reaches some height and then rolls down (without slipping through out these motions). The directions of frictional force acting on the cylinder are

- 1) Up the incline while ascending and down the incline while descending
- 2) Up the incline while ascending as well as descending
- 3) Down the incline while ascending and up the incline while descending
- 4) Down the incline while ascending as well as descending

(4)



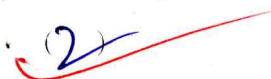
42. Consider the following A and B, and identify the correct choice in the given answers.

A) For a body resting on a rough horizontal table, it is easier to pull at angle that pushes at the same angle to cause motion.

B) A body sliding down a rough inclined plane of inclination equal to angle of friction has non-zero acceleration.

- 1) Both A and B are true
- 2) A is true but B is false.
- 3) A is false but B is true.
- 4) Both A and B are false.

(2)



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43. (A): The time of ascent for a body projected to move up a rough inclined plane is less than the time of descent.

(R): The retardation for upward motion is more than the acceleration for downward motion.

- (1) Both (A) and (R) are true and (R) is the correct explanation of (A).
- (2) Both (A) and (R) are true and (R) is not the correct explanation of (A).
- (3) (A) is true but (R) is false.
- (4) (A) is false but (R) is true.

(2)

44. A block is pushed up a rough inclined plane of 45°. If the time of descent is twice the time of ascent, the coefficient of friction is

- 1) 0.6
- 2) 0.4
- 3) 0.5
- 4) 0.2

3

45. The minimum force required to move a body up an inclined plane is three times the minimum force required to prevent it from sliding down the plane. If coefficient of friction between the body and inclined plane is 1/2, the angle of inclined plane

- 1) 60°
- 2) 45°
- 3) 30°
- 4) 15°

(4)

46. Sand is piled up on a horizontal ground in the form of a regular cone of a fixed base radius R. The coefficient of static friction between sand layers is  $\mu$ . The maximum volume of sand that can be piled up, without the sand slipping on the surface is

- 1)  $\frac{\mu R^3}{3\pi}$
- 2)  $\frac{\mu R^3}{3}$
- 3)  $\frac{\pi R^3}{3\mu}$
- 4)  $\frac{\mu \pi R^3}{3}$

(2)

47. A body is moving up an inclined plane of angle  $\theta$  with an initial kinetic energy E. The coefficient of friction between the plane and body is  $m$ . The work done against friction before the body comes to rest is (2002 E)

- 1)  $\frac{\mu \cos \theta}{E \cos \theta + \sin \theta}$
- 2)  $2\mu E \cos \theta$
- 3)  $\frac{\mu E \cos \theta}{\mu \cos \theta - \sin \theta}$
- 4)  $\frac{\mu E \cos \theta}{\mu \cos \theta + \sin \theta}$

(3)

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48. A block of mass 2kg is lying on an inclined plane at an angle of  $30^\circ$  with the horizontal the coefficient of friction between the block and the plane is 0.7 the frictional force acting on the inclined plane will be (3)

- (1) Zero                      (2) 9.8N                      (3)  $9.8 \times \sqrt{3}$  N                      (4)  $9.8 \times 0.7 \times \sqrt{3}$  N

49. The coefficient of friction between the object and the surface is the force applied to the object so that the object moves down on the surface with a uniform speed is (2)

- (1) 11.2N                      (2) 15N                      (3) 5N                      (4) None

50. A body slides down a rough inclined plane of angle of inclination  $30^\circ$  and takes times twice as great as the time taken in slipping down a similar frictionless plane. The coefficient of friction between the body and the plane is (4)

- (1)  $\frac{\sqrt{3}}{4}$                       (2)  $\sqrt{3}$                       (3)  $\frac{4}{3}$                       (4)  $\frac{3}{4}$

51. A body slides down a smooth inclined plane of height  $h$  and angle of inclination  $30^\circ$  reaching the bottom with a velocity  $v$ . Without changing the height, if the angle of inclination is doubled, the velocity with which it reaches the bottom of the plane is

1.  $Vv$                       2.  $v/2$                       3.  $2v$                       4.  $\sqrt{2}v$  (1)

52. A particle is projected up along a rough plane of inclination  $45^\circ$  with the horizontal. If the coefficient of friction is 0.5, the retardation is ( $g$  = acceleration due to gravity) (4)

1.  $\frac{g}{2}$                       2.  $\frac{g}{2\sqrt{2}}$                       3.  $\frac{3g}{2\sqrt{2}}$                       4.  $\frac{g}{\sqrt{2}}$

53. The minimum force required to move a body up an inclined plane of inclination  $30^\circ$  is found to be thrice the minimum force required to prevent it from sliding down the plane. The coefficient of friction between the body and the plane is (2)

1.  $1/\sqrt{3}$                       2.  $1/2$                       3.  $1/3$                       4.  $1/4$

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54. A Protein part in a holoenzyme is (2)

- 1) Apo enzyme
- 2) Simple enzyme
- 2) Conjugated enzyme
- 4) Inducive enzyme

55. A body of mass  $m_1$  projected vertically upwards with an initial velocity 'u' reaches a maximum height h. Another body of mass  $m_2$  is projected along an inclined plane making an angle  $30^\circ$  with the horizontal and with speed 'u'. The maximum distance travelled along the incline is (1)

- 1.  $2h$
- 2.  $h$
- 3.  $\frac{h}{2}$
- 4.  $\frac{h}{4}$

56. A body is sliding down an inclined plane having coefficient of friction 0.5. If the normal reaction is twice that of the resultant downward force along the incline, the angle between the inclined plane and horizontal is (1)

- 1.  $15^\circ$
- 2.  $30^\circ$
- 3.  $45^\circ$
- 4.  $60^\circ$

57. A body takes four-third times as much time to slide down rough inclined plane as it takes to side down an identical but smooth inclined plane if the angle of inclined plane is  $45^\circ$ . The coefficient of friction is (2)

- 1.  $7/16$
- 2.  $9/16$
- 3.  $7/9$
- 4.  $3/4$

58. A 30kg box has to move up an inclined slope of  $30^\circ$  to horizontal at a uniform velocity of 5 m/sec. If the frictional force retarding the motion is 250N the horizontal force to move up is ( $g=10 \text{ m/sec}^2$ ) (3)

- 1.  $300\sqrt{2} \text{ N}$
- 2.  $300\text{N}$
- 3.  $300\sqrt{3} \text{ N}/2$
- 4.  $300 \times 2/\sqrt{3} \text{ N}$

59. An insect crawls up a hemispherical surface. The coefficient of friction between the insect and the surface is  $1/3$ . If the line joining the centre of the hemispherical surface to the insect makes an angle with the vertical, the maximum possible value of  $\alpha$  is given by

- 1.  $\text{Cot } \alpha = 3$
- 2.  $\text{Tan } \alpha = 3$
- 3.  $\text{Sec } \alpha = 3$
- 4.  $\text{Cosec } \alpha = 3$

(4)

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60. The wavelength corresponding to electronic transition between two orbits of hydrogen atom is 912 Å. The wavelength (in Å) for the same electronic transition in Li is (3)

- 1) 101.3
- 2) 202.6
- 3) 303.9
- 4) 50.65

61. The ratio of lowest energy in terms of wave numbers of Balmer and Lyman series of lines of atomic spectrum of hydrogen is (4)


- 1) 5:27
- 2) 27:5
- 3) 20:27
- 4) 27:2

62. Which of the following represents the correct order of ionic radii? (1)

- 1)  $\text{Al}^{3+} > \text{Mg}^{2+} > \text{Na}^+ > \text{O}^{2-} > \text{F}^-$
- 2)  $\text{O}^{2-} > \text{F}^- > \text{Na}^+ > \text{Mg}^{2+} > \text{Al}^{3+}$
- 3)  $\text{Mg}^{2+} > \text{Al}^{3+} > \text{O}^{2-} > \text{F}^- > \text{Na}^+$
- 4)  $\text{O}^{2-} > \text{F}^- > \text{Al}^{3+} > \text{Mg}^{2+} > \text{Na}^+$

63. The temperature of 4.0 moles of a gas occupying  $5 \text{ dm}^3$  at 3.32 bar is ( $R = 0.0083 \text{ bar dm}^3 \text{ K}^{-1} \text{ mol}^{-1}$ ) (3)

- 1) 25 K
- 2) 50 K
- 3) 75 K
- 4) 100 K

  
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64. Match the following

List - I

- A) At constant volume the change in internal Energy of a system
- B) Isothermal irreversible change
- C) Isothermal reversible change
- D) Adiabatic change

List-II

- I)  $W = 2.3.3Nrt \log V_f/V_i$
- II)  $W_{\text{adia}} = \Delta U$
- III)  $q_v = \Delta U$
- IV)  $W = -P_{\text{ex}} (V_f - V_i)$
- V)  $\Delta U = \Delta H - \Delta nRT$

The correct answer is

- 1) A - V; B - III; C - IV; D - I
- 3) A - III; B - IV; C - I; D - II

- 2) A - IV; B - I; C - III; D - V
- 4) A - III; B - V; C - I; D - II

65. The pH of a buffer solution formed by mixing 30 mL of 0.1 M  $\text{NH}_4\text{OH}$  and 30 mL of 1M  $\text{NH}_4\text{Cl}$  solutions is 8.6. The  $\text{pK}_b$  of  $\text{NH}_4\text{OH}$  is

- 1) 5.4
- 2) 4.4
- 3) 5.6
- 4) 4.2

66. The solubility products of three sparingly soluble salts  $\text{AB}$ ,  $\text{A}_2\text{B}$  and  $\text{AB}_3$  are respectively  $4.0 \times 10^{-20}$ ,  $3.2 \times 10^{-11}$  and  $2.7 \times 10^{-31}$ . The increasing order of their solubility is

- 1)  $\text{AB} < \text{AB}_3 < \text{A}_2\text{B}$
- 2)  $\text{AB}_3 < \text{AB} < \text{A}_2\text{B}$
- 3)  $\text{A}_2\text{B} < \text{AB}_3 < \text{AB}$
- 4)  $\text{A}_2\text{B} < \text{AB} < \text{AB}_3$

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67. Identify the correct statements from the following

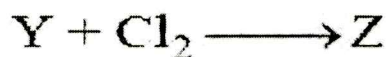
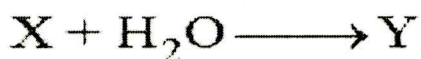
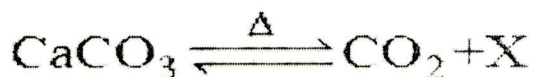
(3)

- a) Zn reacts with dilute HCl and aqueous NaOH solution separately and liberates hydrogen
- b) Ti and Zr form interstitial hydrides
- c) The viscosity of H<sub>2</sub>O is more than the viscosity of D<sub>2</sub>O

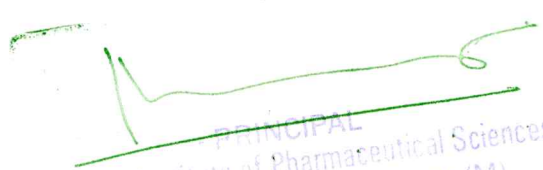
- 1) a, b, c
- 2) a, c
- 3) a, b
- 4) b, c

68. What are X, Y and Z in the following reactions?

(2)



- |                               |                            |  |
|-------------------------------|----------------------------|--|
| 1) X - CaO;                   | Y - Ca(OH) <sub>2</sub> ;  | Z - CaOCl <sub>2</sub> .H <sub>2</sub> O |
| 2) X - CaO;                   | Y - Ca(OCl) <sub>2</sub> ; | Z - Ca(OH) <sub>2</sub>                  |
| 3) X - Ca(OCl) <sub>2</sub> ; | Y - Ca(OH) <sub>2</sub> ;  | Z - CaO                                  |
| 4) X - Ca(OH) <sub>2</sub> ;  | Y - CaO;                   | Z - Ca(OCl) <sub>2</sub>                 |

  
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69. Identify the correct set of 13<sup>th</sup> group elements which do not form amphoteric oxides

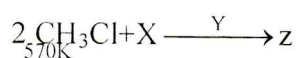
1) B, In, Tl

2) B, Al, Ga

3) Al, Ga, Tl

4) Al, Tl, In

70. Identify X, Y and Z in the following reaction



1) X - C; Y - Ni; Z - (CH<sub>3</sub>)<sub>2</sub>Si(OH)<sub>2</sub>

2) X - Si; Y - Zn; Z - (CH<sub>3</sub>)<sub>2</sub>SiCl<sub>2</sub>

3) X - Si; Y - Cu; Z - (CH<sub>3</sub>)<sub>2</sub>SiCl<sub>2</sub>

4) X - H<sub>2</sub>O; Y - Si; Z - (CH<sub>3</sub>)<sub>2</sub>Si(OH)<sub>2</sub>

71. Which of the following is not a greenhouse gas?

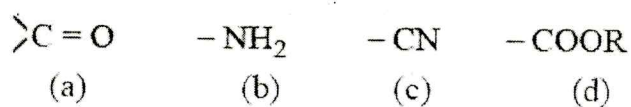
1. CO<sub>2</sub>

2. O<sub>3</sub>

3. CH<sub>4</sub>

4. N<sub>2</sub>

72. The order of priority of the following functional groups in IUPAC method of naming organic compounds is



1) b, a, d, c

2) c, d, b, a

3) d, c, a, b

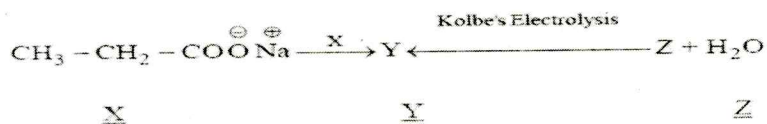
4) a, c, d, b

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73. What are X, Y and Z in the following reactions?

(4)



- |  |   |  |
|--|---|--|
| <u>X</u>                                   | <u>Y</u>  | <u>Z</u>   |
| 1. NaOH + CaO/Δ                            | CH <sub>3</sub> CH <sub>2</sub> CH <sub>2</sub> CH <sub>3</sub> | CH <sub>3</sub> CH <sub>2</sub> COO <sup>⊖</sup> Na <sup>⊕</sup> |
| 2. Mo <sub>2</sub> O <sub>3</sub>          | C <sub>2</sub> H <sub>6</sub>                                   | CH <sub>3</sub> CH <sub>2</sub> COO <sup>⊖</sup> Na <sup>⊕</sup> |
| 3. NaOH + CaO/Δ                            | C <sub>2</sub> H <sub>6</sub>                                   | CH <sub>3</sub> COO <sup>⊖</sup> Na <sup>⊕</sup>                 |
| 4. (CH <sub>3</sub> COO) <sub>2</sub> Mn/Δ | C <sub>3</sub> H <sub>8</sub>                                   | CH <sub>3</sub> CH <sub>2</sub> COO <sup>⊖</sup> Na <sup>⊕</sup> |

1) 1

2) 2

3) 3

4) 4

74. Which one of the following compounds will not show geometrical isomerism? (3)

- 1) Prop -2-enoic acid
- 2) 2-butene
- 3) 2-methyl-2-butenic acid
- 4) 3-methyl-2-pentenoic acid

75. Which of the following is a pair of viral diseases? (1)

- |                             |                              |
|-----------------------------|------------------------------|
| a) Typhoid and tuberculosis | b) Ring worm and AIDS        |
| c) Common cold and AIDS     | d) Dysentery and common cold |

76. At T (K), the vapour pressure of pure benzene is 0.85 bar. A non-volatile, non-electrolyte substance weighing 0.5g when added to 39g of benzene, the vapour pressure of the solution is 0.845 bar. The molar mass (in g mol<sup>-1</sup>) of the substance is (1)

- 1) 180      2) 270      3) 160      4) 169

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77. 0.1m solution each of sodium sulphate, urea and sodium chloride are taken. The correct ratio of elevation of boiling point of these solutions is (1)

- 1) 1 : 1 : 1
- 2) 3 : 1 : 2
- 3) 1 : 2 : 3
- 4) 2 : 3 : 1

78. At T(K) if the rate constant for a zero order reaction is  $2.5 \times 10^{-3} \text{ Ms}^{-1}$ , the time required for the initial concentration of reactant, R to fall from 0.10 M to 0.075M at the same temperature in seconds is (2)

- 1) 25
- 2) 5
- 3) 10
- 4) 20

79. The temperature above which, formation of micelles takes place is called (2)

- 1) Boyle's temperature
- 2) Kraft temperature
- 3) Critical temperature
- 4) Inversion temperature

80. A bomb travelling in a parabolic path under the effect of gravity explodes in mid air. The centre of mass of fragments will (2)

- 1) Move vertically upwards and then vertically downwards
- 2) Move vertically upwards
- 3) Move in an irregular path
- 4) Move in the parabolic path the unexploded bomb would have travelled.

81. The centre of mass of fragments will (3)

- a) Algebraic sum of moments of masses about centre of mass is zero
- b) For small bodies centre of mass coincides with centre of gravity
- c) Position of centre of mass depends on co-ordinate system
- d) Position of centre of mass is independent of mass distribution

- 1) a and b are correct
- 2) b and c are correct
- 3) a, b and c are correct
- 4) a, b, c, d are correct

82. A certain patient is suspected to be suffering from Acquired immune deficiency syndrome. Which diagnostic technique will you recommend for its detection? (3)

- a) Ultra sound
- b) Widal
- c) Elisa
- d) MRI

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83. When no external force is acting on a system of particles, the centre of mass of the system

(3)

- a) Remains at rest only
- b) Moves with constant velocity only
- c) Moves with constant velocity or will be at rest
- d) Moves with variable velocity

84. Gamma interferon's are produced by

(2)

- a) B lymphocytes
- b) Macrophages
- c) T lymphocytes
- d) Dendritic cells

85. An example for the less organized secondary lymphoid tissue

(1)

- a) Thymus
- b) Spleen
- c) Lymph nodes
- d) Mucosal - associated lymphoid tissue

86. Antibodies are produced by

(3)

- a) B-lymphocytes only
- b) Plasma cells only
- c) B-lymphocytes and T-lymphocytes
- d) B-lymphocytes and plasma cells

87. Antigen presenting cells are

(1)

- a) Dendritic cells
- b) Activated macrophages
- c) B-Cells
- d) Dendritic cells, activated macrophages and B-Cells

88. The term 'Health' is defined in many ways. The most accurate definition of the health would be:

(1)

- a. Health is the state of body and mind in a balanced condition
- b. Health is the reflection of a smiling face
- c. Health is a state of complete physical, mental and social well-being
- d. Health is the symbol of economic prosperity.

89. The chemical test that is used for diagnosis of typhoid is:

(3)

- a. ELISA-Test
- b. ESR - Test
- c. PCR - Test
- d. Widal-Test

90. Diseases are broadly grouped into infectious and non-infectious diseases. In the list given below, identify the infectious diseases

(3)

- i. Cancer
  - ii. Influenza
  - iii. Allergy
  - iv. Small pox
- (a) i and ii      (b) ii and iii      (c) iii and iv      (d) ii and iv

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91. The substance produced by a cell in viral infection that can protect other cells from further infection is: (3)

- a. Serotonin      b. Colostrums      c. Interferon      d. Histamine

92. Antibodies present in colostrums which protect the new born from certain diseases is of (3)

- b. Ig G type      b. Ig A type      c. Ig D type      d. Ig E type

93. Which of the following is not a lymphoid tissue? (1)

- c. Spleen      b. Tonsils      c. Appendix      d. Thymus

94. Identify the third line of defense from the following (2)

- a) NK cells      b) Tears      c) T cells      d) Phagocytes

95. Two T cell subpopulations can be distinguished by the type of the membrane glycoprotein molecules called (4)

- a) Opsonization      b) CD markers      c) MHC molecules      d) BCR

96. When an animal moves towards the source of light it is called (3)

- a) phototropes      b) photoperiodism  
c). phototoxis      d) all the above

97. Water vascular system is found in (2)

- a). Porefera      b) Mollusca      c) Econadermermata      d) Colelenterata

98. Yeast is important source of (2)

- a) Vitamin B      b) invertase      c) vitamin C      d). More than one of the above

99. Which of the following is a warm-blooded (1)

- a) pigeon      b) crocodile      c) toad      d) fish

100. Bacilli are bacteria which are (2)

- a) Comma-shaped      b) rod-shaped      c) spiral      d) spherical

# AVANTHI INSITUTE OF PHARMACEUTICAL SCEINCES FREESHIP EXAMINATION TEST 2021-2022

83  
-----  
100

Question Paper Name: PHARMACY

Date: 28/10/21

Name of the student: G. Mahesh

Duration: 180min

Avanthi Freeship No: ATPS 2021015

Total Marks: 100

1. Nuclear membrane is absent in  
 I. Mycoplasma    II. Actinomycetes    III. Diniflagellates    IV. Euglenoids  
 1. A & B                      2. B & C                      3. C & D                      4. A, B, C & D  
 (4)
2. Yeast is unicellular, eukaryote. It is included in  
 1. Mycetae                      2. Monera                      3. Protista                      4. Mycobacteria  
 (1)
3. Chitin is cell wall component of  
 1. Spirogyra                      2. Ustilago                      3. Cuscuta                      4. Riccia  
 (2)
4. True statement regarding Monera is  
 1. All are uninucleate                      2. Nucleus is absent in most  
 3. Some of them are photosynthetic                      4. Sexual reproduction is common  
 (3)
5. Assertion (A): *Chlorella* cannot be included in plant kingdom Reason (R): *Chlorella* is unicellular.  
 (1)  
 1) Both A and R are correct and R is the correct explanation of A.  
 2) Both A and R are correct but R is not the correct explanation of A.  
 3) A is true, R is false  
 4) A is false, R is true.
6. Cell membrane of Archae bacteria shows  
 1. Only protein                      2. Branched chain lipids  
 3. Independent lipid molecules                      4. Pseudomurein  
 (2)
7. Genetic material is naked in  
 A. *Escherichia coli*    B. *Streptomyces*    C. *Saccharomyces*    D. *Alternaria*  
 1. A & B                      2. B & C                      3. A, B & C                      4. A, B, C & D  
 (1)

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8. **Common character between *Nostoc* and higher plants** (4)
1. Presence of chlorophyll 'a' photosynthesis
  2. They releases oxygen during
  3. Flagellated sex organs are absent
  4. All the above
9. **Tetanus is** (1)
1. Bacterial disease infection
  2. Fungal disease
  3. Nutritional disorder
  4. Viral
10. **Red colour of the red is due to** (2)
1. Dinoflagellates light
  2. Cyanobacteria
  3. Archaeobacteria
  4. Reflection of
11. **True statement regarding protista** (4)
1. Cell wall is well developed
  2. Nuclear membrane is absent
  3. Nutrition is heterotrophic
  4. All the above
12. **Plasmodium is a stage of** (3)
1. Protozoa
  2. Euglenoids
  3. Slime molds
  4. Fungi
13. **Mesokaryon is seen in** (2)
1. Eubacteria
  2. Dinoflagellates
  3. Virus
  4. Prion
14. **Colour of the desmids is** (4)
1. Green
  2. Red
  3. Brown
  4. Golden brown
15. **Assertion (A): Sunlight is necessary for *Euglena*. Reason(R): *Euglena* shows photosynthetic pigments** (3)
- 1) Both A and R are correct and R is the correct explanation of A.
  - 2) Both A and R are correct but R is not the correct explanation of A.
  - 3) A is true, R is false
  - 4) A is false, R is true.
16. **Number of flagella in *Euglena*** (1)
1. Two
  2. One
  3. Four
  4. One or two
17. **Saprophytic organisms from the following** (4)
1. *Puccinia*
  2. *Colletotrichum*
  3. *Euglena*
  4. Slime molds



18. Spore dispersal is by wind in  
 1. Slime molds                      2. *Aspergillus*                      3. *Penicillium*                      4. *Chlorella*                      (4) ✓
19. Binary fission is longitudinal in  
 1. Bacteria                      2. Yeast                      3. *Euglena*                      4. Dinoflagellates                      (3) ✓
20. Silica is embedded in the walls of  
 1. Dinoflagellates                      2. Desmids                      3. Diatoms                      4. *Chlorella*                      (3) ✓
21. Zygote undergoes meiosis in  
 1. Fungi                      2. Protozoa                      3. Plants                      4. Slime molds                      (1) ✓
22. Conidia are  
 1. Prokaryotes                      2. Protista                      3. Spores                      4. Sexual stage                      (3) ✓
23. Reserve food in fungi is  
 1. Starch                      2. Glycogen                      3. Protein                      4. Sugars                      (2) ✓
24. The parasite on mustard is  
 1. *Colletotrichum*                      2. *Alternaria*                      3. *Aspergillus*                      4. *Albugo*                      (3) ✓
25. Saucer shaped fruiting body is called as  
 1. Perithecium                      2. Apothecium                      3. Cleistothecium                      4. Basidiocarp                      (2) ✓
26. The entire nervous system is divided into two main regions: The  
 A) Brain and the spinal chord  
 B) CNS and the PNS  
 C) Neurons and the glial cells  
 D) Motor neurons and the sensory neurons                      (2) ✓
27. All the nervous tissue outside the brain and spinal cord is the \_\_\_\_\_ nervous system.  
 a. Peripheral                      (1) ✓  
 b. Autonomic  
 c. Somatic  
 d. Central

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28. Which of the following is not one of the basic functions of the nervous system? (3) ✓
- a. Formulate responses to sensory stimulation
  - b. Send signals rapidly between body parts
  - c. Produce major body fluids such as plasma and interstitial tissue fluid
  - e. Detect sense stimuli
29. The cells of nervous tissue that are not neurons but that assist neurons are called (3) ✗
- A. Amyloid plaques
  - B. Fibroblasts
  - C. Leukocytes
  - D. Neuroglia
30. The white fatty substance that coats axons to increase signal speed is (1) ✓
- A. Myelin
  - B. Microfibrils
  - C. Dendrites
  - D. Adipocytes
31. A movement of  $K^+$  out of the cell makes the inside of the cell less positive (more negative) and acts to restore the original resting voltage of the neuron - a process called (1) ✓
- a. Depolarization
  - b. Hyperpolarization
  - c. Repolarization
  - d. Overshoot
32. Arrange these action potential events in their proper sequence: (2) ✓
- (1) The neuron is stimulated at the dendrites
  - (2)  $K^+$  gates open
  - (3) The neuron is in a polarized "resting" state
  - (4)  $Na^+$  gates open
  - (5) The cell is fully depolarized
  - (6) The cell is fully repolarized
- A) 1, 2, 4, 3, 5, 6      B) 3, 1, 4, 5, 2, 6      C) 4, 6, 2, 1, 5, 3      D) 1, 4, 2, 6, 5, 3

33. When the neurotransmitter molecules released from the axon terminals of a neuron have diffused across the synapse and have reached the dendrites of the target neuron, the neurotransmitters

1. Enter the target neuron by membrane transport proteins (ion channels)
2. Diffuse out of the synapse without causing any response in the target neuron
3. Bind to receptor proteins
4. Stimulate neuron growth

(2)

34. When a neurotransmitter binds to a receptor on the target cell, it causes the target cell to have a (n)...

1. Repolarization
2. Growth phase
3. Growth inhibition
4. Action potential

(1)

35. A bundle of axons in the PNS is called a

- A. Tract.
- B. Nerve
- C. Nucleus
- D. Ganglion

(1)

36. The right and left halves of the cerebrum (the cerebral hemispheres) are connected to each other mainly by a bundle of neuron axons called the

- a. Thalamus.
- b. Insula.
- c. Corpus cavernosum.
- d. Corpus callosum.

(3)

37. Which are not areas of the cerebrum?

- A. Sensory signal receiving areas
- B. Heart rate and breathing rate control areas
- C. Logic and language areas
- D. Motor signal generating areas

(3)

38. Sensations from the skin are converted to perceptions in which part of the cerebrum?

- a. The primary motor area
- b. The primary sensory area
- c. Wernicke's area
- d. Broca's area

(3)

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39. Signals from the sense organs (such as the ears, eyes, nose, and mouth) are received and analyzed in what part of the brain? (4)

1. The cerebellum
2. The cerebrum
3. The brainstem
4. The diencephalon

40. A block of mass  $M$  is resting on an inclined plane. When the angle of inclination is gradually increased to  $\theta$ , the block just begins to slide down the plane. What minimum force applied parallel to the plane on the block would just make the block move up the plane? (2)

- (1)  $Mg \sin\theta$                       (2)  $Mg \cos\theta$                       (3)  $2 Mg \cos\theta$                       (4)  $2 Mg \sin\theta$

41. A cylinder rolls up an inclined plane, reaches some height and then rolls down (without slipping through out these motions). The directions of frictional force acting on the cylinder are (3)

- 1) Up the incline while ascending and down the incline while descending
- 2) Up the incline while ascending as well as descending
- 3) Down the incline while ascending and up the incline while descending
- 4) Down the incline while ascending as well as descending

42. Consider the following A and B, and identify the correct choice in the given answers. (2)

A) For a body resting on a rough horizontal table, it is easier to pull at angle that pushes at the same angle to cause motion.

B) A body sliding down a rough inclined plane of inclination equal to angle of friction has non-zero acceleration.

- 1) Both A and B are true
- 2) A is true but B is false.
- 3) A is false but B is true.
- 4) Both A and B are false.

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43. (A): The time of ascent for a body projected to move up a rough inclined plane is less than the time of descent.

(R): The retardation for upward motion is more than the acceleration for downward motion.

- (1) Both (A) and (R) are true and (R) is the correct explanation of (A). (2)  
(2) Both (A) and (R) are true and (R) is not the correct explanation of (A).  
(3) (A) is true but (R) is false.  
(4) (A) is false but (R) is true.

44. A block is pushed up a rough inclined plane of  $45^\circ$ . If the time of descent is twice the time of ascent, the coefficient of friction is

- 1) 0.6                      2) 0.4                      3) 0.5                      4) 0.2 (2)

45. The minimum force required to move a body up an inclined plane is three times the minimum force required to prevent it from sliding down the plane. If coefficient of friction between the body and inclined plane is  $1/2$ , the angle of inclined plane

- 1)  $60^\circ$                       2)  $45^\circ$                       3)  $30^\circ$                       4)  $15^\circ$  (3)

46. Sand is piled up on a horizontal ground in the form of a regular cone of a fixed base radius  $R$ . The coefficient of static friction between sand layers is  $\mu$ . The maximum volume of sand that can be piled up, without the sand slipping on the surface is

- 1)  $\frac{\mu R^3}{3\pi}$                       2)  $\frac{\mu R^3}{3}$                       3)  $\frac{\pi R^3}{3\mu}$                       4)  $\frac{\mu \pi R^3}{3}$  (1)

47. A body is moving up an inclined plane of angle  $\theta$  with an initial kinetic energy  $E$ . The coefficient of friction between the plane and body is  $\mu$ . The work done against friction before the body comes to rest is (2002 E)

- 1)  $\frac{\mu \cos \theta}{E \cos \theta + \sin \theta}$                       2)  $2\mu E \cos \theta$                       3)  $\frac{\mu E \cos \theta}{\mu \cos \theta - \sin \theta}$                       4)  $\frac{\mu E \cos \theta}{\mu \cos \theta + \sin \theta}$  (3)

48. A block of mass 2kg is lying on an inclined plane at an angle of  $30^\circ$  with the horizontal the coefficient of friction between the block and the plane is 0.7 the frictional force acting on the inclined plane will be

- (1) Zero (2) 9.8N (3)  $9.8 \times \sqrt{3}$  N (4)  $9.8 \times 0.7 \times \sqrt{3}$  N (2)

49. The coefficient of friction between the object and the surface is the force applied to the object so that the object moves down on the surface with a uniform speed is (3)

- (1) 11.2N (2) 15N (3) 5N (4) None

50. A body slides down a rough inclined plane of angle of inclination  $30^\circ$  and takes times twice as great as the time taken in slipping down a similar frictionless plane. The coefficient of friction between the body and the plane is 4

- (1)  $\frac{\sqrt{3}}{4}$  (2)  $\sqrt{3}$  (3)  $\frac{4}{3}$  (4)  $\frac{3}{4}$

51. A body slides down a smooth inclined plane of height  $h$  and angle of inclination  $30^\circ$  reaching the bottom with a velocity  $v$ . Without changing the height, if the angle of inclination is doubled, the velocity with which it reaches the bottom of the plane is

1.  $Vv$  2.  $v/2$  3.  $2v$  4.  $\sqrt{2}v$  (1)

52. A particle is projected up along a rough plane of inclination  $45^\circ$  with the horizontal. If the coefficient of friction is 0.5, the retardation is ( $g$  = acceleration due to gravity) 4

1.  $\frac{g}{2}$  2.  $\frac{g}{2\sqrt{2}}$  3.  $\frac{3g}{2\sqrt{2}}$  4.  $\frac{g}{\sqrt{2}}$

53. The minimum force required to move a body up an inclined plane of inclination  $30^\circ$  is found to be thrice the minimum force required to prevent it from sliding down the plane. The coefficient of friction between the body and the plane is (2)

1.  $1/\sqrt{3}$  2.  $1/2$  3.  $1/3$  4.  $1/4$



54. A Protein part in a holoenzyme is

- 1) Apo enzyme                      2) Simple enzyme  
2) Conjugated enzyme              4) Inducive enzyme

(2)

55. A body of mass  $m_1$  projected vertically upwards with an initial velocity 'u' reaches a maximum height h. Another body of mass  $m_2$  is projected along an inclined plane making an angle  $30^\circ$  with the horizontal and with speed 'u'. The maximum distance travelled along the incline is 1

1.  $2h$                       2.  $h$                       3.  $\frac{h}{2}$                       4.  $\frac{h}{4}$

56. A body is sliding down an inclined plane having coefficient of friction 0.5. If the normal reaction is twice that of the resultant downward force along the incline, the angle between the inclined plane and horizontal is

1.  $15^\circ$                       2.  $30^\circ$                       3.  $45^\circ$                       4.  $60^\circ$

(1)

57. A body takes four-third times as much time to slide down rough inclined plane as it takes to slide down an identical but smooth inclined plane if the angle of inclined plane is  $45^\circ$ . The coefficient of friction is

1.  $7/16$                       2.  $9/16$                       3.  $7/9$                       4.  $3/4$

(1)

58. A 30kg box has to move up an inclined slope of  $30^\circ$  to horizontal at a uniform velocity of 5 m/sec. If the frictional force retarding the motion is 250N the horizontal force to move up is ( $g=10 \text{ m/sec}^2$ ) 3

1.  $300\sqrt{2} \text{ N}$                       2.  $300\text{N}$   
3.  $300\sqrt{3} \text{ N}/2$                       4.  $300 \times 2/\sqrt{3} \text{ N}$

59. An insect crawls up a hemispherical surface. The coefficient of friction between the insect and the surface is  $1/3$ . If the line joining the centre of the hemispherical surface to the insect makes an angle with the vertical, the maximum possible value of  $\alpha$  is given by

1.  $\text{Cot } \alpha = 3$                       2.  $\text{Tan } \alpha = 3$                       3.  $\text{Sec } \alpha = 3$                       4.  $\text{Cosec } \alpha = 3$

(4)



60. The wavelength corresponding to electronic transition between two orbits of hydrogen atom is 912 Å. The wavelength (in Å) for the same electronic transition in Li is (4)

- 1) 101.3
- 2) 202.6
- 3) 303.9
- 4) 50.65

61. The ratio of lowest energy in terms of wave numbers of Balmer and Lyman series of lines of atomic spectrum of hydrogen is (3)


- 1) 5:27
- 2) 27:5
- 3) 20:27
- 4) 27:2

62. Which of the following represents the correct order of ionic radii? (1)

- 1)  $\text{Al}^{3+} > \text{Mg}^{2+} > \text{Na}^+ > \text{O}^{2-} > \text{F}^-$
- 2)  $\text{O}^{2-} > \text{F}^- > \text{Na}^+ > \text{Mg}^{2+} > \text{Al}^{3+}$
- 3)  $\text{Mg}^{2+} > \text{Al}^{3+} > \text{O}^{2-} > \text{F}^- > \text{Na}^+$
- 4)  $\text{O}^{2-} > \text{F}^- > \text{Al}^{3+} > \text{Mg}^{2+} > \text{Na}^+$

63. The temperature of 4.0 moles of a gas occupying  $5 \text{ dm}^3$  at 3.32 bar is ( $R = 0.0083 \text{ bar dm}^3 \text{ K}^{-1} \text{ mol}^{-1}$ ) (2)

- 1) 25 K
- 2) 50 K
- 3) 75 K
- 4) 100 K

  
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64. Match the following

List - I

- A) At constant volume the change in internal Energy of a system  
B) Isothermal irreversible change  
C) Isothermal reversible change  
D) Adiabatic change

List-II

- I)  $W = 2.3.3Nrt \log V_f/V_i$   
II)  $W_{\text{adia}} = \Delta U$   
III)  $q_v = \Delta U$   
IV)  $W = -P_{\text{ex}} (V_f - V_i)$   
V)  $\Delta U = \Delta H - \Delta nRT$

The correct answer is

- 1) A - V; B - III; C - IV; D - I  
3) A - III; B - IV; C - I; D - II

- 2) A - IV; B - I; C - III; D - V  
4) A - III; B - V; C - I; D - II

65. The pH of a buffer solution formed by mixing 30 mL of 0.1 M  $\text{NH}_4\text{OH}$  and 30 mL of 1M  $\text{NH}_4\text{Cl}$  solutions is 8.6. The  $\text{pK}_b$  of  $\text{NH}_4\text{OH}$  is

- 1) 5.4  
2) 4.4  
3) 5.6  
4) 4.2

66. The solubility products of three sparingly soluble salts  $\text{AB}$ ,  $\text{A}_2\text{B}$  and  $\text{AB}_3$  are respectively  $4.0 \times 10^{-20}$ ,  $3.2 \times 10^{-11}$  and  $2.7 \times 10^{-31}$ . The increasing order of their solubility is •

- 1)  $\text{AB} < \text{AB}_3 < \text{A}_2\text{B}$   
2)  $\text{AB}_3 < \text{AB} < \text{A}_2\text{B}$   
3)  $\text{A}_2\text{B} < \text{AB}_3 < \text{AB}$   
4)  $\text{A}_2\text{B} < \text{AB} < \text{AB}_3$

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67. Identify the correct statements from the following

(1) ~~X~~

- a) Zn reacts with dilute HCl and aqueous NaOH solution separately and liberates hydrogen
- b) Ti and Zr form interstitial hydrides
- c) The viscosity of H<sub>2</sub>O is more than the viscosity of D<sub>2</sub>O

1) a, b, c

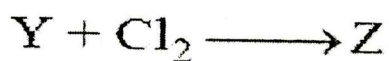
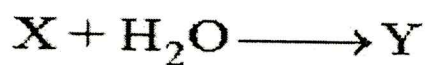
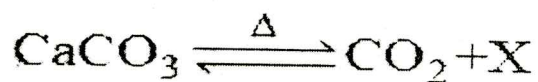
2) a, c

3) a, b


4) b, c

68. What are X, Y and Z in the following reactions?

(2)



- |                               |                            |   |
|-------------------------------|----------------------------|---|
| 1) X - CaO;                   | Y - Ca(OH) <sub>2</sub> ;  | Z - CaOCl <sub>2</sub> .H <sub>2</sub> O. |
| 2) X - CaO;                   | Y - Ca(OCl) <sub>2</sub> ; | Z - Ca(OH) <sub>2</sub>                   |
| 3) X - Ca(OCl) <sub>2</sub> ; | Y - Ca(OH) <sub>2</sub> ;  | Z - CaO                                   |
| 4) X - Ca(OH) <sub>2</sub> ;  | Y - CaO;                   | Z - Ca(OCl) <sub>2</sub>                  |

  
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69. Identify the correct set of 13<sup>th</sup> group elements which do not form amphoteric oxides

1) B, In, Tl

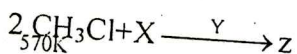
2) B, Al, Ga

3) Al, Ga, Tl

4) Al, Tl, In

(3)

70. Identify X, Y and Z in the following reaction



1) X - C; Y - Ni; Z - (CH<sub>3</sub>)<sub>2</sub>Si(OH)<sub>2</sub>

2) X - Si; Y - Zn; Z - (CH<sub>3</sub>)<sub>2</sub>SiCl<sub>2</sub>

3) X - Si; Y - Cu; Z - (CH<sub>3</sub>)<sub>2</sub>SiCl<sub>2</sub>

4) X - H<sub>2</sub>O; Y - Si; Z - (CH<sub>3</sub>)<sub>2</sub>Si(OH)<sub>2</sub>

(1)

71. Which of the following is not a greenhouse gas?

1. CO<sub>2</sub>

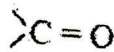
2. O<sub>3</sub>

3. CH<sub>4</sub>

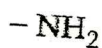
4. N<sub>2</sub>

(2)

72. The order of priority of the following functional groups in IUPAC method of naming organic compounds is



(a)



(b)



(c)



(d)

(1)

1) b, a, d, c

3) d, c, a, b

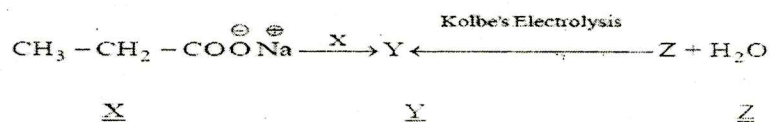
2) c, d, b, a

4) a, c, d, b

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73. What are X, Y and Z in the following reactions? (3)



- |  |   |  |
|--|---|--|
| <u>X</u>                                   | <u>Y</u>  | <u>Z</u>   |
| 1. NaOH + CaO/Δ                            | CH <sub>3</sub> CH <sub>2</sub> CH <sub>2</sub> CH <sub>3</sub> | CH <sub>3</sub> CH <sub>2</sub> COO <sup>⊖</sup> Na <sup>⊕</sup> |
| 2. MnO <sub>2</sub> /O <sub>3</sub>        | C <sub>2</sub> H <sub>6</sub>                                   | CH <sub>3</sub> CH <sub>2</sub> COO <sup>⊖</sup> Na <sup>⊕</sup> |
| 3. NaOH + CaO/Δ                            | C <sub>2</sub> H <sub>6</sub>                                   | CH <sub>3</sub> COO <sup>⊖</sup> Na <sup>⊕</sup>                 |
| 4. (CH <sub>3</sub> COO) <sub>2</sub> Mn/Δ | C <sub>3</sub> H <sub>8</sub>                                   | CH <sub>3</sub> CH <sub>2</sub> COO <sup>⊖</sup> Na <sup>⊕</sup> |

1) 1

2) 2

3) 3

4) 4

74. Which one of the following compounds will not show geometrical isomerism? (3)

- 1) Prop -2-enoic acid
- 2) 2-butene
- 3) 2-methyl-2-butenic acid
- 4) 3-methyl-2-pentenoic acid

75. Which of the following is a pair of viral diseases? (1)

- |                             |                              |
|-----------------------------|------------------------------|
| a) Typhoid and tuberculosis | b) Ring worm and AIDS        |
| c) Common cold and AIDS     | d) Dysentery and common cold |

76. At T (K), the vapour pressure of pure benzene is 0.85 bar. A non-volatile, non-electrolyte substance weighing 0.5g when added to 39g of benzene, the vapour pressure of the solution is 0.845 bar. The molar mass (in g mol<sup>-1</sup>) of the substance is (1)

1) 180

2) 270

3) 160

4) 169

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77. 0.1m solution each of sodium sulphate, urea and sodium chloride are taken. The correct ratio of elevation of boiling point of these solutions is

- 1) 1 : 1 : 1      2) 3 : 1 : 2      3) 1 : 2 : 3      4) 2 : 3 : 1

(1)

78. At T(K) if the rate constant for a zero order reaction is  $2.5 \times 10^{-3} \text{ Ms}^{-1}$ , the time required for the initial concentration of reactant, R to fall from 0.10 M to 0.075M at the same temperature in seconds is

- 1) 25      2) 5      3) 10      4) 20

(2)

79. The temperature above which, formation of micelles takes place is called

- 1) Boyle's temperature      2) Kraft temperature  
3) Critical temperature      4) Inversion temperature

(2)

80. A bomb travelling in a parabolic path under the effect of gravity explodes in mid air. The centre of mass of fragments will

- 1) Move vertically upwards and then vertically downwards  
2) Move vertically upwards  
3) Move in an irregular path  
4) Move in the parabolic path the unexploded bomb would have travelled.

(3)

81. The centre of mass of fragments will

- a) Algebraic sum of moments of masses about centre of mass is zero  
b) For small bodies centre of mass coincides with centre of gravity  
c) Position of centre of mass depends on co-ordinate system  
d) Position of centre of mass is independent of mass distribution

- 1) a and b are correct      2) b and c are correct  
3) a, b and c are correct      4) a, b, c, d are correct

(2)

82. A certain patient is suspected to be suffering from Acquired immune deficiency syndrome. Which diagnostic technique will you recommend for its detection?

- a) Ultra sound      b) Widal      c) Elisa      d) MRI

(3)

83. When no external force is acting on a system of particles, the centre of mass of the system

(3)

- a) Remains at rest only      b) Moves with constant velocity only  
c) Moves with constant velocity or will be at rest      d) Moves with variable velocity

84. Gamma interferon's are produced by

(2)

- a) B lymphocytes      b) Macrophages      c) T lymphocytes      d) Dendritic cells

85. An example for the less organized secondary lymphoid tissue

(1)

- a) Thymus      b) Spleen      c) Lymph nodes      d) Mucosal - associated lymphoid tissue

86. Antibodies are produced by

(3)

- a) B-lymphocytes only      b) Plasma cells only  
c) B-lymphocytes and T-lymphocytes      d) B-lymphocytes and plasma cells

87. Antigen presenting cells are

(1)

- a) Dendritic cells      b) Activated macrophages  
c) B-Cells      d) Dendritic cells, activated macrophages and B-Cells

88. The term 'Health' is defined in many ways. The most accurate definition of the health would be:

(1)

- a. Health is the state of body and mind in a balanced condition  
b. Health is the reflection of a smiling face  
c. Health is a state of complete physical, mental and social well-being  
d. Health is the symbol of economic prosperity.

89. The chemical test that is used for diagnosis of typhoid is:

(1)

- a. ELISA-Test      b. ESR - Test      c. PCR - Test      d. Widal-Test

90. Diseases are broadly grouped into infectious and non-infectious diseases. In the list given below, identify the infectious diseases


(2)

- i. Cancer      ii. Influenza      iii. Allergy      iv. Small pox  
(a) i and ii      (b) ii and iii      (c) iii and iv      (d) ii and iv

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91. The substance produced by a cell in viral infection that can protect other cells from further infection is: (3) ✓  
 a. Serotonin      b. Colostrums      c. Interferon      d. Histamine
92. Antibodies present in colostrums which protect the new born from certain diseases is of (3) ✓  
 a. Ig G type      b. Ig A type      c. Ig D type      d. Ig E type
93. Which of the following is not a lymphoid tissue? (2) ✓  
 a. Spleen      b. Tonsils      c. Appendix      d. Thymus
94. Identify the third line of defense from the following (2) ✓  
 a) NK cells      b) Tears      c) T cells      d) Phagocytes
95. Two T cell subpopulations can be distinguished by the type of the membrane glycoprotein molecules called (1) ✓  
 a) Opsonization      b) CD markers      c) MHC molecules      d) BCR
96. When an animal moves towards the source of light it is called (2) ✓  
 a) phototropes      b) photoperiodism  
 c). phototoxis      d) all the above
97. Water vascular system is found in (3) ✓  
 a). Porefera      b) Mollusca      c) Econadermermata      d) Colelenterata
98. Yeast is important source of (3) ✓  
 a) Vitamin B      b) invertase      c) vitamin C      d). More than one of the above
99. Which of the following is a warm-blooded (2) ✓  
 a) pigeon      b) crocodile      c) toad      d) fish
100. Bacilli are bacteria which are (3) ✓  
 a) Comma-shaped      b) rod-shaped      c) spiral      d) spherical


  
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8. **Common character between *Nostoc* and higher plants** (4) ✓  
 1. Presence of chlorophyll 'a' photosynthesis  
 2. They releases oxygen during  
 3. Flagellated sex organs are absent  
 4. All the above
9. **Tetanus is** (14) ✓  
 1. Bacterial disease infection  
 2. Fungal disease  
 3. Nutritional disorder  
 4. Viral
10. **Red colour of the red is due to** (2) ✓  
 1. Dinoflagellates light  
 2. Cyanobacteria  
 3. Archaeobacteria  
 4. Reflection of
11. **True statement regarding protista** (4) ✓  
 1. Cell wall is well developed  
 2. Nuclear membrane is absent  
 3. Nutrition is heterotrophic  
 4. All the above
12. **Plasmodium is a stage of** (3) ✓  
 1. Protozoa  
 2. Euglenoids  
 3. Slime molds  
 4. Fungi
13. **Mesokaryon is seen in** (2) ✓  
 1. Eubacteria  
 2. Dinoflagellates  
 3. Virus  
 4. Prion
14. **Colour of the desmids is** (3) ✓  
 1. Green  
 2. Red  
 3. Brown  
 4. Golden brown
15. **Assertion (A): Sunlight is necessary for *Euglena*. Reason(R): *Euglena* shows photosynthetic pigments( )** (4) ✓  
 1) Both A and R are correct and R is the correct explanation of A.  
 2) Both A and R are correct but R is not the correct explanation of A.  
 3) A is true, R is false  
 4) A is false, R is true.
16. **Number of flagella in *Euglena*** (1) ✓  
 1. Two  
 2. One  
 3. Four  
 4. One or two
17. **Saprophytic organisms from the following** (4) ✓  
 1. *Puccinia*  
 2. *Colletotrichum*  
 3. *Euglena*  
 4. Slime molds

18. Spore dispersal is by wind in  
 1. Slime molds                      2. *Aspergillus*                      3. *Penicillium*                      4. *Chlorella* (4) ✓
19. Binary fission is longitudinal in  
 1. Bacteria                      2. Yeast                      3. *Euglena*                      4. Dinoflagellates (3) ✓
20. Silica is embedded in the walls of  
 1. Dinoflagellates                      2. Desmids                      3. Diatoms                      4. *Chlorella* (3) ✓
21. Zygote undergoes meiosis in  
 1. Fungi                      2. Protozoa                      3. Plants                      4. Slime molds (1) ✓
22. Conidia are  
 1. Prokaryotes                      2. Protista                      3. Spores                      4. Sexual stage (1) ✗
23. Reserve food in fungi is  
 1. Starch                      2. Glycogen                      3. Protein                      4. Sugars (3) ✗
24. The parasite on mustard is  
 1. *Colletotrichum*                      2. *Alternaria*                      3. *Aspergillus*                      4. *Albugo* (2) ✗
25. Saucer shaped fruiting body is called as  
 1. Perithecium                      2. Apothecium                      3. Cleistothecium                      4. Basidiocarp (2) ✓
26. The entire nervous system is divided into two main regions: The  
 A) Brain and the spinal chord  
 B) CNS and the PNS  
 C) Neurons and the glial cells  
 D) Motor neurons and the sensory neurons (2) ✓
27. All the nervous tissue outside the brain and spinal cord is the \_\_\_\_\_ nervous system. (1) ✓
- a. Peripheral  
 b. Autonomic  
 c. Somatic  
 d. Central

  
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28. Which of the following is not one of the basic functions of the nervous system? (3)

- a. Formulate responses to sensory stimulation
- b. Send signals rapidly between body parts
- c. Produce major body fluids such as plasma and interstitial tissue fluid
- e. Detect sense stimuli

29. The cells of nervous tissue that are not neurons but that assist neurons are called (4)

- A. Amyloid plaques
- B. Fibroblasts
- C. Leukocytes
- D. Neuroglia

30. The white fatty substance that coats axons to increase signal speed is (1)

- A. Myelin
- B. Microfibrils
- C. Dendrites
- D. Adipocytes

31. A movement of  $K^+$  out of the cell makes the inside of the cell less positive (more negative) and acts to restore the original resting voltage of the neuron - a process called (1)

- a. Depolarization
- b. Hyperpolarization
- c. Repolarization
- d. Overshoot

32. Arrange these action potential events in their proper sequence: (2)

- (1) The neuron is stimulated at the dendrites
- (2)  $K^+$  gates open
- (3) The neuron is in a polarized "resting" state
- (4)  $Na^+$  gates open
- (5) The cell is fully depolarized
- (6) The cell is fully repolarized

A) 1, 2, 4, 3, 5, 6

B) 3, 1, 4, 5, 2, 6

C) 4, 6, 2, 1, 5, 3

D) 1, 4, 2, 6, 5, 3

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33. When the neurotransmitter molecules released from the axon terminals of a neuron have diffused across the synapse and have reached the dendrites of the target neuron, the neurotransmitters

(2) ✓

1. Enter the target neuron by membrane transport proteins (ion channels)
2. Diffuse out of the synapse without causing any response in the target neuron
3. Bind to receptor proteins
4. Stimulate neuron growth

34. When a neurotransmitter binds to a receptor on the target cell, it causes the target cell to have a (n)...

(1) ✓

1. Repolarization
2. Growth phase
3. Growth inhibition
4. Action potential

35. A bundle of axons in the PNS is called a

(1) ✓

- A. Tract.
- B. Nerve
- C. Nucleus
- D. Ganglion

36. The right and left halves of the cerebrum (the cerebral hemispheres) are connected to each other mainly by a bundle of neuron axons called the

(3) ✓

- a. Thalamus.
- b. Insula.
- c. Corpus cavernosum.
- d. Corpus callosum.

37. Which are not areas of the cerebrum?

(4) ✓

- A. Sensory signal receiving areas
- B. Heart rate and breathing rate control areas
- C. Logic and language areas
- D. Motor signal generating areas

38. Sensations from the skin are converted to perceptions in which part of the cerebrum?

(3) ✓

- a. The primary motor area
- b. The primary sensory area
- c. Wernicke's area
- d. Broca's area

39. Signals from the sense organs (such as the ears, eyes, nose, and mouth) are received and analyzed in what part of the brain?

(4) ✓

1. The cerebellum
2. The cerebrum
3. The brainstem
4. The diencephalon

40. A block of mass  $M$  is resting on an inclined plane. When the angle of inclination is gradually increased to  $\theta$ , the block just begins to slide down the plane. What minimum force applied parallel to the plane on the block would just make the block move up the plane?

(2) ✓

- (1)  $Mg \sin\theta$                       (2)  $Mg \cos\theta$                       (3)  $2 Mg \cos\theta$                       (4)  $2 Mg \sin\theta$

41. A cylinder rolls up an inclined plane, reaches some height and then rolls down (without slipping through out these motions). The directions of frictional force acting on the cylinder are

(4) ✓

- 1) Up the incline while ascending and down the incline while descending
- 2) Up the incline while ascending as well as descending
- 3) Down the incline while ascending and up the incline while descending
- 4) Down the incline while ascending as well as descending

42. Consider the following A and B, and identify the correct choice in the given answers.

(2) ✓

A) For a body resting on a rough horizontal table, it is easier to pull at angle that pushes at the same angle to cause motion.

B) A body sliding down a rough inclined plane of inclination equal to angle of friction has non-zero acceleration.

- 1) Both A and B are true
- 2) A is true but B is false.
- 3) A is false but B is true.
- 4) Both A and B are false.

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43. (A): The time of ascent for a body projected to move up a rough inclined plane is less than the time of descent.

(R): The retardation for upward motion is more than the acceleration for downward motion.

- (1) Both (A) and (R) are true and (R) is the correct explanation of (A).  
(2) Both (A) and (R) are true and (R) is not the correct explanation of (A).  
(3) (A) is true but (R) is false.  
(4) (A) is false but (R) is true.

(2)

44. A block is pushed up a rough inclined plane of  $45^\circ$ . If the time of descent is twice the time of ascent, the coefficient of friction is

- 1) 0.6                      2) 0.4                      3) 0.5                      4) 0.2

(2)

45. The minimum force required to move a body up an inclined plane is three times the minimum force required to prevent it from sliding down the plane. If coefficient of friction between the body and inclined plane is  $1/2$ , the angle of inclined plane is

- 1)  $60^\circ$                       2)  $45^\circ$                       3)  $30^\circ$                       4)  $15^\circ$

(4)

46. Sand is piled up on a horizontal ground in the form of a regular cone of a fixed base radius  $R$ . The coefficient of static friction between sand layers is  $\mu$ . The maximum volume of sand that can be piled up, without the sand slipping on the surface is

- 1)  $\frac{\mu R^3}{3\pi}$                       2)  $\frac{\mu R^3}{3}$                       3)  $\frac{\pi R^3}{3\mu}$                       4)  $\frac{\mu\pi R^3}{3}$

(1)

47. A body is moving up an inclined plane of angle  $\theta$  with an initial kinetic energy  $E$ . The coefficient of friction between the plane and body is  $\mu$ . The work done against friction before the body comes to rest is (2002 E)

- 1)  $\frac{\mu \cos \theta}{E \cos \theta + \sin \theta}$                       2)  $2\mu E \cos \theta$                       3)  $\frac{\mu E \cos \theta}{\mu \cos \theta - \sin \theta}$                       4)  $\frac{\mu E \cos \theta}{\mu \cos \theta + \sin \theta}$

(4)



48. A block of mass 2kg is lying on an inclined plane at an angle of  $30^\circ$  with the horizontal the coefficient of friction between the block and the plane is 0.7 the frictional force acting on the inclined plane will be

- (1) Zero (2) 9.8N (3)  $9.8 \times \sqrt{3}$  N (4)  $9.8 \times 0.7 \times \sqrt{3}$  N

49. The coefficient of friction between the object and the surface is the force applied to the object so that the object moves down on the surface with a uniform speed is

- (1) 11.2N (2) 15N (3) 5N (4) None

50. A body slides down a rough inclined plane of angle of inclination  $30^\circ$  and takes times twice as great as the time taken in slipping down a similar frictionless plane. The coefficient of friction between the body and the plane is

- (1)  $\frac{\sqrt{3}}{4}$  (2)  $\sqrt{3}$  (3)  $\frac{4}{3}$  (4)  $\frac{3}{4}$

51. A body slides down a smooth inclined plane of height  $h$  and angle of inclination  $30^\circ$  reaching the bottom with a velocity  $v$ . Without changing the height, if the angle of inclination is doubled, the velocity with which it reaches the bottom of the plane is

1.  $Vv$  2.  $v/2$  3.  $2v$  4.  $\sqrt{2}v$

52. A particle is projected up along a rough plane of inclination  $45^\circ$  with the horizontal. If the coefficient of friction is 0.5, the retardation is ( $g$  = acceleration due to gravity)

1.  $\frac{g}{2}$  2.  $\frac{g}{2\sqrt{2}}$  3.  $\frac{3g}{2\sqrt{2}}$  4.  $\frac{g}{\sqrt{2}}$

53. The minimum force required to move a body up an inclined plane of inclination  $30^\circ$  is found to be thrice the minimum force required to prevent it from sliding down the plane. The coefficient of friction between the body and the plane is

1.  $1/\sqrt{3}$  2.  $1/2$  3.  $1/3$  4.  $1/4$



54. A Protein part in a holoenzyme is

- 1) Apo enzyme                      2) Simple enzyme  
2) Conjugated enzyme              4) Inducive enzyme

(2)

55. A body of mass  $m_1$  projected vertically upwards with an initial velocity 'u' reaches a maximum height h. Another body of mass  $m_2$  is projected along an inclined plane making an angle  $30^\circ$  with the horizontal and with speed 'u'. The maximum distance travelled along the incline is \_\_\_\_\_

1.  $2h$                       2.  $h$                       3.  $\frac{h}{2}$                       4.  $\frac{h}{4}$

(1)

56. A body is sliding down an inclined plane having coefficient of friction 0.5. If the normal reaction is twice that of the resultant downward force along the incline, the angle between the inclined plane and horizontal is

1.  $15^\circ$                       2.  $30^\circ$                       3.  $45^\circ$                       4.  $60^\circ$

(1)

57. A body takes four-third times as much time to slide down rough inclined plane as it takes to slide down an identical but smooth inclined plane if the angle of inclined plane is  $45^\circ$ . The coefficient of friction is

1.  $7/16$                       2.  $9/16$                       3.  $7/9$                       4.  $3/4$

(1)

58. A 30kg box has to move up an inclined slope of  $30^\circ$  to horizontal at a uniform velocity of 5 m/sec. If the frictional force retarding the motion is 250N the horizontal force to move up is ( $g=10 \text{ m/sec}^2$ ) \_\_\_\_\_

1.  $300\sqrt{2} \text{ N}$                       2.  $300\text{N}$   
3.  $300\sqrt{3} \text{ N}/2$                       4.  $300 \times 2/\sqrt{3} \text{ N}$

(3)

59. An insect crawls up a hemispherical surface. The coefficient of friction between the insect and the surface is  $1/3$ . If the line joining the centre of the hemispherical surface to the insect makes an angle with the vertical, the maximum possible value of  $\alpha$  is given by

1.  $\cot \alpha = 3$                       2.  $\tan \alpha = 3$                       3.  $\sec \alpha = 3$                       4.  $\operatorname{cosec} \alpha = 3$

(4)

60. The wavelength corresponding to electronic transition between two orbits of hydrogen atom is 912 Å. The wavelength (in Å) for the same electronic transition in Li is (4) ✓

- 1) 101.3
- 2) 202.6
- 3) 303.9
- 4) 50.65

61. The ratio of lowest energy in terms of wave numbers of Balmer and Lyman series of lines of atomic spectrum of hydrogen is (1) ✓

- 1) 5:27
- 2) 27:5
- 3) 20:27
- 4) 27:2

62. Which of the following represents the correct order of ionic radii? (1) ✓

- 1)  $\text{Al}^{3+} > \text{Mg}^{2+} > \text{Na}^+ > \text{O}^{2-} > \text{F}^-$
- 2)  $\text{O}^{2-} > \text{F}^- > \text{Na}^+ > \text{Mg}^{2+} > \text{Al}^{3+}$
- 3)  $\text{Mg}^{2+} > \text{Al}^{3+} > \text{O}^{2-} > \text{F}^- > \text{Na}^+$
- 4)  $\text{O}^{2-} > \text{F}^- > \text{Al}^{3+} > \text{Mg}^{2+} > \text{Na}^+$

63. The temperature of 4.0 moles of a gas occupying  $5 \text{ dm}^3$  at 3.32 bar is ( $R = 0.0083 \text{ bar dm}^3 \text{ K}^{-1} \text{ mol}^{-1}$ ) (3) ✓

- 1) 25 K
- 2) 50 K
- 3) 75 K
- 4) 100 K

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64. Match the following

List - I

- A) At constant volume the change in internal Energy of a system
- B) Isothermal irreversible change
- C) Isothermal reversible change
- D) Adiabatic change

List-II

- I)  $W = 2.3.3Nrt \log V_f/V_i$
- II)  $W_{\text{adia}} = \Delta U$
- III)  $q_v = \Delta U$
- IV)  $W = -P_{\text{ex}} (V_f - V_i)$
- V)  $\Delta U = \Delta H - \Delta nRT$

The correct answer is

- 1) A - V; B - III; C - IV; D - I
- 3) A - III; B - IV; C - I; D - II

- 2) A - IV; B - I; C - III; D - V
- 4) A - III; B - V; C - I; D - II

65. The pH of a buffer solution formed by mixing 30 mL of 0.1 M  $\text{NH}_4\text{OH}$  and 30 mL of 1M  $\text{NH}_4\text{Cl}$  solutions is 8.6. The  $\text{pK}_b$  of  $\text{NH}_4\text{OH}$  is

- 1) 5.4
- 2) 4.4
- 3) 5.6
- 4) 4.2

66. The solubility products of three sparingly soluble salts  $\text{AB}$ ,  $\text{A}_2\text{B}$  and  $\text{AB}_3$  are respectively  $4.0 \times 10^{-20}$ ,  $3.2 \times 10^{-11}$  and  $2.7 \times 10^{-31}$ . The increasing order of their solubility is

- 1)  $\text{AB} < \text{AB}_3 < \text{A}_2\text{B}$
- 2)  $\text{AB}_3 < \text{AB} < \text{A}_2\text{B}$
- 3)  $\text{A}_2\text{B} < \text{AB}_3 < \text{AB}$
- 4)  $\text{A}_2\text{B} < \text{AB} < \text{AB}_3$

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67. Identify the correct statements from the following

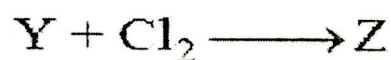
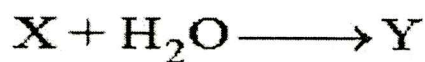
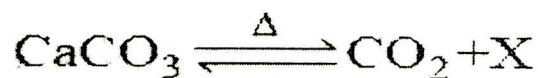
(3)

- a) Zn reacts with dilute HCl and aqueous NaOH solution separately and liberates hydrogen
- b) Ti and Zr form interstitial hydrides
- c) The viscosity of H<sub>2</sub>O is more than the viscosity of D<sub>2</sub>O

- 1) a, b, c
- 2) a, c
- 3) a, b
- 4) b, c

68. What are X, Y and Z in the following reactions?

(2)



- |                               |                            |  |
|-------------------------------|----------------------------|--|
| 1) X - CaO;                   | Y - Ca(OH) <sub>2</sub> ;  | Z - CaOCl <sub>2</sub> .H <sub>2</sub> O |
| 2) X - CaO;                   | Y - Ca(OCl) <sub>2</sub> ; | Z - Ca(OH) <sub>2</sub>                  |
| 3) X - Ca(OCl) <sub>2</sub> ; | Y - Ca(OH) <sub>2</sub> ;  | Z - CaO                                  |
| 4) X - Ca(OH) <sub>2</sub> ;  | Y - CaO;                   | Z - Ca(OCl) <sub>2</sub>                 |

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69. Identify the correct set of 13<sup>th</sup> group elements which do not form amphoteric oxides

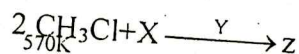
1) B, In, Tl

2) B, Al, Ga

3) Al, Ga, Tl

4) Al, Tl, In

70. Identify X, Y and Z in the following reaction



1) X - C; Y - Ni; Z - (CH<sub>3</sub>)<sub>2</sub>Si(OH)<sub>2</sub>

2) X - Si; Y - Zn; Z - (CH<sub>3</sub>)<sub>2</sub>SiCl<sub>2</sub>

3) X - Si; Y - Cu; Z - (CH<sub>3</sub>)<sub>2</sub>SiCl<sub>2</sub>

4) X - H<sub>2</sub>O; Y - Si; Z - (CH<sub>3</sub>)<sub>2</sub>Si(OH)<sub>2</sub>

71. Which of the following is not a greenhouse gas?

1. CO<sub>2</sub>

2. O<sub>3</sub>

3. CH<sub>4</sub>

4. N<sub>2</sub>

72. The order of priority of the following functional groups in IUPAC method of naming organic compounds is



(a)



(b)



(c)



(d)

1) b, a, d, c

3) d, c, a, b

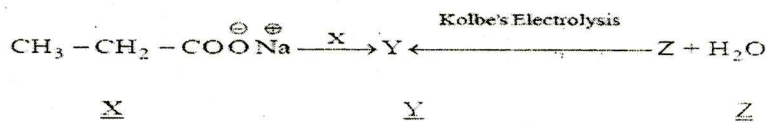
2) c, d, b, a

4) a, c, d, b

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73. What are X, Y and Z in the following reactions?

(4)



- |  |   |  |
|--|---|--|
| <u>X</u>                                   | <u>Y</u>  | <u>Z</u>   |
| 1. NaOH + CaO/Δ                            | CH <sub>3</sub> CH <sub>2</sub> CH <sub>2</sub> CH <sub>3</sub> | CH <sub>3</sub> CH <sub>2</sub> COO <sup>⊖</sup> Na <sup>⊕</sup> |
| 2. Mo <sub>2</sub> O <sub>3</sub>          | C <sub>2</sub> H <sub>6</sub>                                   | CH <sub>3</sub> CH <sub>2</sub> COO <sup>⊖</sup> Na <sup>⊕</sup> |
| 3. NaOH + CaO/Δ                            | C <sub>2</sub> H <sub>6</sub>                                   | CH <sub>3</sub> COO <sup>⊖</sup> Na <sup>⊕</sup>                 |
| 4. (CH <sub>3</sub> COO) <sub>2</sub> Mn/Δ | C <sub>3</sub> H <sub>8</sub>                                   | CH <sub>3</sub> CH <sub>2</sub> COO <sup>⊖</sup> Na <sup>⊕</sup> |

1) 1

2) 2

3) 3

4) 4

74. Which one of the following compounds will not show geometrical isomerism? (3)

- 1) Prop -2-enoic acid
- 2) 2-butene
- 3) 2-methyl-2-butenic acid
- 4) 3-methyl-2-pentenoic acid

75. Which of the following is a pair of viral diseases? (1)

- |                             |                              |
|-----------------------------|------------------------------|
| a) Typhoid and tuberculosis | b) Ring worm and AIDS        |
| c) Common cold and AIDS     | d) Dysentery and common cold |

76. At T (K), the vapour pressure of pure benzene is 0.85 bar. A non-volatile, non-electrolyte substance weighing 0.5g when added to 39g of benzene, the vapour pressure of the solution is 0.845 bar. The molar mass (in g mol<sup>-1</sup>) of the substance is (1)

- 1) 180      2) 270      3) 160      4) 169

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69  
77. 0.1m solution each of sodium sulphate, urea and sodium chloride are taken. The correct ratio of elevation of boiling point of these solutions is

- 1) 1 : 1 : 1      2) 3 : 1 : 2      3) 1 : 2 : 3      4) 2 : 3 : 1

78. At T(K) if the rate constant for a zero order reaction is  $2.5 \times 10^{-3} \text{ Ms}^{-1}$ , the time required for the initial concentration of reactant, R to fall from 0.10 M to 0.075M at the same temperature in seconds is

- 1) 25      2) 5      3) 10      4) 20

79. The temperature above which, formation of micelles takes place is called

- 1) Boyle's temperature      2) Kraft temperature  
3) Critical temperature      4) Inversion temperature

80. A bomb travelling in a parabolic path under the effect of gravity explodes in mid air. The centre of mass of fragments will

- 1) Move vertically upwards and then vertically downwards  
2) Move vertically upwards  
3) Move in an irregular path  
4) Move in the parabolic path the unexploded bomb would have travelled.

81. The centre of mass of fragments will

- a) Algebraic sum of moments of masses about centre of mass is zero  
b) For small bodies centre of mass coincides with centre of gravity  
c) Position of centre of mass depends on co-ordinate system  
d) Position of centre of mass is independent of mass distribution

- 1) a and b are correct      2) b and c are correct  
3) a, b and c are correct      4) a, b, c, d are correct

82. A certain patient is suspected to be suffering from Acquired immune deficiency syndrome. Which diagnostic technique will you recommend for its detection?

- a) Ultra sound      b) Widal      c) Elisa      d) MRI

83. When no external force is acting on a system of particles, the centre of mass of the system

(3)

- a) Remains at rest only      b) Moves with constant velocity only  
c) Moves with constant velocity or will be at rest      d) Moves with variable velocity

84. Gamma interferon's are produced by

(2)

- a) B lymphocytes      b) Macrophages      c) T lymphocytes      d) Dendritic cells

85. An example for the less organized secondary lymphoid tissue

(1)

- a) Thymus      b) Spleen      c) Lymph nodes      d) Mucosal - associated lymphoid tissue

86. Antibodies are produced by

(3)

- a) B-lymphocytes only      b) Plasma cells only  
c) B-lymphocytes and T-lymphocytes      d) B-lymphocytes and plasma cells

87. Antigen presenting cells are

(1)

- a) Dendritic cells      b) Activated macrophages  
c) B-Cells      d) Dendritic cells, activated macrophages and B-Cells

88. The term 'Health' is defined in many ways. The most accurate definition of the health would be:

(1)

- a. Health is the state of body and mind in a balanced condition  
b. Health is the reflection of a smiling face  
c. Health is a state of complete physical, mental and social well-being  
d. Health is the symbol of economic prosperity.

89. The chemical test that is used for diagnosis of typhoid is:

(4)

- a. ELISA-Test      b. ESR - Test      c. PCR - Test      d. Widal-Test

90. Diseases are broadly grouped into infectious and non-infectious diseases. In the list given below, identify the infectious diseases

(2)

- i. Cancer      ii. Influenza      iii. Allergy      iv. Small pox  
(a) i and ii      (b) ii and iii      (c) iii and iv      (d) ii and iv

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91. The substance produced by a cell in viral infection that can protect other cells from further infection is: (3) ✓  
 a. Serotonin      b. Colostrums      c. Interferon      d. Histamine
92. Antibodies present in colostrums which protect the new born from certain diseases is of (2) ✓  
 a. Ig G type      b. Ig A type      c. Ig D type      d. Ig E type
93. Which of the following is not a lymphoid tissue? (1) ✓  
 a. Spleen      b. Tonsils      c. Appendix      d. Thymus
94. Identify the third line of defense from the following (2) ✓  
 a) NK cells      b) Tears      c) T cells      d) Phagocytes
95. Two T cell subpopulations can be distinguished by the type of the membrane glycoprotein molecules called (4) ✓  
 a) Opsonization      b) CD markers      c) MHC molecules      d) BCR
96. When an animal moves towards the source of light it is called (4) ✓  
 a) phototropes      b) photoperiodism  
 c). phototoxis      d) all the above
97. Water vascular system is found in (3) ✓  
 a). Porefera      b) Mollusca      c) Econadermermata      d) Colelenterata
98. Yeast is important source of (3) ✓  
 a) Vitamin B      b) invertase      c) vitamin C      d). More than one of the above
99. Which of the following is a warm-blooded (4) ✓  
 a) pigeon      b) crocodile      c) toad      d) fish
100. Bacilli are bacteria which are (1) ✓  
 a) Comma-shaped      b) rod-shaped      c) spiral      d) spherical

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**AVANTHI INSTITUTE OF PHARMACEUTICAL SCIENCES**  
**FRESHIP EXAMINATION TEST**  
**2021-2022**

76  
-----  
100

Question Paper Name: PHARMACY      Date: 5/11/21  
 Name of the student: P. Sri Kar Reddy      Duration: 180min  
 Avanthi Freship No: AIPS 2021047      Total Marks: 100

1. Nuclear membrane is absent in (4)  
 I. Mycoplasma    II. Actinomycetes    III. Diniflagellates    IV. Euglenoids  
 1. A & B                      2. B & C                      3. C & D                      4. A, B, C & D
  
2. Yeast is unicellular, eukaryote. It is included in (1)  
 1. Mycetae                      2. Monera                      3. Protista                      4. Mycobacteria
  
3. Chitin is cell wall component of (2)  
 1. *Spirogyra*                      2. *Ustilago*                      3. *Cuscuta*                      4. *Riccia*
  
4. True statement regarding Monera is (2)  
 1. All are uninucleate    2. Nucleus is absent in most  
 3. Some of them are photosynthetic    4. Sexual reproduction is common
  
5. Assertion (A): *Chlorella* cannot be included in plant kingdom Reason(R): *Chlorella* is unicellular. (4)  
 ( )  
 1) Both A and R are correct and R is the correct explanation of A.  
 2) Both A and R are correct but R is not the correct explanation of A.  
 3) A is true, R is false  
 4) A is false, R is true.
  
6. Cell membrane of Archae bacteria shows (2)  
 1. Only protein    2. Branched chain lipids  
 3. Independent lipid molecules    4. Pseudomurein
  
7. Genetic material is naked in (4)  
 A. *Escherichia coli*    B. *Streptomyces*    C. *Saccharomyces*    D. *Alternaria*  
 1. A & B                      2. B & C                      3. A, B & C                      4. A, B, C & D

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8. **Common character between *Nostoc* and higher plants** (4) ✓  
 1. Presence of chlorophyll 'a'      2. They releases oxygen during photosynthesis  
 3. Flagellated sex organs are absent      4. All the above
9. **Tetanus is** (3) ✓  
 1. Bacterial disease      2. Fungal disease infection      3. Nutritional disorder      4. Viral
10. **Red colour of the red is due to** (2) ✓  
 1. Dinoflagellates      2. Cyanobacteria      3. Archaeobacteria      4. Reflection of light
11. **True statement regarding protista** (4) ✓  
 1. Cell wall is well developed      2. Nuclear membrane is absent  
 3. Nutrition is heterotrophic      4. All the above
12. **Plasmodium is a stage of** (3) ✓  
 1. Protozoa      2. Euglenoids      3. Slime molds      4. Fungi
13. **Mesokaryon is seen in** (2) ✓  
 1. Eubacteria      2. Dinoflagellates      3. Virus      4. Prion
14. **Colour of the desmids is** (4) ✓  
 1. Green      2. Red      3. Brown      4. Golden brown
15. **Assertion (A): Sunlight is necessary for *Euglena*. Reason(R): *Euglena* shows photosynthetic pigments** (4) ✓  
 1) Both A and R are correct and R is the correct explanation of A.  
 2) Both A and R are correct but R is not the correct explanation of A.  
 3) A is true, R is false  
 4) A is false, R is true.
16. **Number of flagella in *Euglena*** (1) ✓  
 1. Two      2. One      3. Four      4. One or two
17. **Saprophytic organisms from the following** (4) ✓  
 1. *Puccinia*      2. *Colletotrichum*      3. *Euglena*      4. Slime molds

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18. Spore dispersal is by wind in

1. Slime molds                      2. *Aspergillus*                      3. *Penicillium*

(4) ✓

19. Binary fission is longitudinal in

1. Bacteria                      2. Yeast                      3. *Euglena*

(3) ✓

20. Silica is embedded in the walls of

1. Dinoflagellates                      2. Desmids                      3. Diatoms

(3) ✓

21. Zygote undergoes meiosis in

1. Fungi                      2. Protozoa                      3. Plants

(1) ✓

22. Conidia are

1. Prokaryotes                      2. Protista                      3. Spores                      4. Sexual stage

(2) ✓

23. Reserve food in fungi is

1. Starch                      2. Glycogen                      3. Protein                      4. Sugars

(2) ✓

24. The parasite on mustard is

1. *Colletotrichum*                      2. *Alternaria*                      3. *Aspergillus*                      4. *Albugo*

(1) ✓

25. Saucer shaped fruiting body is called as

1. Perithecium                      2. Apothecium                      3. Cleistothecium                      4. Basidiocarp

(4) ✓

26. The entire nervous system is divided into two main regions: The

- A) Brain and the spinal chord  
B) CNS and the PNS  
C) Neurons and the glial cells  
D) Motor neurons and the sensory neurons

(3) ✓

27. All the nervous tissue outside the brain and spinal cord is the \_\_\_\_\_ nervous system.

- a. Peripheral  
b. Autonomic  
c. Somatic  
d. Central

(1) ✓

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28. Which of the following is not one of the basic functions of the nervous system? (3)

- a. Formulate responses to sensory stimulation
- b. Send signals rapidly between body parts
- c. Produce major body fluids such as plasma and interstitial tissue fluid
- e. Detect sense stimuli

29. The cells of nervous tissue that are not neurons but that assist neurons are called (4)

- A. Amyloid plaques
- B. Fibroblasts
- C. Leukocytes
- D. Neuroglia

30. The white fatty substance that coats axons to increase signal speed is

- A. Myelin
- B. Microfibrils
- C. Dendrites
- D. Adipocytes

31. A movement of  $K^+$  out of the cell makes the inside of the cell less positive (more negative) and acts to restore the original resting voltage of the neuron - a process called

- a. Depolarization
- b. Hyperpolarization
- c. Repolarization
- d. Overshoot

32. Arrange these action potential events in their proper sequence:

- (1) The neuron is stimulated at the dendrites
- (2)  $K^+$  gates open
- (3) The neuron is in a polarized "resting" state
- (4)  $Na^+$  gates open
- (5) The cell is fully depolarized
- (6) The cell is fully repolarized

A) 1, 2, 4, 3, 5, 6

B) 3, 1, 4, 5, 2, 6

C) 4, 6, 2, 1, 5, 3

D) 1, 4, 2, 6, 5, 3

33. When the neurotransmitter molecules released from the axon terminals of a neuron have diffused across the synapse and have reached the dendrites of the target neuron, the neurotransmitters

1. Enter the target neuron by membrane transport proteins (ion channels) (2)
2. Diffuse out of the synapse without causing any response in the target neuron
3. Bind to receptor proteins
4. Stimulate neuron growth

34. When a neurotransmitter binds to a receptor on the target cell, it causes the target cell to have a (n)...

1. Repolarization (1)
2. Growth phase
3. Growth inhibition
4. Action potential

35. A bundle of axons in the PNS is called a

- A. Tract.
- B. Nerve
- C. Nucleus
- D. Ganglion

36. The right and left halves of the cerebrum (the cerebral hemispheres) are connected to each other mainly by a bundle of neuron axons called the

- a. Thalamus.
- b. Insula.
- c. Corpus cavernosum.
- d. Corpus callosum.

37. Which are not areas of the cerebrum?

- A. Sensory signal receiving areas
- B. Heart rate and breathing rate control areas
- C. Logic and language areas
- D. Motor signal generating areas

38. Sensations from the skin are converted to perceptions in which part of the cerebrum?

- a. The primary motor area
- b. The primary sensory area
- c. Wernicke's area
- d. Broca's area

39. Signals from the sense organs (such as the ears, eyes, nose, and mouth) are received and analyzed in what part of the brain?

1. The cerebellum
2. The cerebrum
3. The brainstem
4. The diencephalon

(g)

40. A block of mass  $M$  is resting on an inclined plane. When the angle of inclination is gradually increased to  $\theta$ , the block just begins to slide down the plane. What minimum force applied parallel to the plane on the block would just make the block move up the plane?

- (1)  $Mg \sin\theta$                       (2)  $Mg \cos\theta$                       (3)  $2 Mg \cos\theta$                       (4)  $2 Mg \sin\theta$

(g)

41. A cylinder rolls up an inclined plane, reaches some height and then rolls down (without slipping through out these motions). The directions of frictional force acting on the cylinder are

- 1) Up the incline while ascending and down the incline while descending
- 2) Up the incline while ascending as well as descending
- 3) Down the incline while ascending and up the incline while descending
- 4) Down the incline while ascending as well as descending

(g)

42. Consider the following A and B, and identify the correct choice in the given answers.

A) For a body resting on a rough horizontal table, it is easier to pull at angle that pushes at the same angle to cause motion.

B) A body sliding down a rough inclined plane of inclination equal to angle of friction has non-zero acceleration.

- 1) Both A and B are true
- 2) A is true but B is false.
- 3) A is false but B is true.
- 4) Both A and B are false.

(g)

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43. (A): The time of ascent for a body projected to move up a rough inclined plane is less than the time of descent.

(R): The retardation for upward motion is more than the acceleration for downward motion.

- (2)
- (1) Both (A) and (R) are true and (R) is the correct explanation of (A).  
(2) Both (A) and (R) are true and (R) is not the correct explanation of (A).  
(3) (A) is true but (R) is false.  
(4) (A) is false but (R) is true.

44. A block is pushed up a rough inclined plane of  $45^\circ$ . If the time of descent is twice the time of ascent, the coefficient of friction is

- 1) 0.6                      2) 0.4                      3) 0.5                      4) 0.2
- (2)

45. The minimum force required to move a body up an inclined plane is three times the minimum force required to prevent it from sliding down the plane. If coefficient of friction between the body and inclined plane is  $1/2$ , the angle of inclined plane

- 1)  $60^\circ$                       2)  $45^\circ$                       3)  $30^\circ$                       4)  $15^\circ$
- (4)

46. Sand is piled up on a horizontal ground in the form of a regular cone of a fixed base radius  $R$ . The coefficient of static friction between sand layers is  $\mu$ . The maximum volume of sand that can be piled up, without the sand slipping on the surface is

- 1)  $\frac{\mu R^3}{3\pi}$                       2)  $\frac{\mu R^3}{3}$                       3)  $\frac{\pi R^3}{3\mu}$                       4)  $\frac{\mu \pi R^3}{3}$
- (2)

47. A body is moving up an inclined plane of angle  $\theta$  with an initial kinetic energy  $E$ . The coefficient of friction between the plane and body is  $m$ . The work done against friction before the body comes to rest is (2002 E)

- 1)  $\frac{\mu \cos \theta}{E \cos \theta + \sin \theta}$                       2)  $2\mu E \cos \theta$                       3)  $\frac{\mu E \cos \theta}{\mu \cos \theta - \sin \theta}$                       4)  $\frac{\mu E \cos \theta}{\mu \cos \theta + \sin \theta}$
- (3)



48. A block of mass 2kg is lying on an inclined plane at an angle of  $30^\circ$  with the horizontal the coefficient of friction between the block and the plane is 0.7 the frictional force acting on the inclined plane will be

- (1) Zero (2) 9.8N (3)  $9.8 \times \sqrt{3}$  N (4)  $9.8 \times 0.7 \times \sqrt{3}$  N

49. The coefficient of friction between the object and the surface is the force applied to the object so that the object moves down on the surface with a uniform speed is (3)

- (1) 11.2N (2) 15N (3) 5N (4) None

50. A body slides down a rough inclined plane of angle of inclination  $30^\circ$  and takes times twice as great as the time taken in slipping down a similar frictionless plane. The coefficient of friction between the body and the plane is (4)

- (1)  $\frac{\sqrt{3}}{4}$  (2)  $\sqrt{3}$  (3)  $\frac{4}{3}$  (4)  $\frac{3}{4}$

51. A body slides down a smooth inclined plane of height  $h$  and angle of inclination  $30^\circ$  reaching the bottom with a velocity  $v$ . Without changing the height, if the angle of inclination is doubled, the velocity with which it reaches the bottom of the plane is

1.  $Vv$  2.  $v/2$  3.  $2v$  4.  $\sqrt{2}v$

52. A particle is projected up along a rough plane of inclination  $45^\circ$  with the horizontal. If the coefficient of friction is 0.5, the retardation is ( $g$  = acceleration due to gravity) \_\_\_\_\_

1.  $\frac{g}{2}$  2.  $\frac{g}{2\sqrt{2}}$  3.  $\frac{3g}{2\sqrt{2}}$  4.  $\frac{g}{\sqrt{2}}$

53. The minimum force required to move a body up an inclined plane of inclination  $30^\circ$  is found to be thrice the minimum force required to prevent it from sliding down the plane. The coefficient of friction between the body and the plane is (2)

1.  $1/\sqrt{3}$  2.  $1/2$  3.  $1/3$  4.  $1/4$

54. A Protein part in a holoenzyme is

- 1) Apo enzyme
- 2) Simple enzyme
- 2) Conjugated enzyme
- 4) Inducive enzyme

(2)

55. A body of mass  $m_1$  projected vertically upwards with an initial velocity 'u' reaches a maximum height h. Another body of mass  $m_2$  is projected along an inclined plane making an angle  $30^\circ$  with the horizontal and with speed 'u'. The maximum distance travelled along the incline is \_\_\_\_\_

- 1.  $2h$
- 2.  $h$
- 3.  $\frac{h}{2}$
- 4.  $\frac{h}{4}$

(1)

56. A body is sliding down an inclined plane having coefficient of friction 0.5. If the normal reaction is twice that of the resultant downward force along the incline, the angle between the inclined plane and horizontal is

- 1.  $15^\circ$
- 2.  $30^\circ$
- 3.  $45^\circ$
- 4.  $60^\circ$

(1)

57. A body takes four-third times as much time to slide down rough inclined plane as it takes to slide down an identical but smooth inclined plane if the angle of inclined plane is  $45^\circ$ . The coefficient of friction is

- 1.  $7/16$
- 2.  $9/16$
- 3.  $7/9$
- 4.  $3/4$

(3)

58. A 30kg box has to move up an inclined slope of  $30^\circ$  to horizontal at a uniform velocity of 5 m/sec. If the frictional force retarding the motion is 250N the horizontal force to move up is ( $g=10 \text{ m/sec}^2$ ) \_\_\_\_\_

- 1.  $300\sqrt{2} \text{ N}$
- 2.  $300\text{N}$
- 3.  $300\sqrt{3} \text{ N}/2$
- 4.  $300 \times 2 / \sqrt{3} \text{ N}$

(4)

59. An insect crawls up a hemispherical surface. The coefficient of friction between the insect and the surface is  $1/3$ . If the line joining the centre of the hemispherical surface to the insect makes an angle with the vertical, the maximum possible value of  $\alpha$  is given by

- 1.  $\text{Cot } \alpha = 3$
- 2.  $\text{Tan } \alpha = 3$
- 3.  $\text{Sec } \alpha = 3$
- 4.  $\text{Cosec } \alpha = 3$

(4)

60. The wavelength corresponding to electronic transition between two orbits of hydrogen atom is 912 Å. The wavelength (in Å) for the same electronic transition in Li is (4)

- 1) 101.3
- 2) 202.6
- 3) 303.9
- 4) 50.65

61. The ratio of lowest energy in terms of wave numbers of Balmer and Lyman series of lines of atomic spectrum of hydrogen is (4)

- 1) 5:27
- 2) 27:5
- 3) 20:27
- 4) 27:2

62. Which of the following represents the correct order of ionic radii? (1)

- 1)  $\text{Al}^{3+} > \text{Mg}^{2+} > \text{Na}^+ > \text{O}^{2-} > \text{F}^-$
- 2)  $\text{O}^{2-} > \text{F}^- > \text{Na}^+ > \text{Mg}^{2+} > \text{Al}^{3+}$
- 3)  $\text{Mg}^{2+} > \text{Al}^{3+} > \text{O}^{2-} > \text{F}^- > \text{Na}^+$
- 4)  $\text{O}^{2-} > \text{F}^- > \text{Al}^{3+} > \text{Mg}^{2+} > \text{Na}^+$

63. The temperature of 4.0 moles of a gas occupying  $5 \text{ dm}^3$  at 3.32 bar is ( $R = 0.0083 \text{ bar dm}^3 \text{ K}^{-1} \text{ mol}^{-1}$ ) (3)

- 1) 25 K
- 2) 50 K
- 3) 75 K
- 4) 100 K

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64. Match the following

List - I

- A) At constant volume the change in internal Energy of a system
- B) Isothermal irreversible change
- C) Isothermal reversible change
- D) Adiabatic change

List-II

- I)  $W = 2.3.3Nrt \log V_f/V_i$
- II)  $W_{\text{adia}} = \Delta U$
- III)  $q_v = \Delta U$
- IV)  $W = -P_{\text{ex}} (V_f - V_i)$
- V)  $\Delta U = \Delta H - \Delta nRT$

The correct answer is

- 1) A - V; B - III; C - IV; D - I
- 3) A - III; B - IV; C - I; D - II

- 2) A - IV; B - I; C - III; D - V
- 4) A - III; B - V; C - I; D - II

65. The pH of a buffer solution formed by mixing 30 mL of 0.1 M  $\text{NH}_4\text{OH}$  and 30 mL of 1M  $\text{NH}_4\text{Cl}$  solutions is 8.6. The  $\text{pK}_b$  of  $\text{NH}_4\text{OH}$  is

- 1) 5.4
- 2) 4.4
- 3) 5.6
- 4) 4.2

66. The solubility products of three sparingly soluble salts AB,  $\text{A}_2\text{B}$  and  $\text{AB}_3$  are respectively  $4.0 \times 10^{-20}$ ,  $3.2 \times 10^{-11}$  and  $2.7 \times 10^{-31}$ . The increasing order of their solubility is

- 1)  $\text{AB} < \text{AB}_3 < \text{A}_2\text{B}$
- 2)  $\text{AB}_3 < \text{AB} < \text{A}_2\text{B}$
- 3)  $\text{A}_2\text{B} < \text{AB}_3 < \text{AB}$
- 4)  $\text{A}_2\text{B} < \text{AB} < \text{AB}_3$

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67. Identify the correct statements from the following

(3)

- a) Zn reacts with dilute HCl and aqueous NaOH solution separately and liberates hydrogen
- b) Ti and Zr form interstitial hydrides
- c) The viscosity of H<sub>2</sub>O is more than the viscosity of D<sub>2</sub>O

1) a, b, c

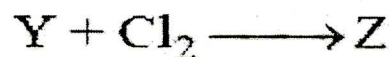
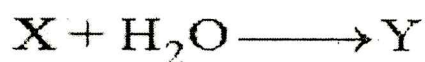
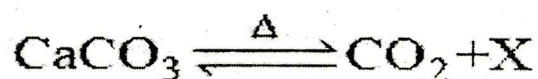
2) a, c

3) a, b

4) b, c

68. What are X, Y and Z in the following reactions?

(2)



- |                               |                            |  |
|-------------------------------|----------------------------|--|
| 1) X - CaO;                   | Y - Ca(OH) <sub>2</sub> ;  | Z - CaOCl <sub>2</sub> ·H <sub>2</sub> O |
| 2) X - CaO;                   | Y - Ca(OCl) <sub>2</sub> ; | Z - Ca(OH) <sub>2</sub>                  |
| 3) X - Ca(OCl) <sub>2</sub> ; | Y - Ca(OH) <sub>2</sub> ;  | Z - CaO                                  |
| 4) X - Ca(OH) <sub>2</sub> ;  | Y - CaO;                   | Z - Ca(OCl) <sub>2</sub>                 |

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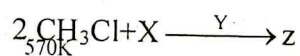
69. Identify the correct set of 13<sup>th</sup> group elements which do not form amphoteric oxides

- 1) B, In, Tl
- 2) B, Al, Ga
- 3) Al, Ga, Tl
- 4) Al, Tl, In

(3)

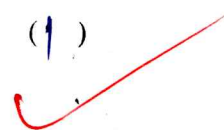


70. Identify X, Y and Z in the following reaction



- 1) X - C; Y - Ni; Z - (CH<sub>3</sub>)<sub>2</sub>Si(OH)<sub>2</sub>
- 2) X - Si; Y - Zn; Z - (CH<sub>3</sub>)<sub>2</sub>SiCl<sub>2</sub>
- 3) X - Si; Y - Cu; Z - (CH<sub>3</sub>)<sub>2</sub>SiCl<sub>2</sub>
- 4) X - H<sub>2</sub>O; Y - Si; Z - (CH<sub>3</sub>)<sub>2</sub>Si(OH)<sub>2</sub>

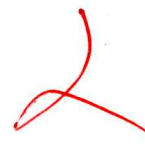
(1)



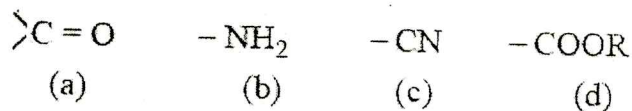
71. Which of the following is not a greenhouse gas?

- 1. CO<sub>2</sub>
- 2. O<sub>3</sub>
- 3. CH<sub>4</sub>
- 4. N<sub>2</sub>

(4)

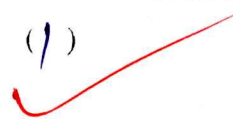


72. The order of priority of the following functional groups in IUPAC method of naming organic compounds is



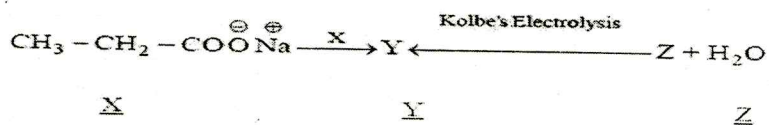
- 1) b, a, d, c
- 2) c, d, b, a
- 3) d, c, a, b
- 4) a, c, d, b

(1)



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73. What are X, Y and Z in the following reactions?



- |  |   |  |
|--|---|--|
| 1. NaOH + CaO/Δ                            | CH <sub>3</sub> CH <sub>2</sub> CH <sub>2</sub> CH <sub>3</sub> | CH <sub>3</sub> CH <sub>2</sub> COO <sup>⊖</sup> Na <sup>⊕</sup> |
| 2. Mo <sub>2</sub> O <sub>3</sub>          | C <sub>2</sub> H <sub>6</sub>                                   | CH <sub>3</sub> CH <sub>2</sub> COO <sup>⊖</sup> Na <sup>⊕</sup> |
| 3. NaOH + CaO/Δ                            | C <sub>2</sub> H <sub>6</sub>                                   | CH <sub>3</sub> COO <sup>⊖</sup> Na <sup>⊕</sup>                 |
| 4. (CH <sub>3</sub> COO) <sub>2</sub> Mn/Δ | C <sub>3</sub> H <sub>8</sub>                                   | CH <sub>3</sub> CH <sub>2</sub> COO <sup>⊖</sup> Na <sup>⊕</sup> |

1) 1

2) 2

3) 3

4) 4

74. Which one of the following compounds will not show geometrical isomerism? (3)

- 1) Prop -2-enoic acid
- 2) 2-butene
- 3) 2-methyl-2-butenic acid
- 4) 3-methyl-2-pentenoic acid

75. Which of the following is a pair of viral diseases? (1)

- |                             |                              |
|-----------------------------|------------------------------|
| a) Typhoid and tuberculosis | b) Ring worm and AIDS        |
| c) Common cold and AIDS     | d) Dysentery and common cold |

76. At T (K), the vapour pressure of pure benzene is 0.85 bar. A non-volatile, non-electrolyte substance weighing 0.5g when added to 39g of benzene, the vapour pressure of the solution is 0.845 bar. The molar mass (in g mol<sup>-1</sup>) of the substance is (2)

- 1) 180      2) 270      3) 160      4) 169

77. 0.1m solution each of sodium sulphate, urea and sodium chloride are taken. The correct ratio of elevation of boiling point of these solutions is

- 1) 1 : 1 : 1
- 2) 3 : 1 : 2
- 3) 1 : 2 : 3
- 4) 2 : 3 : 1

(1)

78. At T(K) if the rate constant for a zero order reaction is  $2.5 \times 10^{-3} \text{ Ms}^{-1}$ , the time required for the initial concentration of reactant, R to fall from 0.10 M to 0.075M at the same temperature in seconds is

- 1) 25
- 2) 5
- 3) 10
- 4) 20

(2)

79. The temperature above which, formation of micelles takes place is called

- 1) Boyle's temperature
- 2) Kraft temperature
- 3) Critical temperature
- 4) Inversion temperature

(2)

80. A bomb travelling in a parabolic path under the effect of gravity explodes in mid air. The centre of mass of fragments will

- 1) Move vertically upwards and then vertically downwards
- 2) Move vertically upwards
- 3) Move in an irregular path
- 4) Move in the parabolic path the unexploded bomb would have travelled.

(3)

81. The centre of mass of fragments will

- a) Algebraic sum of moments of masses about centre of mass is zero
  - b) For small bodies centre of mass coincides with centre of gravity
  - c) Position of centre of mass depends on co-ordinate system
  - d) Position of centre of mass is independent of mass distribution
- 1) a and b are correct
  - 2) b and c are correct
  - 3) a, b and c are correct
  - 4) a, b, c, d are correct

(2)

82. A certain patient is suspected to be suffering from Acquired immune deficiency syndrome. Which diagnostic technique will you recommend for its detection?

- a) Ultra sound
- b) Widal
- c) Elisa
- d) MRI

(3)



83. When no external force is acting on a system of particles, the centre of mass of the system

(3)

- a) Remains at rest only
- b) Moves with constant velocity only
- c) Moves with constant velocity or will be at rest
- d) Moves with variable velocity

84. Gamma interferon's are produced by

(1)

- a) B lymphocytes
- b) Macrophages
- c) T lymphocytes
- d) Dendritic cells

85. An example for the less organized secondary lymphoid tissue

(1)

- a) Thymus
- b) Spleen
- c) Lymph nodes
- d) Mucosal - associated lymphoid tissue

86. Antibodies are produced by

(1)

- a) B-lymphocytes only
- b) Plasma cells only
- c) B-lymphocytes and T-lymphocytes
- d) B-lymphocytes and plasma cells

87. Antigen presenting cells are

(4)

- a) Dendritic cells
- b) Activated macrophages
- c) B-Cells
- d) Dendritic cells, activated macrophages and B-Cells

88. The term 'Health' is defined in many ways. The most accurate definition of the health would be:

(1)

- a. Health is the state of body and mind in a balanced condition
- b. Health is the reflection of a smiling face
- c. Health is a state of complete physical, mental and social well-being
- d. Health is the symbol of economic prosperity.

89. The chemical test that is used for diagnosis of typhoid is:

(2)

- a. ELISA-Test
- b. ESR - Test
- c. PCR - Test
- d. Widal-Test

90. Diseases are broadly grouped into infectious and non-infectious diseases. In the list given below, identify the infectious diseases

(4)

- i. Cancer
  - ii. Influenza
  - iii. Allergy
  - iv. Small pox
- (a) i and ii      (b) ii and iii      (c) iii and iv      (d) ii and iv

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91. The substance produced by a cell in viral infection that can protect other cells from further infection is:

- a. Serotonin      b. Colostrums      c. Interferon      d. Histamine

(3)

92. Antibodies present in colostrums which protect the new born from certain diseases is of

- b. Ig G type      b. Ig A type      c. Ig D type      d. Ig E type

(3)

93. Which of the following is not a lymphoid tissue?

- c. Spleen      b. Tonsils      c. Appendix      d. Thymus

(1)

94. Identify the third line of defense from the following

- a) NK cells      b) Tears      c) T cells      d) Phagocytes

(1)

95. Two T cell subpopulations can be distinguished by the type of the membrane glycoprotein molecules called

- a) Opsonization      b) CD markers      c) MHC molecules      d) BCR

(4)

96. When an animal moves towards the source of light it is called

- a) phototropes      b) photoperiodism  
c). phototoxis      d) all the above

(3)

97. Water vascular system is found in

- a). Porefera      b) Mollusca      c) Econadermermata      d) Colelenterata

(2)

98. Yeast is important source of

- a) Vitamin B      b) invertase      c) vitamin C      d). More than one of the above

(2)

99. Which of the following is a warm-blooded

- a) pigeon      b) crocodile      c) toad      d) fish

(3)

100. Bacilli are bacteria which are

- a) Comma-shaped      b) rod-shaped      c) spiral      d) spherical

(4)

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8. **Common character between *Nostoc* and higher plants** (4) ✓  
 1. Presence of chlorophyll 'a'                      2. They releases oxygen during photosynthesis  
 3. Flagellated sex organs are absent              4. All the above
9. **Tetanus is** (1) ✓  
 1. Bacterial disease    2. Fungal disease infection              3. Nutritional disorder              4. Viral
10. **Red colour of the red is due to** (2) ✓  
 1. Dinoflagellates              2. Cyanobacteria              3. Archaeobacteria              4. Reflection of light
11. **True statement regarding protista** (4) ✓  
 1. Cell wall is well developed                      2. Nuclear membrane is absent  
 3. Nutrition is heterotrophic                      4. All the above
12. **Plasmodium is a stage of** (3) ✓  
 1. Protozoa              2. Euglenoids              3. Slime molds              4. Fungi
13. **Mesokaryon is seen in** (2) ✓  
 1. Eubacteria              2. Dinoflagellates              3. Virus              4. Prion
14. **Colour of the desmids is** (1) ✓  
 1. Green                      2. Red                      3. Brown                      4. Golden brown
15. **Assertion (A): Sunlight is necessary for *Euglena*. Reason(R): *Euglena* shows photosynthetic pigments** (4) ✓  
 1) Both A and R are correct and R is the correct explanation of A.  
 2) Both A and R are correct but R is not the correct explanation of A.  
 3) A is true, R is false  
 4) A is false, R is true.
16. **Number of flagella in *Euglena*** (3) ✓  
 1. Two                      2. One                      3. Four                      4. One or two
17. **Saprophytic organisms from the following** (4) ✓  
 1. *Puccinia*              2. *Colletotrichum*              3. *Euglena*              4. Slime molds



18. Spore dispersal is by wind in  
 1. Slime molds                      2. *Aspergillus*                      3. *Penicillium*                      4. *Chlorella* (4) ✓
19. Binary fission is longitudinal in  
 1. Bacteria                      2. Yeast                      3. *Euglena*                      4. Dinoflagellates (3) ✓
20. Silica is embedded in the walls of  
 1. Dinoflagellates                      2. Desmids                      3. Diatoms                      4. *Chlorella* (2) ✓
21. Zygote undergoes meiosis in  
 1. Fungi                      2. Protozoa                      3. Plants                      4. Slime molds (1) ✓
22. Conidia are  
 1. Prokaryotes                      2. Protista                      3. Spores                      4. Sexual stage (3) ✓
23. Reserve food in fungi is  
 1. Starch                      2. Glycogen                      3. Protein                      4. Sugars (2) ✓
24. The parasite on mustard is  
 1. *Colletotrichum*                      2. *Alternaria*                      3. *Aspergillus*                      4. *Albugo* (4) ✓
25. Saucer shaped fruiting body is called as  
 1. Perithecium                      2. Apothecium                      3. Cleistothecium                      4. Basidiocarp (2) ✓
26. The entire nervous system is divided into two main regions: The (10) ✓  
 A) Brain and the spinal chord  
 B) CNS and the PNS  
 C) Neurons and the glial cells  
 D) Motor neurons and the sensory neurons
27. All the nervous tissue outside the brain and spinal cord is the \_\_\_\_\_ nervous system. (3) ✓  
 a. Peripheral  
 b. Autonomic  
 c. Somatic  
 d. Central

28. Which of the following is not one of the basic functions of the nervous system? (3)

- a. Formulate responses to sensory stimulation
- b. Send signals rapidly between body parts
- c. Produce major body fluids such as plasma and interstitial tissue fluid
- e. Detect sense stimuli

29. The cells of nervous tissue that are not neurons but that assist neurons are called (4)

- A. Amyloid plaques
- B. Fibroblasts
- C. Leukocytes
- D. Neuroglia

30. The white fatty substance that coats axons to increase signal speed is (1)

- A. Myelin
- B. Microfibrils
- C. Dendrites
- D. Adipocytes

31. A movement of  $K^+$  out of the cell makes the inside of the cell less positive (more negative) and acts to restore the original resting voltage of the neuron - a process called (2)

- a. Depolarization
- b. Hyperpolarization
- c. Repolarization
- d. Overshoot

32. Arrange these action potential events in their proper sequence: (2)

- (1) The neuron is stimulated at the dendrites
- (2)  $K^+$  gates open
- (3) The neuron is in a polarized "resting" state
- (4)  $Na^+$  gates open
- (5) The cell is fully depolarized
- (6) The cell is fully repolarized

- A) 1, 2, 4, 3, 5, 6      B) 3, 1, 4, 5, 2, 6      C) 4, 6, 2, 1, 5, 3      D) 1, 4, 2, 6, 5, 3

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33. When the neurotransmitter molecules released from the axon terminals of a neuron have diffused across the synapse and have reached the dendrites of the target neuron, the neurotransmitters

(2) ✓

- 1. Enter the target neuron by membrane transport proteins (ion channels)
- 2. Diffuse out of the synapse without causing any response in the target neuron
- 3. Bind to receptor proteins
- 4. Stimulate neuron growth

34. When a neurotransmitter binds to a receptor on the target cell, it causes the target cell to have a (n)...

(1) ✓

- 1. Repolarization
- 2. Growth phase
- 3. Growth inhibition
- 4. Action potential

35. A bundle of axons in the PNS is called a

(4) ✗

- A. Tract.
- B. Nerve
- C. Nucleus
- D. Ganglion

36. The right and left halves of the cerebrum (the cerebral hemispheres) are connected to each other mainly by a bundle of neuron axons called the

(3) ✓

- a. Thalamus.
- b. Insula.
- c. Corpus cavernosum.
- d. Corpus callosum.

37. Which are not areas of the cerebrum?

(2) ✓

- A. Sensory signal receiving areas
- B. Heart rate and breathing rate control areas
- C. Logic and language areas
- D. Motor signal generating areas

38. Sensations from the skin are converted to perceptions in which part of the cerebrum?

(3) ✓

- a. The primary motor area
- b. The primary sensory area
- c. Wernicke's area
- d. Broca's area

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39. Signals from the sense organs (such as the ears, eyes, nose, and mouth) are received and analyzed in what part of the brain? (4)

1. The cerebellum
2. The cerebrum
3. The brainstem
4. The diencephalon

40. A block of mass  $M$  is resting on an inclined plane. When the angle of inclination is gradually increased to  $\theta$ , the block just begins to slide down the plane. What minimum force applied parallel to the plane on the block would just make the block move up the plane? (2)

- (1)  $Mg \sin\theta$                       (2)  $Mg \cos\theta$                       (3)  $2 Mg \cos\theta$                       (4)  $2 Mg \sin\theta$

41. A cylinder rolls up an inclined plane, reaches some height and then rolls down (without slipping through out these motions). The directions of frictional force acting on the cylinder are (4)

- 1) Up the incline while ascending and down the incline while descending
- 2) Up the incline while ascending as well as descending
- 3) Down the incline while ascending and up the incline while descending
- 4) Down the incline while ascending as well as descending

42. Consider the following A and B, and identify the correct choice in the given answers. (2)

A) For a body resting on a rough horizontal table, it is easier to pull at angle that pushes at the same angle to cause motion.

B) A body sliding down a rough inclined plane of inclination equal to angle of friction has non-zero acceleration.

- 1) Both A and B are true
- 2) A is true but B is false.
- 3) A is false but B is true.
- 4) Both A and B are false.

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43. (A): The time of ascent for a body projected to move up a rough inclined plane is less than the time of descent.

(R): The retardation for upward motion is more than the acceleration for downward motion. (2) ✓

- (1) Both (A) and (R) are true and (R) is the correct explanation of (A).
- (2) Both (A) and (R) are true and (R) is not the correct explanation of (A).
- (3) (A) is true but (R) is false.
- (4) (A) is false but (R) is true.

44. A block is pushed up a rough inclined plane of  $45^\circ$ . If the time of descent is twice the time of ascent, the coefficient of friction is (2) ✓

- 1) 0.6
- 2) 0.4
- 3) 0.5
- 4) 0.2

45. The minimum force required to move a body up an inclined plane is three times the minimum force required to prevent it from sliding down the plane. If coefficient of friction between the body and inclined plane is  $1/2$ , the angle of inclined plane (4) ✓

- 1)  $60^\circ$
- 2)  $45^\circ$
- 3)  $30^\circ$
- 4)  $15^\circ$

46. Sand is piled up on a horizontal ground in the form of a regular cone of a fixed base radius  $R$ . The coefficient of static friction between sand layers is  $\mu$ . The maximum volume of sand that can be piled up, without the sand slipping on the surface is (1) ✓

- 1)  $\frac{\mu R^3}{3\pi}$
- 2)  $\frac{\mu R^3}{3}$
- 3)  $\frac{\pi R^3}{3\mu}$
- 4)  $\frac{\mu \pi R^3}{3}$

47. A body is moving up an inclined plane of angle  $\theta$  with an initial kinetic energy  $E$ . The coefficient of friction between the plane and body is  $m$ . The work done against friction before the body comes to rest is (2002 E) (3) ✓

- 1)  $\frac{\mu \cos\theta}{E \cos\theta + \sin\theta}$
- 2)  $2\mu E \cos\theta$
- 3)  $\frac{\mu E \cos\theta}{\mu \cos\theta - \sin\theta}$
- 4)  $\frac{\mu E \cos\theta}{\mu \cos\theta + \sin\theta}$

48. A block of mass 2kg is lying on an inclined plane at an angle of  $30^\circ$  with the horizontal the coefficient of friction between the block and the plane is 0.7 the frictional force acting on the inclined plane will be (3)

- (1) Zero (2) 9.8N (3)  $9.8 \times \sqrt{3}$  N (4)  $9.8 \times 0.7 \times \sqrt{3}$  N

49. The coefficient of friction between the object and the surface is the force applied to the object so that the object moves down on the surface with a uniform speed is (4)

- (1) 11.2N (2) 15N (3) 5N (4) None

50. A body slides down a rough inclined plane of angle of inclination  $30^\circ$  and takes times twice as great as the time taken in slipping down a similar frictionless plane. The coefficient of friction between the body and the plane is (4)

- (1)  $\frac{\sqrt{3}}{4}$  (2)  $\sqrt{3}$  (3)  $\frac{4}{3}$  (4)  $\frac{3}{4}$

51. A body slides down a smooth inclined plane of height  $h$  and angle of inclination  $30^\circ$  reaching the bottom with a velocity  $v$ . Without changing the height, if the angle of inclination is doubled, the velocity with which it reaches the bottom of the plane is (1)

1.  $Vv$  2.  $v/2$  3.  $2v$  4.  $\sqrt{2}v$

52. A particle is projected up along a rough plane of inclination  $45^\circ$  with the horizontal. If the coefficient of friction is 0.5, the retardation is ( $g$  = acceleration due to gravity) (2)

1.  $\frac{g}{2}$  2.  $\frac{g}{2\sqrt{2}}$  3.  $\frac{3g}{2\sqrt{2}}$  4.  $\frac{g}{\sqrt{2}}$

53. The minimum force required to move a body up an inclined plane of inclination  $30^\circ$  is found to be thrice the minimum force required to prevent it from sliding down the plane. The coefficient of friction between the body and the plane is (2)

1.  $1/\sqrt{3}$  2.  $1/2$  3.  $1/3$  4.  $1/4$

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54. A Protein part in a holoenzyme is

- 1) Apo enzyme                      2) Simple enzyme  
2) Conjugated enzyme              4) Inducive enzyme

(2)

55. A body of mass  $m_1$  projected vertically upwards with an initial velocity 'u' reaches a maximum height h. Another body of mass  $m_2$  is projected along an inclined plane making an angle  $30^\circ$  with the horizontal and with speed 'u'. The maximum distance travelled along the incline is \_\_\_\_\_

1.  $2h$                       2.  $h$                       3.  $\frac{h}{2}$                       4.  $\frac{h}{4}$

(1)

56. A body is sliding down an inclined plane having coefficient of friction 0.5. If the normal reaction is twice that of the resultant downward force along the incline, the angle between the inclined plane and horizontal is

1.  $15^\circ$                       2.  $30^\circ$                       3.  $45^\circ$                       4.  $60^\circ$

(2)

57. A body takes four-third times as much time to slide down rough inclined plane as it takes to slide down an identical but smooth inclined plane if the angle of inclined plane is  $45^\circ$ . The coefficient of friction is

1.  $7/16$                       2.  $9/16$                       3.  $7/9$                       4.  $3/4$

(1)

58. A 30kg box has to move up an inclined slope of  $30^\circ$  to horizontal at a uniform velocity of 5 m/sec. If the frictional force retarding the motion is 250N the horizontal force to move up is ( $g=10 \text{ m/sec}^2$ ) \_\_\_\_\_

1.  $300\sqrt{2} \text{ N}$                       2.  $300\text{N}$   
3.  $300\sqrt{3} \text{ N}/2$                       4.  $300 \times 2/\sqrt{3} \text{ N}$

(1)

59. An insect crawls up a hemispherical surface. The coefficient of friction between the insect and the surface is  $1/3$ . If the line joining the centre of the hemispherical surface to the insect makes an angle with the vertical, the maximum possible value of  $\alpha$  is given by

1.  $\text{Cot } \alpha = 3$                       2.  $\text{Tan } \alpha = 3$                       3.  $\text{Sec } \alpha = 3$                       4.  $\text{Cosec } \alpha = 3$

(4)

60. The wavelength corresponding to electronic transition between two orbits of hydrogen atom is 912 Å. The wavelength (in Å) for the same electronic transition in Li is (4) ✓

- 1) 101.3
- 2) 202.6
- 3) 303.9
- 4) 50.65

61. The ratio of lowest energy in terms of wave numbers of Balmer and Lyman series of lines of atomic spectrum of hydrogen is (4) ✓

- 1) 5:27
- 2) 27:5
- 3) 20:27
- 4) 27:2

62. Which of the following represents the correct order of ionic radii? (1) ✓

- 1)  $\text{Al}^{3+} > \text{Mg}^{2+} > \text{Na}^+ > \text{O}^{2-} > \text{F}^-$
- 2)  $\text{O}^{2-} > \text{F}^- > \text{Na}^+ > \text{Mg}^{2+} > \text{Al}^{3+}$
- 3)  $\text{Mg}^{2+} > \text{Al}^{3+} > \text{O}^{2-} > \text{F}^- > \text{Na}^+$
- 4)  $\text{O}^{2-} > \text{F}^- > \text{Al}^{3+} > \text{Mg}^{2+} > \text{Na}^+$

63. The temperature of 4.0 moles of a gas occupying  $5 \text{ dm}^3$  at 3.32 bar is ( $R = 0.0083 \text{ bar dm}^3 \text{ K}^{-1} \text{ mol}^{-1}$ ) (3) ✓

- 1) 25 K
- 2) 50 K
- 3) 75 K
- 4) 100 K

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64. Match the following

List - I

- A) At constant volume the change in internal Energy of a system
- B) Isothermal irreversible change
- C) Isothermal reversible change
- D) Adiabatic change

List-II

- I)  $W = 2.3.3Nrt \log V_f/V_i$
- II)  $W_{\text{adia}} = \Delta U$
- III)  $q_v = \Delta U$
- IV)  $W = -P_{\text{ex}} (V_f - V_i)$
- V)  $\Delta U = \Delta H - \Delta nRT$

The correct answer is

- 1) A - V; B - III; C - IV; D - I
- 3) A - III; B - IV; C - I; D - II

- 2) A - IV; B - I; C - III; D - V
- 4) A - III; B - V; C - I; D - II

65. The pH of a buffer solution formed by mixing 30 mL of 0.1 M  $\text{NH}_4\text{OH}$  and 30 mL of 1M  $\text{NH}_4\text{Cl}$  solutions is 8.6. The  $\text{pK}_b$  of  $\text{NH}_4\text{OH}$  is

- 1) 5.4
- 2) 4.4
- 3) 5.6
- 4) 4.2

66. The solubility products of three sparingly soluble salts AB,  $\text{A}_2\text{B}$  and  $\text{AB}_3$  are respectively  $4.0 \times 10^{-20}$ ,  $3.2 \times 10^{-11}$  and  $2.7 \times 10^{-31}$ . The increasing order of their solubility is

- 1)  $\text{AB} < \text{AB}_3 < \text{A}_2\text{B}$
- 2)  $\text{AB}_3 < \text{AB} < \text{A}_2\text{B}$
- 3)  $\text{A}_2\text{B} < \text{AB}_3 < \text{AB}$
- 4)  $\text{A}_2\text{B} < \text{AB} < \text{AB}_3$

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67. Identify the correct statements from the following

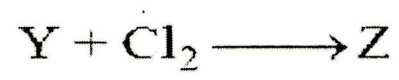
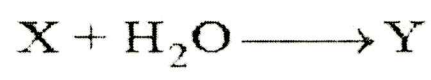
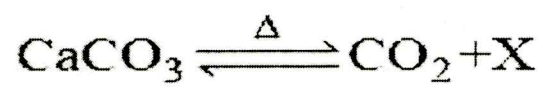
(3)

- a) Zn reacts with dilute HCl and aqueous NaOH solution separately and liberates hydrogen
- b) Ti and Zr form interstitial hydrides
- c) The viscosity of H<sub>2</sub>O is more than the viscosity of D<sub>2</sub>O

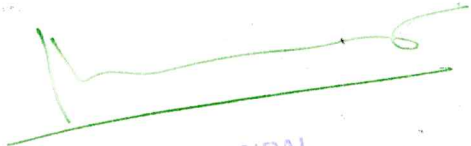
- 1) a, b, c
- 2) a, c
- 3) a, b
- 4) b, c

68. What are X, Y and Z in the following reactions?

(2)



- 1) X - CaO;      Y - Ca(OH)<sub>2</sub>;      Z - CaOCl<sub>2</sub>.H<sub>2</sub>O
- 2) X - CaO;      Y - Ca(OCl)<sub>2</sub>;      Z - Ca(OH)<sub>2</sub>
- 3) X - Ca(OCl)<sub>2</sub>;      Y - Ca(OH)<sub>2</sub>;      Z - CaO
- 4) X - Ca(OH)<sub>2</sub>;      Y - CaO;      Z - Ca(OCl)<sub>2</sub>

  
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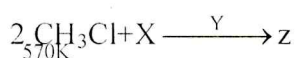
69. Identify the correct set of 13<sup>th</sup> group elements which do not form amphoteric oxides

(3)

- 1) B, In, Tl
- 2) B, Al, Ga
- 3) Al, Ga, Tl
- 4) Al, Tl, In

70. Identify X, Y and Z in the following reaction

(1)



- 1) X - C; Y - Ni; Z - (CH<sub>3</sub>)<sub>2</sub>Si(OH)<sub>2</sub>
- 2) X - Si; Y - Zn; Z - (CH<sub>3</sub>)<sub>2</sub>SiCl<sub>2</sub>
- 3) X - Si; Y - Cu; Z - (CH<sub>3</sub>)<sub>2</sub>SiCl<sub>2</sub>
- 4) X - H<sub>2</sub>O; Y - Si; Z - (CH<sub>3</sub>)<sub>2</sub>Si(OH)<sub>2</sub>

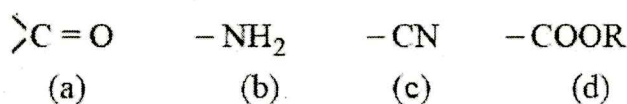
71. Which of the following is not a greenhouse gas?

(3)

- 1. CO<sub>2</sub>
- 2. O<sub>3</sub>
- 3. CH<sub>4</sub>
- 4. N<sub>2</sub>

72. The order of priority of the following functional groups in IUPAC method of naming organic compounds is

(1)



- 1) b, a, d, c
- 2) c, d, b, a
- 3) d, c, a, b
- 4) a, c, d, b

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73. What are X, Y and Z in the following reactions? (4)



X

Y

Z

- |  |   |  |
|--|---|--|
| 1. NaOH + CaO/Δ                            | CH <sub>3</sub> CH <sub>2</sub> CH <sub>2</sub> CH <sub>3</sub> | CH <sub>3</sub> CH <sub>2</sub> COO <sup>⊖</sup> Na <sup>⊕</sup> |
| 2. Mo <sub>2</sub> O <sub>3</sub>          | C <sub>2</sub> H <sub>6</sub>                                   | CH <sub>3</sub> CH <sub>2</sub> COO <sup>⊖</sup> Na <sup>⊕</sup> |
| 3. NaOH + CaO/Δ                            | C <sub>2</sub> H <sub>6</sub>                                   | CH <sub>3</sub> COO <sup>⊖</sup> Na <sup>⊕</sup>                 |
| 4. (CH <sub>3</sub> COO) <sub>2</sub> Mn/Δ | C <sub>3</sub> H <sub>8</sub>                                   | CH <sub>3</sub> CH <sub>2</sub> COO <sup>⊖</sup> Na <sup>⊕</sup> |

1) 1

2) 2

3) 3

4) 4

74. Which one of the following compounds will not show geometrical isomerism? (2)

- 1) Prop -2-enoic acid
- 2) 2-butene
- 3) 2-methyl-2-butenoic acid
- 4) 3-methyl-2-pentenoic acid

75. Which of the following is a pair of viral diseases? (1)

- |                             |                              |
|-----------------------------|------------------------------|
| a) Typhoid and tuberculosis | b) Ring worm and AIDS        |
| c) Common cold and AIDS     | d) Dysentery and common cold |

76. At T (K), the vapour pressure of pure benzene is 0.85 bar. A non-volatile, non-electrolyte substance weighing 0.5g when added to 39g of benzene, the vapour pressure of the solution is 0.845 bar. The molar mass (in g mol<sup>-1</sup>) of the substance is (2)

- 1) 180      2) 270      3) 160      4) 169



77. 0.1m solution each of sodium sulphate, urea and sodium chloride are taken. The correct ratio of elevation of boiling point of these solutions is (1)

- 1) 1 : 1 : 1      2) 3 : 1 : 2      3) 1 : 2 : 3      4) 2 : 3 : 1

78. At T(K) if the rate constant for a zero order reaction is  $2.5 \times 10^{-3} \text{ Ms}^{-1}$ , the time required for the initial concentration of reactant, R to fall from 0.10 M to 0.075M at the same temperature in seconds is (2)

- 1) 25      2) 5      3) 10      4) 20

79. The temperature above which, formation of micelles takes place is called (2)

- 1) Boyle's temperature      2) Kraft temperature  
3) Critical temperature      4) Inversion temperature

80. A bomb travelling in a parabolic path under the effect of gravity explodes in mid air. The centre of mass of fragments will (3)

- 1) Move vertically upwards and then vertically downwards  
2) Move vertically upwards  
3) Move in an irregular path  
4) Move in the parabolic path the unexploded bomb would have travelled.

81. The centre of mass of fragments will (2)

- a) Algebraic sum of moments of masses about centre of mass is zero  
b) For small bodies centre of mass coincides with centre of gravity  
c) Position of centre of mass depends on co-ordinate system  
d) Position of centre of mass is independent of mass distribution

- 1) a and b are correct      2) b and c are correct  
3) a, b and c are correct      4) a, b, c, d are correct

82. A certain patient is suspected to be suffering from Acquired immune deficiency syndrome. Which diagnostic technique will you recommend for its detection? (4)

- a) Ultra sound      b) Widal      c) Elisa      d) MRI

83. When no external force is acting on a system of particles, the centre of mass of the system

(10)

- a) Remains at rest only                      b) Moves with constant velocity only  
c) Moves with constant velocity or will be at rest    d) Moves with variable velocity

84. Gamma interferon's are produced by

(2)

- a) B lymphocytes      b) Macrophages      c) T lymphocytes      d) Dendritic cells

85. An example for the less organized secondary lymphoid tissue

(1)

- a) Thymus      b) Spleen      c) Lymph nodes      d) Mucosal - associated lymphoid tissue

86. Antibodies are produced by

(3)

- a) B-lymphocytes only                      b) Plasma cells only  
c) B-lymphocytes and T-lymphocytes      d) B-lymphocytes and plasma cells

87. Antigen presenting cells are

(1)

- a) Dendritic cells                              b) Activated macrophages  
c) B-Cells                                      d) Dendritic cells, activated macrophages and B-Cells

88. The term 'Health' is defined in many ways. The most accurate definition of the health would be:

(1)

- a. Health is the state of body and mind in a balanced condition  
b. Health is the reflection of a smiling face  
c. Health is a state of complete physical, mental and social well-being  
d. Health is the symbol of economic prosperity.

89. The chemical test that is used for diagnosis of typhoid is:

(3)

- a. ELISA-Test      b. ESR - Test      c. PCR - Test      d. Widal-Test

90. Diseases are broadly grouped into infectious and non-infectious diseases. In the list given below, identify the infectious diseases

(4)

- i. Cancer      ii. Influenza      iii. Allergy      iv. Small pox  
(a) i and ii      (b) ii and iii      (c) iii and iv      (d) ii and iv

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91. The substance produced by a cell in viral infection that can protect other cells from further infection is: (3)

- a. Serotonin      b. Colostrums      c. Interferon      d. Histamine

92. Antibodies present in colostrums which protect the new born from certain diseases is of (2)

- b. Ig G type      b. Ig A type      c. Ig D type      d. Ig E type

93. Which of the following is not a lymphoid tissue? (1)

- c. Spleen      b. Tonsils      c. Appendix      d. Thymus

94. Identify the third line of defense from the following (2)

- a) NK cells      b) Tears      c) T cells      d) Phagocytes

95. Two T cell subpopulations can be distinguished by the type of the membrane glycoprotein molecules called (4)

- a) Opsonization      b) CD markers      c) MHC molecules      d) BCR

96. When an animal moves towards the source of light it is called (4)

- a) phototropes      b) photoperiodism  
c). phototoxis      d) all the above

97. Water vascular system is found in (3)

- a). Porefera      b) Mollusca      c) Econadermermata      d) Colelenterata

98. Yeast is important source of (2)


- a) Vitamin B      b) invertase      c) vitamin C      d). More than one of the above

99. Which of the following is a warm-blooded (3)

- a) pigeon      b) crocodile      c) toad      d) fish

100. Bacilli are bacteria which are (1)

- a) Comma-shaped      b) rod-shaped      c) spiral      d) spherical

  
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## AVANTHI FREESHIP STUDENTS

### ACADEMIC YEAR

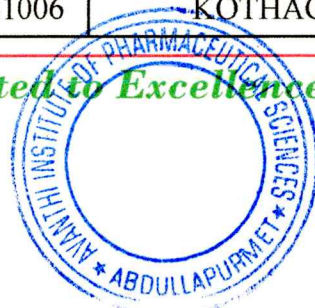
**2021-2022**

The following is the list of students 51 are selected from Avanathi Freeship Policy test conducted on 28/10/21, 05/11/21 and 16/11/21. Based on the merit of the test results, the fee concession is given to the below students.

### Freeship Test Marks

S.No	Freeship No	Name of the student	Marks
1	AIPS2021009	AMBEPU SNEHA LATHA	86
2	AIPS2021041	BHEEM REDDOLLA SANGEETHA	85
3	AIPS2021011	DEVIREDDY MOUNIKA	85
4	AIPS2021010	G NANDINI	84
5	AIPS2021015	GOWLIKAR MAHESH	83
6	AIPS2021042	GUTTIKONDA DEDEEPIYA	82
7	AIPS2021051	JELLA GANGABHAVANI	81
8	AIPS2021049	K SHANKAR	81
9	AIPS2021043	MASAVENI NANDINI	80
10	AIPS2021001	MITTAPALLY SUSHMITHA	79
11	AIPS2021048	MORTHAD CHANDRA SHEKAR	78
12	AIPS2021050	NAGARJUNA VINAY KUMAR	77
13	AIPS2021047	PADIRE SRIKAR REDDY	76
14	AIPS2021014	PRAGNAPURAM BHUJANG	75
15	AIPS2021002	RAMAVATH DEEPIKA	74
16	AIPS2021046	ADKE NARESH KUMAR	74
17	AIPS2021006	ANTHATI SINDHU PRIYTA	73
18	AIPS2021045	KARAMPUDI DURGA CHERAN	72
19	AIPS2021004	KAVALI MUKESH	71
20	AIPS2021006	KOTHAGOLLA RAJESH YADAV	70

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21	AIPS2021005	LOKATI RAGHUVARAN	69
22	AIPS2021013	M PAVAN KALYAN	68
23	AIPS2021012	SHINDE AVADHUTH	68
24	AIPS2021008	ABU SAFAR	67
25	AIPS2021007	ADDE MADHU	66
26	AIPS2021044	ATTALURI SREE HARI PRIYA	65
27	AIPS2021037	DHODA NITHIN REDDY	65
28	AIPS2021016	GANDI GOUTHAM	64
29	AIPS2021018	J SHEKAR	63
30	AIPS2021040	KESHABOINA SRAVANKUMAR	62
31	AIPS2021036	MALLURI VINITHA	62
32	AIPS2021017	NATTALA NAVEEN KUMAR	61
33	AIPS2021035	REVELLY AJAY KUMAR	60
34	AIPS2021019	SAHA YOGRAI	59
35	AIPS2021034	SOMARAM CHANDRA SHEKAR REDDY	58
36	AIPS2021038	TEDDU SHRUTHIKA	58
37	AIPS2021020	YASA INDHU	57
38	AIPS2021032	Md.SOHEL	57
39	AIPS2021021	BHUKYA ARUN	57
40	AIPS2021033	CHANDA VAMSHI KRISHNA	56
41	AIPS2021029	HONNUR AYESHA	56
42	AIPS2021031	SHUROOQ FATIMA	55
43	AIPS2021030	ALETI UMIKA	54
44	AIPS2021039	CHINTHAPALLY AKSHAY KUMAR	54
45	AIPS2021023	KOONA SAI PRAHASITH	53
46	AIPS2021025	AVINASH SINGH	52
47	AIPS2021027	CH SARADA	52
48	AIPS2021024	D VAMSI	51
49	AIPS2021022	O AARTI PRIYA	51
50	AIPS2021026	CH.NIKITHA	50
51	AIPS2021028	M.TEJASWI MUDHIRAJ	50

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**APPLICATION TO AVAIL FREESHIP/CONCESSION  
2021-2022**

1. Name of the Student: Bheemreddolla Sangeetha
2. Registered no: 21GINR00004
3. Branch: 'B' pharmacy - 1st yr
4. Father name: B. Suresh Reddy
5. Mother Name: B. Manjula
6. Father Occupation: Farmer
7. Mother Occupation: House wife
8. Parent Income: 1,20,000
9. Residential Address: H.NO-2-41/1, Narayan pet, Makthal (M)
10. Community & Caste: BC
11. Eamcet Rank: 32618
12. Convenor / Management: Convenor
13. Previous Education details: 10<sup>th</sup> Inter
  - a. School Studied: Montessori High School
  - b. S.S.C Grade / Percentage: 9.2
  - c. Intermediate Studied : Sri chaitanya Jr. college
  - d. Intermediate Percentage : 94%

Date: 04/12/2021

Sangeetha  
Signature

[Signature]  
- PRINCIPAL  
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Ranga Reddy Dist.





## APPLICATION TO AVAIL FREESHIP/CONCESSION

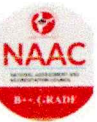
2021-2022

1. Name of the Student: Gowlikar . Maresh
2. Registered no: 21GINIRO015
3. Branch: 'B' pharmacy - I st yr
4. Father name: Gi. Narsing Rao
5. Mother Name: Gi. Laxmi Bai
6. Father Occupation: Business
7. Mother Occupation: House wife
8. Parent Income: 1,90,000
9. Residential Address: 18-2-348, Falaknuma, Jangamment, charni-nar.
10. Community & Caste: BC
11. Eamcet Rank: 28054
12. Convenor / Management: Convenor
13. Previous Education details: 10<sup>th</sup> Ep Inter
  - a. School Studied: Adithya High school
  - b. S.S.C Grade / Percentage: 8.0
  - c. Intermediate Studied : Narayana Jr. college
  - d. Intermediate Percentage : 77%

Date: 03/12/2021

Maresh  
Signature

[Signature]  
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Ranga Reddy Dist.




## APPLICATION TO AVAIL FREESHIP/CONCESSION 2021-2022

1. Name of the Student: Jella Ganga Bhavani
2. Registered no: 21GIN1R0019
3. Branch: B-pharmacy - I yr
4. Father name: J. parsharamulu
5. Mother Name: J. Saidamma
6. Father Occupation: painter
7. Mother Occupation: House wife
8. Parent Income: 1,50,000
9. Residential Address: H.NO-16-11-511/299, shalivahanagar, Moosaram-bahg.
10. Community & Caste: SC
11. Eamcet Rank: 39503
12. Convenor / Management: convenor
13. Previous Education details: 10<sup>th</sup> Et Inter
  - a. School Studied: Noble High school, shalivahanagar, Moosaram bahg.
  - b. S.S.C Grade / Percentage: 8.0
  - c. Intermediate Studied: T.SWR Jr. college, Mahabubabad (D)
  - d. Intermediate Percentage: 85%

Date: 02/12/21

G. Bhavani  
Signature

  
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Ranga Reddy Dist.





**APPLICATION TO AVAIL FREESHIP/CONCESSION  
2021-2022**

1. Name of the Student: PADIRE. SRIKAR REDDY
2. Registered no: 216N1R0040
3. Branch: B-pharmacy I<sup>st</sup>
4. Father name: P. Janga Reddy
5. Mother Name: P. Sunitha
6. Father Occupation: Driver
7. Mother Occupation: House wife
8. Parent Income: 120,000
9. Residential Address: Majidpur, Abdullapurmet, (R.R)
10. Community & Caste: OC
11. Eamcet Rank: 60236
12. Convenor / Management: CONVENOR
13. Previous Education details: 10<sup>th</sup> & Inter
  - a. School Studied: Krishnaveni Talent school, Abdullapurmet, R.R Dist
  - b. S.S.C Grade / Percentage: 9.0
  - c. Intermediate Studied : T.S Residential school & J.S college, Keesara dutta, medchal
  - d. Intermediate Percentage : 95.2%

Date: 10/12/21

Srikar  
Signature

[Signature]  
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Ranga Reddy Dist.



## APPLICATION TO AVAIL FREESHIP/CONCESSION 2021-2022

1. Name of the Student: Pragnaprasam. Bhujang
2. Registered no: 21GN1R0046
3. Branch: B-pharm Iyr
4. Father name: P. Krishna
5. Mother Name: P. Santhosha
6. Father Occupation: News Reporter
7. Mother Occupation: House wife
8. Parent Income: 98,000
9. Residential Address: Narket pally, Nalgonda.
10. Community & Caste: BC (A)
11. Eamcet Rank: 42230
12. Convenor / Management: Convenor
13. Previous Education details: 10<sup>th</sup>, Inter
- a. School Studied: Z.P. High School, Narket pally.
- b. S.S.C Grade / Percentage: 80.8
- c. Intermediate Studied: Sai Chaitanya Iro college
- d. Intermediate Percentage: 78.8%

Date: 30/11/21

Bhujang  
Signature

[Signature]  
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Avanthi Institute of Pharmaceutical Sciences  
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Ranga Reddy Dist.





# AVANTHI INSTITUTE OF PHARMACEUTICAL SCIENCES

(Approved by PCI, AICTE & Affiliated to JNTUH)

Gunthapally (V), Abdullapurmet (M), R.R. Dist., Near Ramoji Filmcity, Hyderabad - 501 512.



Gunthapally,  
Date: 10-12-2021.

From

The Principal,  
Avanthi Institute of Pharmaceutical Sciences,  
Gunthapally.

To

Chairperson  
Governing Body (GB),  
Avanthi Institute of Pharmaceutical Sciences,  
Gunthapally.

Dear Sir/Madam,

**Sub:** Request to sanction of Freeship Amount.

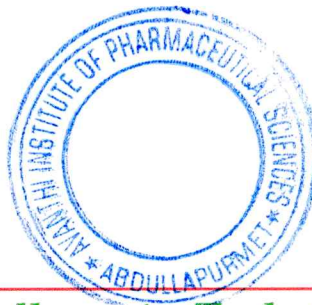
**Reference:** 1. Avanthi Freeship & Merit Scholarship Policy.

This is to inform you that Avanthi Institute of Pharmaceutical Sciences conducted an exam "Avanthi Freeship Policy Test" on 28-10-2021, 05-11-2021 and 16-11-2021 to the students, who are willing to join in Avanthi Institute of Pharmaceutical Sciences in first year B.Pharm and Pharm.D program for the academic year 2021-22. Based on their performance in the test, they were awarded marks and eligibility for Freeships in accordance with rules and regulations of Freeship internal policy. I enclose the list of 51 students, who are qualified in the test for your reference. In this regard, I request you to please forward this students list to the Governing Body for sanctioning the Freeship amount for further proceedings.

The details are also enclosed for your consideration

Thanking you sir

Yours faithfully,



PRINCIPAL

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## AVANTHI FREESHIP STUDENTS ACADEMIC YEAR 2021-2022

The following is the list of students **51** are selected from Avanathi Freeship Policy test. Based on the merit of the results, the fee concession is given to the below students.

S.No	Course	Name of the student	Hall Ticket No	Amount
1	I YR B.PHARM	AMBEPU SNEHA LATHA	21GN1R0001	12000
2	I YR B.PHARM	BHEEM REDDOLLA SANGEETHA	21GN1R0004	10000
3	I YR B.PHARM	DEVIREDDY MOUNIKA	21GN1R0010	10000
4	I YR B.PHARM	G NANDINI	21GN1R0012	9500
5	I YR B.PHARM	GOWLIKAR MAHESH	21GN1R0015	9300
6	I YR B.PHARM	GUTTIKONDA DEDEEPIYA	21GN1R0018	8500
7	I YR B.PHARM	JELLA GANGABHAVANI	21GN1R0019	8000
8	I YR B.PHARM	K SHANKAR	21GN1R0020	8000
9	I YR B.PHARM	MASAVENI NANDINI	21GN1R0026	7500
10	I YR B.PHARM	MITTAPALLY SUSHMITHA	21GN1R0029	7300
11	I YR B.PHARM	MORTHAD CHANDRA SHEKAR	21GN1R0031	7000
12	I YR B.PHARM	NAGARJUNA VINAY KUMAR	21GN1R0033	6800
13	I YR B.PHARM	PADIRE SRIKAR REDDY	21GN1R0040	6500
14	I YR B.PHARM	PRAGNAPURAM BHUJANG	21GN1R0046	6400
15	I YR B.PHARM	RAMAVATH DEEPIKA	21GN1R0048	6000
16	I YR B.PHARM	ADKE NARESH KUMAR	21GN1R0055	6000
17	I YR B.PHARM	ANTHATI SINDHU PRIYTA	21GN1R0056	5800
18	I YR B.PHARM	KARAMPUDI DURGA CHERAN	21GN1R0064	5600
19	I YR B.PHARM	KAVALI MUKESH	21GN1R0065	5500
20	I YR B.PHARM	KOTHAGOLLA RAJESH YADAV	21GN1R0067	5300
21	I YR B.PHARM	LOKATI RAGHUVARAN	21GN1R0068	5200
22	I YR B.PHARM	M PAVAN KALYAN	21GN1R0069	5000
23	I YR B.PHARM	SHINDE AVADHUTH	21GN1R0075	5000
24	I YR B.PHARM	ABU SAFAR	21GN1R0079	4800
25	I YR B.PHARM	ADDE MADHU	21GN1R0080	4600
26	I YR B.PHARM	ATTALURI SREE HARI PRIYA	21GN1R0081	4500

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27	I YR B.PHARM	DHODA NITHIN REDDY	21GN1R0085	4500
28	I YR B.PHARM	GANDI GOUTHAM	21GN1R0087	4300
29	I YR B.PHARM	J SHEKAR	21GN1R0088	4200
30	I YR B.PHARM	KESHABOINA SRAVANKUMAR	21GN1R0091	4000
31	I YR B.PHARM	MALLURI VINITHA	21GN1R0092	4000
32	I YR B.PHARM	NATTALA NAVEEN KUMAR	21GN1R0096	3800
33	I YR B.PHARM	REVELLY AJAY KUMAR	21GN1R0098	3600
34	I YR B.PHARM	SAHA YOGRAI	21GN1R0099	3500
35	I YR B.PHARM	SOMARAM CHANDRA SHEKAR REDDY	21GN1R00A0	3200
36	I YR B.PHARM	TEDDU SHRUTHIKA	21GN1R00A3	3200
37	I YR B.PHARM	YASA INDHU	21GN1R00A6	3000
38	I YR B.PHARM	Md.SOHEL	21GN1R00A8	3000
39	I YR PHARM D	BHUKYA ARUN	21GN1T0001	3000
40	I YR PHARM D	CHANDA VAMSHI KRISHNA	21GN1T0003	2800
41	I YR PHARM D	HONNUR AYESHA	21GN1T0006	2800
42	I YR PHARM D	SHUROOQ FATIMA	21GN1T0015	2600
43	I YR PHARM D	ALETI UMIKA	21GN1T0018	2500
44	I YR PHARM D	CHINTHAPALLY AKSHAY KUMAR	21GN1T0019	2500
45	I YR PHARM D	KOONA SAI PRAHASITH	21GN1T0022	2400
46	I YR PHARM D	AVINASH SINGH	21GN1T0024	2300
47	I YR PHARM D	CH SARADA	21GN1T0025	2300
48	I YR PHARM D	D VAMSI	21GN1T0027	2200
49	I YR PHARM D	O AARTI PRIYA	21GN1T0029	2200
50	I YR PHARM D	CH.NIKITHA	21GN1T0031	2000
51	I YR PHARM D	M.TEJASWI MUDHIRAJ	21GN1T0032	2000

Total students: **51**

Total Amount: Rs **2,56,000**



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Ranga Reddy Dist.



## Sanction Letter

With reference to the application received, you have been sanctioned the below concession / free ship.

Name ..... B. Sangeetha ..... S/o / D/o ..... B. Suresh Reddy .....

Branch ..... B. pharmacy ..... Roll number. 21GINIRODD4 Concession / free ship

in tuition fee / Hospital fee / Transportation fee / JNTU fee / amount in Rs . 10,000 ..

**Director**

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Ranga Reddy Dist.





## Sanction Letter


With reference to the application received, you have been sanctioned the below concession / free ship.

Name ..... Gi. Mahesh ..... S/o / D/o ..... Gi. Narsing Rao .....

Branch ... B. pharmacy ..... Roll number... 21GINIR0015 ..... Concession / free ship

in tuition fee / Hospital fee / Transportation fee / JNTU fee / amount in Rs . 9,300 .....

**Director**

  
- PRINCIPAL  
Avanthi's Institute of Pharmaceutical Sciences  
Gunthapally (V), Hayath Nagar (M),  
Ranga Reddy Dist.





## Sanction Letter


With reference to the application received, you have been sanctioned the below concession / free ship.

Name ..... J. Ganga bhavani ..... S/o / D/o ..... J. Parsharamulu .....

Branch ... B.pharmacy ... Roll number... 21GINR0019 .. Concession / free ship

in tuition fee / Hospital fee / Transportation fee / JNTU fee / amount in Rs ... 8,000 .....

  
Director

  
- PRINCIPAL  
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Ranga Reddy Dist.

---

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## Sanction Letter

With reference to the application received, you have been sanctioned the below concession / free ship.

Name ..... P. Sri Kar Reddy ..... S/o / D/o ..... P. Jangaiah .....

Branch ..... B pharmacy ..... Roll number. 21GINIR0040 .. Concession / free ship  
in tuition fee / Hospital fee / Transportation fee / JNTU fee / amount in Rs . 61500.....

Director  




- PRINCIPAL  
Avanthi's Institute of Pharmaceutical Sciences  
Gunthapally (V), Hayath Nagar (M),  
Ranga Reddy Dist.

---

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## Sanction Letter

With reference to the application received, you have been sanctioned the below concession / free ship.

Name ..... P. Bhujang ..... S/o / D/o ..... P. Karishna .....

Branch .... B.pharmacy .... Roll number... 21GINIR0046 Concession / free ship

in ✓ tuition fee / Hospital fee / Transportation fee / JNTU fee / amount in Rs . . . 6,400 .....

Director

PRINCIPAL  
Avanthi's Institute of Pharmaceutical Sciences  
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# AVANTHI INSTITUTE OF PHARMACEUTICAL SCIENCES

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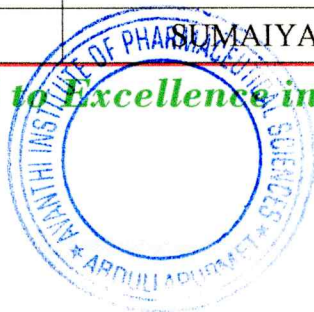
Gunthapally (V), Abdullapurmet (M), R.R. Dist., Near Ramoji Filmcity, Hyderabad - 501 512.



Our institution committed to provide freeships to poor and economically backward students. It is applicable to the students who do not have parents or either father or mother has lost their lives they could avail the opportunity. We also offer freeships whose parental annual income less than one lakh. We ensure that this financial support will helps the students to reach their goals. Here we are providing the list of students to whom we have provided freeship from college along with their requested letters.

S.No	Course	Name of the student	Hall Ticket No	Amount
1	II YR B.PHARM	ADEPU RAMAKRISHNA	20GN1R0001	6000
2	II YR B.PHARM	AMBEERI SATHWIKI	20GN1R0002	4000
3	II YR B.PHARM	ASHWALA SRINIDHI	20GN1R0003	3000
4	II YR B.PHARM	ADEEBA AFREEN	20GN1R0004	3000
5	II YR B.PHARM	B SHRUTHI	20GN1R0005	4000
6	II YR B.PHARM	BIRUDOJU LAXMI PRASANNA	20GN1R0009	5500
7	II YR B.PHARM	BODIGE HARIKA	20GN1R0010	6000
8	II YR B.PHARM	CHIDRALA PRAGNA	20GN1R0011	5500
9	II YR B.PHARM	CHOPPARI VAMSHI	20GN1R0014	4000
10	II YR B.PHARM	GANJI NARMADA	20GN1R0018	3000
11	II YR B.PHARM	GUNI PALLAVI	20GN1R0021	4000
12	II YR B.PHARM	GURRAM PRIYANKA	20GN1R0022	6000
13	II YR B.PHARM	KALIKINI PRATHYUSHA	20GN1R0025	3000
14	II YR B.PHARM	KHUSHI POL	20GN1R0028	3000
15	II YR B.PHARM	MALLEPULA SRIVAN	20GN1R0032	6000
16	II YR B.PHARM	MOTE DEEPTHI	20GN1R0035	6000
17	II YR B.PHARM	MUTHYALA GREESHMA	20GN1R0036	4000
18	II YR B.PHARM	NARLA SRICHAITRA	20GN1R0038	4000
19	II YR B.PHARM	NEELAM SAI PRAVEENA	20GN1R0039	3000
20	II YR B.PHARM	P NIHARIKA	20GN1R0042	3000
21	II YR B.PHARM	P TEJASREE	20GN1R0043	5000
22	II YR B.PHARM	SHANAGONDA SAI KIRAN	20GN1R0049	5000
23	II YR B.PHARM	SRINANCHARI SAMATHA	20GN1R0051	4000
24	II YR B.PHARM	SUMAMAIYA FATIMA	20GN1R0052	3000

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# AVANTHI INSTITUTE OF PHARMACEUTICAL SCIENCES

(Approved by PCI, AICTE & Affiliated to JNTUH)

Gunthapally (V), Abdullapurmet (M), R.R. Dist., Near Ramoji Filmcity, Hyderabad - 501 512.



25	II YR B.PHARM	SWETHA KUMARI	20GN1R0053	4000
26	II YR B.PHARM	URADI MOUNIKA	20GN1R0055	4500
27	II YR B.PHARM	BOBBA SURYA CHANDRIKA	20GN1R0061	6000
28	II YR B.PHARM	KOTHWAL SRIVALLI	20GN1R0064	3000
29	II YR B.PHARM	PAKALA HARSHINI	20GN1R0066	6000
30	III YR B.PHARM	A DHARMATEJA	19GN1R0001	3000
31	III YR B.PHARM	ARROLLA ARUNA	19GN1R0003	5000
32	III YR B.PHARM	ATHARI PAVANI	19GN1R0004	4000
33	III YR B.PHARM	CHENNALA VAISHNAVI REDDY	19GN1R0010	4000
34	III YR B.PHARM	DYAGALA DEEPIKA	19GN1R0015	3500
35	III YR B.PHARM	ERROJULA AVINASH	19GN1R0016	4000
36	III YR B.PHARM	GANDRATH SHARANYA	19GN1R0017	3000
37	III YR B.PHARM	GARLAPATI SRAVANI	19GN1R0018	5000
38	III YR B.PHARM	JADHAV RAMESH	19GN1R0021	5000
39	III YR B.PHARM	JOGA MADHU	19GN1R0022	3000
40	III YR B.PHARM	KAMITIKARI ARJUN	19GN1R0025	3000
41	III YR B.PHARM	KANNA MADHU	19GN1R0026	5000
42	III YR B.PHARM	KURMA NAVYASRI	19GN1R0030	4000
43	III YR B.PHARM	ABBANABOINA SRAVYA SRI	19GN1R0032	3000
44	III YR B.PHARM	GADDAM SNEHA	19GN1R0046	3000
45	III YR B.PHARM	VALLAPU SRAVANI	19GN1R0058	3000
46	III YR B.PHARM	GUTTI MAHESH	19GN1R0063	4000
47	III YR B.PHARM	RAJAMGARI KEERTHI	19GN1R0068	4000
48	III YR B.PHARM	SHARAN BABU	19GN1R0069	4000
49	III YR B.PHARM	SRILOJU ANILCHARY	19GN1R0070	3500
50	III YR B.PHARM	AEDLA HARISH	19GN1R0071	4000
51	III YR B.PHARM	ANJALI SINGH	19GN1R0072	3500
52	III YR B.PHARM	BARLA RAM	19GN1R0075	4000
53	III YR B.PHARM	BELLI NIHARIKA	19GN1R0076	4000
54	III YR B.PHARM	CHENNOJU SHASHANK	19GN1R0077	5000
55	III YR B.PHARM	DASAM BHAGYALAKSHMI	19GN1R0078	4000
56	III YR B.PHARM	DHAVLURI SHRUTHI	19GN1R0079	3000

Committed to Excellence in Technical Education



PRINCIPAL  
Avanthi's Institute of Pharmaceutical Sciences  
Gunthapally (V), Hayath Nagar (M),  
Ranga Reddy Dist.

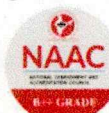




# AVANTHI INSTITUTE OF PHARMACEUTICAL SCIENCES

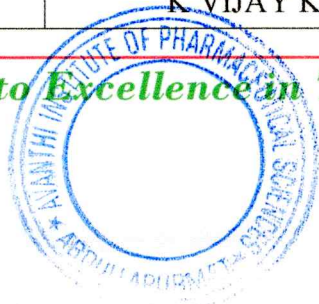
(Approved by PCI, AICTE & Affiliated to JNTUH)

Gunthapally (V), Abdullapurmet (M), R.R. Dist., Near Ramoji Filmcity, Hyderabad - 501 512.



57	III YR B.PHARM	ISAPRE SUPRIYA	19GN1R0084	4000
58	III YR B.PHARM	K. RAHUL	19GN1R0085	4000
59	III YR B.PHARM	KANDADA SAI KIRAN	19GN1R0086	4000
60	III YR B.PHARM	KARNAT MANASA	19GN1R0087	4000
61	III YR B.PHARM	M. MANOJKUMAR	19GN1R0088	4000
62	III YR B.PHARM	NAKKA SUPRIYA	19GN1R0089	4000
63	III YR B.PHARM	NALLA AKHIL KUMAR	19GN1R0090	1500
64	III YR B.PHARM	NARAVARAOPET SHARANYA	19GN1R0091	5000
65	III YR B.PHARM	NAVUROTHU AKHILA	19GN1R0093	1500
66	III YR B.PHARM	S VINAYA CHARY	19GN1R0094	3000
67	III YR B.PHARM	SURIGIRALA ABHIRAM	19GN1R0096	5000
68	IV YR B.PHARM	ANGALA PADMAKSHI	18GN1R0001	4000
69	IV YR B.PHARM	BELDHE SWETHA	18GN1R0004	4000
70	IV YR B.PHARM	PINJARI THAHARABHEE	18GN1R0033	3000
71	IV YR B.PHARM	SADIA OMER	18GN1R0038	4000
72	IV YR B.PHARM	SANKU SWETHA	18GN1R0039	4000
73	IV YR B.PHARM	SIDRATH UL MUNTAHA QURESHI	18GN1R0040	4000
74	IV YR B.PHARM	GORUGANTHAM SRAVANI	18GN1R0050	3000
75	IV YR B.PHARM	NAKARKANTI KAVYA	18GN1R0058	3000
76	IV YR B.PHARM	G GOMATHI	189R1R0060	6000
77	II YR PHARM D	BATTU RAMA KRISHNA	20GN1T0001	5000
78	II YR PHARM D	GANTA SURAJ KUMAR	20GN1T0002	4000
79	II YR PHARM D	KURVA CHANDANA	20GN1T0008	3000
80	II YR PHARM D	MOLGARA KEERTHI	20GN1T0018	3000
81	II YR PHARM D	NANDULA MOUNIKA	20GN1T0019	5000
82	II YR PHARM D	NASHRA FATIMA	20GN1T0020	4000
83	II YR PHARM D	YENDIKOL HARISH	20GN1T0021	4000
84	II YR PHARM D	B SHREYA	20GN1T0022	4000
85	II YR PHARM D	BANTARAM KRUPAKAR	20GN1T0023	4000
86	II YR PHARM D	CH KOMAL DEEPU	20GN1T0024	3000
87	II YR PHARM D	KANDHIPALLY ANIL KUMAR	20GN1T0025	5000
88	II YR PHARM D	K VIJAY KUMAR	20GN1T0026	3000

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Avanthi Institute of Pharmaceutical Sciences  
Gunthapally (V), Hayath Nagar (M),  
Ranga Reddy Dist.

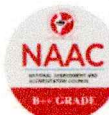




# AVANTHI INSTITUTE OF PHARMACEUTICAL SCIENCES

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Gunthapally (V), Abdullapurmet (M), R.R. Dist., Near Ramoji Filmcity, Hyderabad - 501 512.



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89	II YR PHARM D	PUSULURI SAI SRI HARSHA	20GN1T0027	3000
90	II YR PHARM D	SUNCHIKALA LAVAN	20GN1T0028	4000
91	III YR PHARM D	BALLA SHEETAL	19GN1T0001	4000
92	III YR PHARM D	MUDAVATH VARSHIKA	19GN1T0010	5000
93	III YR PHARM D	P BRAHMACHARY	19GN1T0013	4000
94	III YR PHARM D	SANIA MAHEEN	19GN1T0016	5000
95	III YR PHARM D	CHITRAPU SRI SATYA DURGA	19GN1T0018	5000
96	III YR PHARM D	ADDAGATLA ANUPAMA	19GN1T0022	4000
97	III YR PHARM D	BOLLAREDDY DEVENDRA REDDY	19GN1T0024	4000
98	IV YR PHARM D	AKULA SINDHUJA	18GN1T0004	4000
99	IV YR PHARM D	YELKUR MEGHANA	18GN1T0010	5000
100	IV YR PHARM D	KASARAMONI SWETHA	18GN1T0019	5000
101	IV YR PHARM D	JANNU UMESH KUMAR	18GN1T0020	5000
102	IV YR PHARM D	GUNDLA MEENAKSHI	18GN1T0021	3000
103	IV YR PHARM D	M. NANDINI	17GN1T0020	4000
104	V YR PHARM D	CHENNAVENI MEGHANA	17GN1T0018	4000
105	V YR PHARM D	CHANDAN KUMAR SAH	17GN1T0022	4000
106	VI YR PHARM D	E SAI KRISHNA REDDY	16GN1T0017	5000
107	I YR MPH- P.CEUTICS	DUBE RACHANA (M)	21GN1S0313	5000
108	II YR MPH- P.CEUTICS	Y SUDHEER KUMAR	20GN1S0306	5000
109	II YR MPH- P.CEUTICS	ATIKETI HAASINI	20GN1S0313	5000

Total students: 109

Total Amount: Rs 4,44,000

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PRINCIPAL  
Avanathi's Institute of Pharmaceutical Sciences  
Gunthapally (V), Hayath Nagar (M),  
Ranga Reddy Dist.

Date: 23/1/22  
Gunthapally

To,  
The principle,  
Avanthi Institute of pharmaceutical sciences.  
Gunthapally,

Subject: Application for fee concession to reduce tuition fee

Respected sir,

I am Pragna from B. pharmacy 2<sup>nd</sup> year  
Roll NO: 20CNIR0011. Requesting for tuition fee concession due  
to my father losing his job. we are currently facing  
financial difficulties and it has become impossible for  
us to pay the full fees. I am requesting for concession  
₹500/- please grant my request.

Accepted  
Jy

Thanking you

Yours obediently  
Pragna  
20CNIR0011



Date: 16/02/2022  
Gunthapally,

To,  
The principal,  
Arunthi Institution of  
pharmaceutical Science's Gunthapally,  
Abdullapurmet, Ranga Reddy, Hyderabad.

Subject: Regarding fees Concession.

My Self A. Ramakrishna from  
II<sup>nd</sup> year B. pharmacy Hall ticket. No: 20GNIR001.  
I beg to say that I am from a poor family  
and I am not able to pay my tuition fees.  
More over, my father's income is very less.  
So, I request to grant me fees Concession (6000/-)

Approved up to  
5000/-  
Thanking you

Yours faithfully  
A. Ramakrishna  
20GNIR001.



10/12/21

Hyderabad

To,

The principal,

Aranthi Institute of pharmaceutical science,

Gunthapally,

Sub:- Request letter for fee concession.

Respected sir

I am N. Akhila from 2<sup>nd</sup> year B. pharmacy  
HI-NO 196N1R0093. My family is not capable of fulfilling  
my collage fee. My father is a dog picker with very low  
income but I want to make my future bright. Grant  
me 1500 fee concession.

Approved  
S

Thanking you

Yours faithfully  
N. Akhila  
196N1R0093

Hyderabad  
Date: 16/2/22

To,

The principal

Arunthi institutions of  
Pharmaceutical science.

Gunturpally.

Subject :- Requested for bus fee.

I am P. Thahasabee from  
IV year B. Pharmacy 18G1NIR0033. This is kindly  
Requested I require for bus fee concession due  
to family issue I could not clear my bus  
fee amount: 3000.

Thanking you

Approved  
D

Yours faithfully  
P. Thahasabee  
18G1NIR0033.

10/12/21

To  
The principal Sir,  
Awanthi Institute  
Gonthapally (vi), Abdmet (M), R.R (Dist)

Sub :- Regarding fee concession

Respected Sir,

I am A. Dharmateja from III<sup>rd</sup> year B. Pharm Due to poor family, My father unable to pay the full fee. so I kindly, humbly Request you to reduce my tuition fee (3000) ✓

Thanking you Sir,

Yours faithfully  
A. Dharmateja  
III<sup>rd</sup> year B. Pharm  
196NIR0001.

Accepted  
JD ✓



Hyderabad,  
16/2/22..

To  
The Principal sir,  
Aranthi Institute of pharmaceutical science,  
Gunthapally.

Sub: I am Requesting For bus fee.

Respected sir,

I'm P. Thaharabhee from IV Year  
B-pharmacy 18UNIKR0033. This is kindly Requested  
I require For bus fee concession Requesting From  
for bus fee concession due to family issue I could not  
clear my bus to family issue I could not clear  
my bus fee amount 3000

Approved  
JD

Thankyou

Yours lovingly  
P. Thaharabhee  
18 UNIKR0033

Date :- 16/2/22,  
Hyderabad.

TO,

The principal,  
Avarthi Institute of pharmaceutical sciences,  
Abdullapurmet, K.R (Dist), Hyderabad.

Subject :- Application of fee concession.

I am Nalla Akhil Kumar from III<sup>rd</sup> year

B. Pharmacy Hall ticket No:- MGNIR0090. I am waiting  
this because I am poor family where my father working  
in the Garage. I am unable to pay my fees.

So, I request to grant me fee concession (15000/-)

—Thanking you.

Approved  


Yours faithfully  
N. Akhil Kumar  
MGNIR0090.

Dated 10/12/21  
Guntapally,

To

The principal

Avanthi institutions of pharmaceutical science,  
Guntapally, Ranga Reddy District

Subject: Application for fee Concession.

Respected Sir,

My self G. Suraj Kumar from

II<sup>st</sup> year pharm D 20G1NIR0002. I am writing  
this letter because financial issue I could not  
payment of tuition fee of amount (4000) kindly  
grant me permission.

Approved  


Thanking you

Yours faithfully.

G. Suraj Kumar

20G1NIR0002.



Date: 10/12/24  
Gunthapally

To

The principal  
Aranthi Institute of pharmaceutical sciences.  
Gunthapally.

Subject: Regarding fee concession.

Respected sir,

I am M. Nandini from pharm. DIV year hall ticket no: 17GNIT0020. I am writing this letter to inform you that I am detained from the college. My family facing some financial difficulties due to this I am unable to pay bus fee. So I am humbly requesting you that relief some bus fee [5000].

Approved  
JD

Thanking you.

Your's obediently  
M. Nandini  
17GNIT0020.

Date: 23/1/22

Gunthapally.

To

The principal

Aarathi Institute of pharmaceutical sciences

Gunthapally.

Subject: Regarding fee concession.

Respected sir,

I am M. Vaishika from pharm-D III year Hall ticket no: 199N1T0010. I am writing this letter to inform you that my father is RTC driver. So I have to pay full fee. My family is in some financial difficulties so. I am humbly, requesting you to relief some college fee (5000) ✓

Approved  
JD

Thanking you.

Yours obediently

M. Vaishika

199N1T0010

16/12/22

To,  
The principal sir,  
Aravind Institute,  
Gunturpally, Abdmets (M).  
R.R (dist)

From  
A. Sindhuja  
B<sup>th</sup> pharm-D

Sub:- Application for fee concession.

Respected sir,

I am A. Sindhuja from pharm-D-B<sup>th</sup> year.  
I am a single parent child, due to this my mother is  
unable to pay the full fee. So, I humbly request you to  
reduce my full fee (10000).

Thanking you sir.  
Approved  
JD

Yours sincerely  
A. Sindhuja  
B<sup>th</sup> pharm-D  
186NIT0004.



10/12/21

To

The principal

Aravind Institute of Pharmaceutical Sciences

Gonthapally

Subject - Regarding fee concession

Respected Sir,

I am A. padmakshi from 4<sup>th</sup> year. HT-NO 186N1R0001. My father is a farmer. we loss the crop - so we unable to pay the fee concession. I am asking you for my fee concession (1000) I hope you will help me.

Thanking you

Yours obediently

A. padmakshi

4<sup>th</sup> year

186N1R0001

Accepted  
✓

Date : 23/1/22,  
Gunthapally.

To  
The principal,  
Aranthi Institute of pharmaceutical sciences,  
Gunthapally.

Subject: Application for fee concession to reduce bus fee.

Respected sir,

I am Kushipol from B. pharmacy II year hall ticket no: 22GN1R0028, studying in your Institution. Requesting for bus fee concession due to financial difficulties faced by our family it has become challenging for my mother to pay the bus fee. I humbly request you to consider my request & grant a fee concession 3000/- ✓

Accepted



Thanking you

Yours obediently,  
Kushipol,

22GN1R0028.

Hyderabad,

16/2/23.

To

The principal sir,

Avanthi institute of pharmaceutical sciences,  
Gunturpally, Ranga reddy (Ct)

Sub: Regarding Fees concession.

Respected sir,

I'm A. Dharmateja From 1<sup>st</sup> year  
B pharmacy, 196W1K0001, my family is not capable of  
fulfilling my college fees. My father is a rag picker.  
with very low income, but I want to make my  
future bright. Therefore I am asking you for my  
fees concession (3000) I hope you will help me

Thanking you

Accepted  
SP

Yours faithfully,  
A. Dharmateja  
196W1K0001



16/2/22.

Guntapally.

To,  
The principal  
Avanthi Institution of Pharmaceutical Science's  
Guntapally.

1 Sub: Requesting bus fee Concession.

Respected Sir,

Myself preveena from B. Pharm II<sup>nd</sup> year  
Hall ticket No: 206NIR0039. Requesting for bus fees  
concession due to financial problems in my family  
unable to pay the fees requesting for concession  
3000/-. Please grant my request.

Thanking You

Accepting  


Your's obediently,

Preveena

206NIR0039.

Gunthapally,

To  
The principal sir  
Avanthi Institute of pharmaceutical sciences.  
Gunthapally,  
Respected sir,

sub :- Regarding fee concession

I am E. saikrishna VI yr. pharm D, HT. NO. - 16GINIT0017  
sir am from poor family, my father is a farmer, so I can't  
afford that much of fee so please I request you to reduce  
my fee please sir (5000)

Thanking you sir

Accepted  
JP

Yours faithfully  
E. saikrishna

VI yr. pharm D  
16GINIT0017

sign: 

Gunturhally  
Dt: - 10/12/21

To,  
The Principal  
Anand Institute of Engineering  
Gunturhally  
Hyderabad.

SUBJECT:- Requesting fee concession.

Respected Sir,

Myself K. Chandana from Pharm D 2<sup>nd</sup> year  
This is for requesting my tuition fee concession.  
because of my father has expired. due to  
this I am facing financial issues. There  
for I am requesting to concession of my  
tuition fees of amount (3000/-)

Accepted  
JD

Thank you,

Yours faithfully  
K. Chandana  
20619170008



DT 10/12/21

Guntur

TO,  
The Principal Sir,  
Alcothi Institute of Pharmaceutical Sciences  
Guntur  
Hyderabad.

Respect Sir,

Sub:- Regarding Fee Concession.

I am K. ARJUN. III yr B. Pharmacy H.No  
19 GN 120025 Sir, am from very poor family  
I cant afford that much of Fee. So please  
I request you to reduce my Fee (3000)

Thanking you Sir,

Accepted  
JD

Yours faithfully

K. ARJUN  
III year B. Pharm  
19 GN 120025

Date: 16/2/22

TO

The principal sir,  
Aarathi institute of pharmaceutical sciences,  
Gunthapally

Sub: Requesting fee concession

Respected sir

I am Gomathi from B-pharm 4<sup>th</sup> year  
Roll no: 18GINIR0060. Requesting for concession fee  
I am unable to pay my tuition fee because of my  
health issues. So please grant me tuition fees  
concession of 4000 ✓

Thanking you

Accepted  
JD

yours obediently  
Gomathi  
4<sup>th</sup> year  
18GINIR0060



# AVANTHI INSTITUTE OF PHARMACEUTICAL SCIENCES

(Approved by PCI, AICTE & Affiliated to JNTUH)

Gunthapally (V), Abdullapurmet (M), R.R. Dist., Near Ramoji Filmcity, Hyderabad - 501 512.



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Gunthapally,

Date: 09-03-2022.

To

The Governing Body (GB),  
Avanathi Institute of Pharmaceutical Sciences,  
Gunthapally.

**Sub:** Letter of request sanction of Merit Scholarship amount from college budget.

**Reference:** 1. Avanathi Freeship and Merit Scholarship Policy.

2. College Academy Committee meeting held on 05/03/22

Dear Sir/Madam,

This is to request you please sanction amount of Rs. 80,000 (Eighty thousand Rupees) for 20 students into the college budget for the academic year 2021-22.

The details are also enclosed for your consideration

Thanking you sir

Yours faithfully,



PRINCIPAL  
Avanathi Institute of Pharmaceutical Sciences  
Gunthapally (V), Hayath Nagar (M),  
Ranga Reddy Dist.

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## Merit Scholarship Students List with Amount

**Academic Year: 2021-2022**

The following is the list of students 20 are selected from Avanthi Freeship Policy. As per the merit ,the academic toppers are selected and given prizes, with the first topper awarded as Rs. 5000 and the second topper as Rs. 3000.

SNO	COURSE	YEAR	HALL TICKET NO	NAME OF THE STUDENT	MERIT	AMOUNT
1	B PHARM	II	20GN1R0066	PAKALA HARSHINI	I	5000
2	B PHARM	II	20GN1R0018	GANJI NARMADA	II	3000
3	B PHARM	III	19GN1R0059	SANGEETHA	I	5000
4	B PHARM	III	19GN1R0029	KUMMARI GAYATHRI	II	3000
5	B PHARM	IV	18GN1R0031	P.BHAVYA REDDY	I	5000
6	B PHARM	IV	18GN1R0035	RAFQUAZEB	II	3000
7	PHARM D	II	20GN1T0006	KURVA CHANDANA	I	5000
8	PHARM D	II	20GN1T0013	P.REDDY SHARVANI	II	3000
9	PHARM D	III	19GN1T0001	B.SAI MANISHA	I	5000
10	PHARM D	III	19GN1T0014	P.SADGUNA	II	3000
11	PHARM D	IV	18GN1T0012	M.SHIRISHA	I	5000
12	PHARM D	IV	18GN1T0013	B.NAVYA SRI	II	3000
13	PHARM D	V	17GN1T0024	G.SAI PRAGNA	I	5000
14	PHARM D	V	17GN1T0005	G.SHIVANI	II	3000
15	PHARM D	VI	16GN1T0015	AFSHA BEGUM	I	5000
16	PHARM D	VI	16GN1T0030	K.GOUTHAMI	II	3000
17	M P CEUTICS	I	21GN1S0313	DUBE RACHANA	I	5000
18	M P CEUTICS	I	21GN1S0309	RUMANA FATIMA	II	3000
19	M P ANALYSIS	I	21GN1S1202	B.SANDHYA	I	5000
20	M P ANALYSIS	I	21GN1S1207	K.SUJATHA	II	3000

Total students: **20**

Total Amount: Rs **80,000**



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Avanthi Institute of Pharmaceutical Sciences  
Gunthapally (V), Hayath Nagar (M),  
Ranga Reddy Dist.