

# Monika's Nursing Academy Hamirpur

"Innovation is our Tradition"

## PGI Chandigarh Paramedical Entrance Test 2023

1. Among *Aedes*, *Limulus*, *Pheretima*, *Ancylostoma*, and *Antedon*, how many possess true coelom, segmentation and closed circulatory system?
  - A. One
  - B. Two
  - C. Three
  - D. Four
2. Read the following statements and choose the correct answer.
  - A) The amphibians possess eyelids, and the tympanum represents the ear in them
  - B) Animals which possess paired and unpaired fins are included in superclass Pisces
  - A. Both statements A and B are correct
  - B. Both statements A and B are incorrect
  - C. Only statement A is correct
  - D. Only statement B is correct
3. Select the hormone of the adrenal cortex which is responsible for hyperglycemia.
  - A. Aldosterone
  - B. Epinephrine
  - C. Cortisol
  - D. Sex corticoids
4. Choose the incorrect match w.r.t. the hormone and its action.
  - A. PRL – Acts on the mammary gland
  - B. MSH – Acts on melanocytes
  - C. ACTH – Acts on the adrenal gland
  - D. GnRH – Acts on gonads
5. Vestibular apparatus contains \_\_\_\_
  - A. Semicircular canals and cochlea
  - B. Semicircular canals and otolith organ
  - C. Otolith membrane and cochlea
  - D. Middle ear and cochlea
6. Hexoses are rapidly absorbed across the wall of the small intestine into capillaries which finally drain them into
  - A. Hepatic artery
  - B. Hepatic portal vein
  - C. Hepatic vein
  - D. Carotid vein
7. Given below is a list of some structures of the human respiratory system:  
Primary bronchi, Trachea, Terminal Bronchiole, Respiratory Bronchiole  
How many of them do not possess incomplete cartilaginous rings?
  - A. One
  - B. Four
  - C. Two
  - D. Three
8. Filtration slits or slit pores are spaces maintained by \_\_\_\_\_.
  - A. Podocytes in the parietal layer of Bowman's capsule
  - B. Renal pyramids in the medullary region
  - C. Cells of glomerular capillary
  - D. Podocytes in the visceral layer of Bowman's capsule
9. During ventricular systole, \_\_\_\_\_.
  - I. Blood gets filled in the atria.
  - II. AV valves remain close.
  - III. 70 ml of blood is pumped by each ventricle

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- A. I and II are correct, and III is incorrect
- B. II and III are correct, and I is incorrect
- C. I and III are correct, and II is incorrect
- D. I, II, and III are correct

**10. Even in the presence of ADH, the maximum reabsorption of water occurs in \_\_\_\_\_.**

- A. DCT
- B. PCT
- C. Loop of Henle
- D. Collecting duct

**11. All of the following muscles possess gap junctions, except \_\_\_\_\_.**

- A. Muscles in the stomach wall
- B. Muscles in the abdominal wall
- C. Cardiac muscles
- D. Muscles of the urinary bladder

**12.  $\beta$ -1,4 glycosidic linkage is present in \_**

- A. Starch
- B. Inulin
- C. Cellulose
- D. Glycogen

**13. Menstruation is triggered by an abrupt decline in the amount of a hormone secreted by \_\_\_\_\_.**

- A. Pituitary gland
- B. Secondary oocyte
- C. Corpus luteum
- D. Tertiary follicle

**14. \_\_\_I\_\_\_ receives a duct from the seminal vesicle and opens into the urethra as the \_\_\_II\_\_\_ .**

**Choose the option that correctly fills the blanks I and II.**

- A. I – Rete testis, II – vasa efferentia
- B. I – Vas deferens, II – ejaculatory duct

- C. I – Epididymis, II – vas deferens
- D. I – Vasa efferentia, II – rete testis

**15. During embryonic development, the body of the foetus is covered with fine hair by the end of \_\_\_\_\_.**

- A. First trimester
- B. Second trimester
- C. Fifth month of pregnancy
- D. Second month of pregnancy

**16. Over-secretion of GH in adults leads to \_\_\_\_\_.**

- A. Gigantism
- B. Acromegaly
- C. Dwarfism
- D. Cretinism

**17. The extinct hominid who lived in near-east and central Asia between 1,00,000 – 40,000 years back and used hides to protect their body were \_\_\_\_\_.**

- A. Cro-Magnon man
- B. *Australopithecines*
- C. *Homo erectus*
- D. Neanderthal man

**18. In a resting neuron, the axonal membrane is more permeable for \_\_\_\_\_ ions.**

- A.  $\text{Na}^+$
- B.  $\text{K}^+$
- C.  $\text{Ca}^{+2}$
- D.  $\text{Mg}^{+2}$

**19. The vector used to transfer a gene to produce pest-resistant tobacco plants is \_\_\_\_\_.**

- A. pBR322
- B. pUC8

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- C. Modified Ti plasmid  
D. Simian virus
20. **F<sub>2</sub> generation in a Mendelian cross showed that both genotypic and phenotypic ratios are the same as 1:2:1. It represents a case of**
- A. dihybrid cross  
B. monohybrid cross with complete dominance  
C. codominance  
D. monohybrid cross with incomplete dominance.
21. **During fertilisation, a sperm comes in contact with which part of the ovum induces changes in the membrane and blocks the entry of additional sperms?**
- A. Isthmus  
B. Ampulla  
C. Perivitelline space  
D. Zona pellucida
22. **Identify the role of special membranous structures in prokaryotes which are formed by the extensions of plasma membrane into the cell.**
- A. They help in cell wall formation.  
B. They help in secretion processes.  
C. They help to increase the surface area of the plasma membrane.  
D. All of these
23. **In a standard ECG, the P – wave represents**
- A. ventricular depolarisation  
B. ventricular repolarization  
C. atrial depolarisation  
D. atrial repolarisation.
24. **What type of root is present in Rhizophora?**
- A. Still root  
B. Prop root  
C. Pneumatophores  
D. Chromatophores
25. **Pneumotaxic centre which can moderate the functions of the respiratory rhythm centre is present in**
- A. thalamus  
B. pons region of brain  
C. medulla region of brain  
D. spinal cord

## Chemistry

26. **Structure of a mixed oxide is cubic close packed (c.c.p.). The cubic unit cell of mixed oxide is composed of oxide ions. One fourth of the tetrahedral voids are occupied by divalent metal A and the octahedral voids are occupied by a monovalent metal B. The formula of the oxide is**
- A.  $ABO_2$   
B.  $A_2BO_2$   
C.  $A_2B_3O_4$   
D.  $AB_2O_2$
27. **For a chemical reaction at 27 °C, the activation energy is 600 R. The ratio of the rate constants at 327 °C to that of at 27 °C will be**
- A. 2  
B. 40  
C. e  
D.  $e^2$

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28. According to Hardy Schulze law, the flocculating power of an ion increases with
- decrease in size
  - increase in size
  - decrease in charge
  - increase in charge
29. Carbon monoxide forms volatile compound with
- Ni
  - Cu
  - Al
  - Si
30. Which of the following is arranged in order of decreasing thermal stability?
- Zn > Hg > Cd
  - Cd > Hg > Zn
  - Zn > Cd > Hg
  - Hg > Cd > Zn
31. Which of the following is not correct?
- XeO<sub>3</sub> has four s and four p bonds.
  - The hybridization of Xe in XeF<sub>4</sub> is sp<sup>3</sup> d<sup>2</sup>.
  - Among the noble gases the occurrence (percent by weight) of argon is highest in air.
  - Liquid helium is used in cryogenic liquids.
32. There is very little difference in acid strength in the series H<sub>3</sub>PO<sub>3</sub> and H<sub>3</sub>PO<sub>2</sub> because
- phosphorus in these acids exists in different oxidation states
  - number of unprotonated oxygen responsible for increase of acidity due to inductive effect remains the same
  - phosphorus is not a highly electronegative element
  - phosphorus oxides are less basic.
33. Which of the following complexes exhibit optical isomerism?
- Trans-tetraamminedithiocyanatochromium (III) ion
  - Cis-diamminedicarbonatocobaltate(III) ion
  - Trans-diamminedicarbonatocobaltate(III) ion
  - Cis-bis(glycinato)platinum(II)
34. 21.75 g of MnO<sub>2</sub> on reaction with HCl forms 2.8L of Cl<sub>2</sub> (g) at STP; the percentage purity of MnO<sub>2</sub> is:  
(Given: Atomic mass of Mn = 55 u)  
 $\text{MnO}_2 + 4\text{HCl} \rightarrow \text{MnCl}_2 + \text{Cl}_2 + 2\text{H}_2\text{O}$
- 80%
  - 75%
  - 33%
  - 50%
35. The radii of the 2nd Bohr orbit of Be<sup>3+</sup> ion is:
- 26.45 pm
  - 52.9 pm
  - 79.35 pm
  - 105.8 pm
36. van der Waals constants (a) for the gases A, B, C and D are 1.25, 3.29, 4.28 and 0.244, respectively. The gas which is most easily liquefied is:
- A
  - B
  - C
  - D
37. For the reaction,  $\text{CCl}_4 (\text{g}) + 2\text{H}_2\text{O} (\text{g}) \rightarrow \text{CO}_2 (\text{g}) + 4\text{HCl} (\text{g})$ , at constant temperature,  $\Delta H - \Delta E$  is:

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- A.  $-RT$   
B.  $RT$   
C.  $-2RT$   
D.  $2RT$
- 38. Four monobasic acids, A, B, C and D, have their respective  $\Delta_{\text{neut}}H^\circ$  values of  $-11.5$ ,  $-7.5$ ,  $-12.4$  and  $-8.9$  kcal/mol. Which of the following acids has the highest  $pK_a$  value?**
- A. A  
B. B  
C. C  
D. D
- 39. The correct order of ionic radii is represented in:**
- A.  $O > O^- > O^{2-}$   
B.  $Al^+ > Al^{2+} > Al^{3+}$   
C.  $S^{2-} > K^+ > Cl^-$   
D.  $Mg^{2+} > Na^+ > N^{3-}$
- 40. Which of the following pairs of compounds are isostructural?**
- A.  $H_2O$  and  $SO_3$   
B.  $I_3^-$  and  $XeF_2$   
C.  $NH_3$  and  $BF_3$   
D.  $SF_4$  and  $XeF_4$
- 41. The species which does not exist is:**
- A.  $Li_2$   
B.  $C_2$   
C.  $H_2$   
D.  $He_2$
- 42. Formic acid on reaction with concentrated  $H_2SO_4$  at  $373$  K gives:**
- A.  $CO_2$   
B.  $HCHO$   
C.  $CH_3OH$   
D.  $CO$
- 43. The coordination complex which shows linkage isomerism is:**
- A.  $[Co(NH_3)_5NO_2]^{2+}$   
B.  $[Co(NH_3)_6]^{3+}$   
C.  $[Co(NH_3)_5Br]^{2+}$   
D.  $[Cr(H_2O)_5Cl]^{2+}$
- 44. Ethene on reaction with Baeyer's reagent gives:**
- A. Ethane-1,2 diol  
B. Ethanoic acid  
C. Ethanal  
D. Ethanol
- 45. What is the weight of oxygen required for the complete combustion of  $2.8$  kg of ethylene?**
- A.  $2.8$  kg  
B.  $6.4$  kg  
C.  $9.6$  kg  
D.  $96$  kg
- 46. Rice is deficient in-**
- A. Lysine  
B. Leucine  
C. Glycine  
D. Alanine
- 47. Which of the following is the water soluble?**
- A. Vitamin - C  
B. Vitamin - D  
C. Vitamin - K  
D. Vitamin -A
- 48. Which of the following fertilizers has the highest nitrogen percentage?**
- A. Ammonium sulphate  
B. Calcium cyanamide  
C. Urea  
D. Ammonium nitrate

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49. Antibodies are known as

- A. Carbohydrates
- B. Proteins
- C. Lipids
- D. Enzymes

50. The dimensions of pressure are the same as that of \_\_\_\_\_.

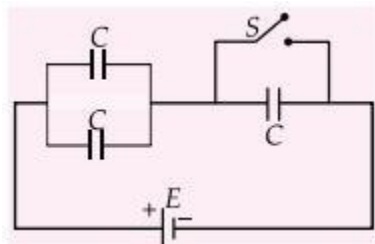
- A. force per unit volume
- B. Energy per unit volume
- C. Force
- D. Energy

## Physics

51. The monochromatic coherent light beams A and B have intensities  $L$  and  $L/4$  respectively. If these beams are superposed, the maximum and minimum intensities will be

- A.  $9L/4, L/4$
- B.  $5L/4, 0$
- C.  $5L/2, 0$
- D.  $2L, L/2$

52. In the circuit shown in figure, each capacitor has a capacitance  $C$ . The emf of the cell is  $E$  and circuit already in steady state. The amount of charge that flows through the cell if the switch  $S$  is closed is



- A.  $CE/2$
- B.  $2CE$

- C.  $3CE/4$
- D.  $4CE/3$

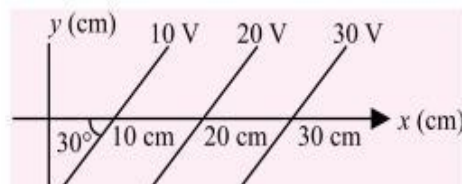
53. A particle moves with simple harmonic motion in a straight line. In first  $\tau$  s, after starting from rest it travels a distance  $a$ , and in next  $\tau$  s it travels  $2a$ , in same direction, then

- A. time period of oscillations is  $6\tau$
- B. amplitude of motion is  $3a$
- C. time period of oscillations is  $8\tau$
- D. amplitude of motion is  $4a$

54. If  $R$  is the radius of the Earth then the height above the Earth's surface at which the acceleration due to gravity decreases by 20% is

- A.  $(\frac{\sqrt{5}}{2} - 1)R$
- B.  $(\frac{\sqrt{5}}{2} + 1)R$
- C.  $(5\sqrt{2} - 1)R$
- D.  $(5\sqrt{2} + 1)R$

55. Equipotential surfaces are shown in figure, the magnitude of electric field is



- A.  $50 \text{ V m}^{-1}$
- B.  $75 \text{ V m}^{-1}$
- C.  $130 \text{ V m}^{-1}$
- D.  $200 \text{ V m}^{-1}$

56. How many electrons are there in  $-1$  coulomb?

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- A.  $6.25 \times 10^{18}$   
B.  $62.5 \times 10^{18}$   
C.  $6.023 \times 10^{23}$   
D.  $1.6 \times 10^{-19}$
57. If  $V_A$  and  $V_B$  are two points placed on a curved equipotential surface then, choose the correct option
- A.  $V_A > V_B$   
B.  $V_A < V_B$   
C.  $V_A = V_B$   
D. Relation between the two can't be predicted
58. 100 joule of work performed holds a charge of  $-5$  coulomb from infinity to a particular point in a uniform electrostatic field. Calculate the potential of this point?
- A. 100 V  
B. 5 V  
C. -20V  
D. 20 V
59. A hollow metal sphere of a radius 10 cm will be charged in such a way that the potential on its surface would be 80 volt. You need to calculate the potential at the center of the sphere?
- A. 8 volt  
B. 800 volt  
C. 80 volt  
D. Zero
60. If  $400 \Omega$  resistance is made by doing the addition of four  $100 \Omega$  resistance of tolerance 5%, then you need to calculate the tolerance of the combination?
- A. 5%  
B. 10%  
C. 15%  
D. 20%
61. Resistance  $n$ , each of  $r \Omega$ , on connecting in parallel offers an equivalent resistance of  $R \Omega$ . In case these resistances are connected in series, the combination having resistance in  $\Omega$ , would be equal to
- A.  $n^2R$   
B.  $R / n^2$   
C.  $R / n$   
D.  $nR$
62. Choose one of the correct options for which the Bohr model will not be valid?
- A. Hydrogen atom  
B. Singly ionised helium atom ( $He^+$ )  
C. Deuteron atom  
D. Singly ionised neon atom ( $Ne^+$ )
63. Two cylinders named A and B having equal capacity gets connected to each other with a stop clock. A contains the required gas at standard temperature and pressure while B is totally evacuated. The entire system is thermally insulated. The stop cock is suddenly opened, what this process would be called?
- A. Isothermal  
B. Adiabatic  
C. Isochoric  
D. Disobaric
64. The solids having negative temperature coefficient of resistance would be:
- A. Metals  
B. Insulators only  
C. Semiconductors only  
D. Insulators and semiconductors

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65. **The heating effect is caused by?**
- A. Ultraviolet
  - B. Infrared
  - C. Visible light
  - D. All of these
66. **The speed of electromagnetic wave in vacuum depends upon the source of radiation?**
- A. If we move from g-rays to radio waves increases
  - B. If we move from g-rays to radio waves decreases
  - C. Is same for all of them
  - D. None of these
67. **A bar-magnet falls down through a conducting coil as shown in the figure given below. The acceleration of the bar magnet is:**
- A. less than g
  - B. greater than g
  - C. equal to g
  - D. unpredictable
68. **In a p-type semiconductor, the current conduction is due to**
- A. Holes
  - B. Atoms
  - C. Electrons
  - D. Protons
69. **What happens when the light is refracted into a medium?**
- A. Both frequency and wavelength of the light increase
  - B. The wavelength increases but the frequency remains unchanged
  - C. Both wavelength and frequency decrease
  - D. The wavelength decreases but the frequency remains constant
70. **The resistivity of certain metals or alloys drops to zero when they are cooled below a certain temperature, this phenomenon is known as \_\_\_\_\_.**
- A. Conductivity
  - B. Partial conductivity
  - C. Superconductivity
  - D. Non-conductivity
71. **Photons are deflected by**
- A. Magnetic field only
  - B. Electric field only
  - C. Electromagnetic field
  - D. None of the above
72. **Which of the following circuits exhibits maximum power dissipation?**
- A. Pure Inductive Circuit
  - B. Pure Capacitive Circuit
  - C. Pure Resistive Circuit
  - D. None of the above
73. **Electrical Inertia is the measure of**
- A. Self Inductance
  - B. Mutual Inductance
  - C. Impedance
  - D. None of the above
74. **When the charged particles move in a combined magnetic and electric field, then the force acting is known as \_\_\_\_\_.**
- A. Centripetal force
  - B. Centrifugal force
  - C. Lorentz force
  - D. Orbital force



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**75. The capacity of the parallel plate capacitor increases when**

- A. area of the plate is decreased
- B. area of the plate is increased
- C. distance between the plates increases
- D. None of the option

## English

**In the following questions, out of the four alternatives, choose the one which best expresses the opposite meaning or Antonym of the given word.**

**76. Propensity**

- A. Relentless
- B. Stagnation
- C. Forecast
- D. Disinclination

**77. Senile**

- A. Affluent
- B. Corrupt
- C. Mentally alert
- D. Suspicious

**78. In the following questions, out of the four alternatives, choose the one which best expresses the similar meaning of the given word. Scorn**

- A. Praise
- B. Bias
- C. Despise
- D. Concise

**79. Loathing**

- A. Affectation
- B. Affection
- C. Hatred
- D. Warmth

**80. Out of the four alternatives, choose the one which can be substituted for the given word/sentences.**

**Medicine given to counteract poison**

- A. Antiseptic
- B. Antidote
- C. Antibiotic
- D. Anti fungal

**81. One who is not likely to be easily pleased**

- A. Fastidious
- B. Fatalist
- C. Communist
- D. Infallible

**82. In the following questions, out of the four alternatives, one word is correctly spelt. Find the correctly spelt word.**

- A. Discripency
- B. Discripancy
- C. Discrepancy
- D. Descripancy

**83. In the following questions, out of the four alternatives, one word is correctly spelt.**

**Find the correctly spelt word.**

- A. Fascinating
- B. Facinating
- C. Faccinating
- D. Facenating

**84. I decided to catch the bus because I was late.**

- A. Catch
- B. Late
- C. Bus
- D. Was

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85. He has bought a new car.

- A. Bought
- B. New
- C. He
- D. Car

C. interesting

D. interested

86. **Directions: In the following questions choose the correct options to fill the blanks.**

**Your ..... proved false.**

- A. A – statement
- B. state
- C. C- status
- D. None of these

87. **The way he treats us is an .....  
.....of discrimination.**

- A. act
- B. B -action
- C. Active
- D. None of these

88. **..... like the size of a cat  
jumped over his head.**

- A. Something\
- B. Anything
- C. Nothing
- D. None of these

89. **Directions: in the following Questions, sentences are given with the blanks to be filled with appropriate adjectives.**

**John is very \_\_\_\_\_.**

- A. talkative
- B. talking
- C. talky
- D. talk

90. **I found the movie quite \_\_\_\_\_.**

- A. interestingly
- B. interest

91. **The World's First CNG Terminal is set to come up in which Indian state?**

- A. Haryana
- B. Assam
- C. Gujarat
- D. Bihar

92. **Mana Pass, which was seen in the news, is located in which state / UT?**

- A. Himachal Pradesh
- B. Sikkim
- C. Ladakh
- D. Uttarakhand

93. **Which one of the following river flows between Vindhyan and Satpura ranges?\**

- A. Narmada
- B. Mahanadi
- C. Son
- D. Netravati

94. **The Central Rice Research Station is situated in?**

- A. Chennai
- B. Cuttack
- C. Bangalore
- D. Quilon

95. **Who among the following wrote Sanskrit grammar?**

- A. Kalidasa
- B. Charak
- C. Panini
- D. Aryabhata

## General Knowledge

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96. Which among the following headstreams meets the Ganges in last?

- A. Alaknanda
- B. Pindar
- C. Mandakini
- D. Bhagirathi

97. The metal whose salts are sensitive to light is?

- A. Zinc
- B. Silver
- C. Copper
- D. Aluminum

98. Patanjali is well known for the compilation of –

- A. Yoga Sutra
- B. Panchatantra
- C. Brahma Sutra
- D. Ayurveda

99. Which one of the following rivers originates in Brahmagiri range of Western Ghats?

- A. Pennar
- B. Cauvery
- C. Krishna
- D. Tapti

100. The country that has the highest in Barley Production?

- A. China
- B. India
- C. Russia
- D. France

## Answer Key

- 1. A
- 2. A

- 3. C
- 4. D

- 5. B
- 6. B

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