

AIIMS BSc Nursing 2024 Question Paper

Total Time Allowed : 2 hours	Maximum Marks : 480	Total Questions : 120
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General Instructions

Read the following instructions very carefully and strictly follow them:

1. The total duration of the examination is 2 hours (120 minutes).
2. The total number of questions is **120**, carrying a maximum of **480 marks**.
3. The marking scheme is as follows:
 - (i) For each correct response, 1 mark will be awarded.
 - (ii) For each incorrect response, $\frac{1}{3}$ mark will be deducted.
 - (iii) No marks will be deducted for unanswered questions.
4. No marks will be awarded for unanswered questions.
5. Follow the instructions provided during the exam for submitting your answers.

1. Inner wall of microsporangia is:

- (A) Tepitame
- (B) Epidermis
- (C) Endothecium
- (D) Middle layer

2. Which of the following hormones is not synthesized by anterior pituitary gland?

- (A) Prolactin
- (B) Vasopressin
- (C) LH
- (D) FSH

3. Pneumotaxic center is present in:

- (A) Cerebellum
- (B) Cerebrum

- (C) Pons
 - (D) Medulla
-

4. PS I first wavelength / reaction center is:

- (A) Chl-680
 - (B) Chl-700
 - (C) Chl-660
 - (D) Chl-760
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5. Which fruit has fibrous mesocarp?

- (A) Apple
 - (B) Coconut
 - (C) Strawberry
 - (D) Mango
-

6. Which kingdom is included in all kingdom system classifications?

- (A) Monera
 - (B) Protista
 - (C) Fungi
 - (D) Plantae and Animalia
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7. In commensalism, two organisms have:

- (A) Benefit to both
 - (B) Harm to both
 - (C) Benefit to one and harm to the other
 - (D) Benefit to one and neither harm nor benefit to the other
-

8. Which of the following statements is not true?

- (A) Wing of bird and butterfly are analogous organ.
 - (B) Thorn of bouganvillia and tendril of cucurbita are homologous organ.
 - (C) Sweet potato and potato is an example of homologous organ.
 - (D) Eyes of octopus and human have similar functions but evolved independently.
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9. What are the organisms that eat dead and decaying matter?

- (A) Autotrophs
 - (B) Heterotrophs
 - (C) Saprotrophs
 - (D) Symbiotic
-

10. Which protein is present in muscle?

- (A) Myosin
 - (B) Keratin
 - (C) Serin
 - (D) Cellulose
-

11. Chiasmata formation occurs during which sub-stage of meiosis?

- (A) Pachytene
 - (B) Diplotene
 - (C) Leptotene
 - (D) Zygotene
-

12. Androgen is secreted by which of the following cells?

- (A) Sertoli Cell
 - (B) Leydig Cell
 - (C) Follicle Cell
 - (D) Nurse Cell
-

13. How is the male frog different from the female frog?

- (A) Copulatory Pad
 - (B) Vocal Sac
 - (C) Cloaca
 - (D) Abdominal Region
-

14. Which of the following is not a sexually transmitted disease (STD)?

- (a) Hepatitis B
 - (b) Syphilis
 - (c) Gonorrhea
 - (d) Ascariasis
-

15. Correct Match: Match the following compounds with their correct categories: (A) Carotenoid – Polymer (B) Abrin – Pigment (C) Cellulose – Toxin (D) Morphine – Alkaloid

16. Correct Statement: Identify the correct scientific statement from the options below:

- (A) Chargaff's rule: $A + T = G + C$
 - (B) DNA is a polymer of nucleotides
 - (C) Euchromatin is loosely connected
 - (D) DNA backbone is composed of nitrogenous bases
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17. Which statement about ammonia is false?

- (A) Kidney does not excrete ammonia
 - (B) More water is required for ammonia excretion
 - (C) Ammonia is a more toxic substance
 - (D) Ammonia is converted into urea
-

18. Which is the incorrect statement about Mycoplasma?

- (A) Cell wall present in Mycoplasma
 - (B) Pathogen for plant and animal
 - (C) Included in Monera
 - (D) Prokaryotic organism
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19. Which of the following is the correct melting point order of dichlorobenzene isomers?

- (A) 1,2-Dichlorobenzene > 1,3-Dichlorobenzene > 1,4-Dichlorobenzene
 - (B) 1,4-Dichlorobenzene > 1,2-Dichlorobenzene > 1,3-Dichlorobenzene
 - (C) 1,2-Dichlorobenzene > 1,4-Dichlorobenzene > 1,3-Dichlorobenzene
 - (D) 1,3-Dichlorobenzene > 1,2-Dichlorobenzene > 1,4-Dichlorobenzene
-

20. Benzaldehyde reacts with conc. NaOH to give:

- (A) Benzyl alcohol
 - (B) Sodium benzoate
 - (C) Phenol
 - (D) Benzyl alcohol and sodium benzoate
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21. Which enzyme converts glucose and fructose both into ethanol?

- (A) Invertase
 - (B) Zymase
 - (C) Maltase
 - (D) Diastase
-

22. What is the chemical name of Vitamin B6?

- (A) Biotin
- (B) Thiamine
- (C) Riboflavin
- (D) Pyridoxine

23. Chemical formula of Water-gas is:

- (A) $\text{CO}_2 + \text{H}_2\text{O}$
- (B) $\text{CO} + \text{H}_2$
- (C) $\text{SO}_2 + \text{CO}_2 + \text{Heat}$
- (D) $\text{CO} + \text{H}_2\text{O}_2$

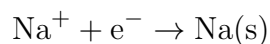
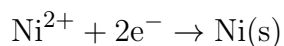
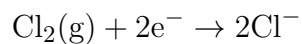
24. Which of the following correctly represents the order of basic strength among Group 15 hydrides?

- (A) $\text{BiH}_3 > \text{SbH}_3 > \text{AsH}_3 > \text{PH}_3 > \text{NH}_3$
- (B) $\text{NH}_3 > \text{PH}_3 > \text{AsH}_3 > \text{SbH}_3 > \text{BiH}_3$
- (C) $\text{NH}_3 < \text{PH}_3 < \text{AsH}_3 < \text{SbH}_3 < \text{BiH}_3$
- (D) $\text{PH}_3 > \text{NH}_3 > \text{AsH}_3 > \text{SbH}_3 > \text{BiH}_3$

25. Which of the following is Hinsberg reagent?

- (A) $\text{C}_6\text{H}_5\text{SO}_2\text{CH}_3$
- (B) SnCl_2
- (C) $\text{C}_6\text{H}_5\text{SO}_2\text{Cl}$
- (D) CoCl_2

26. Standard electrode potentials of Na, Ni, and Cl are given. Which one has the highest reducing power?



- (A) Cl_2
- (B) Ni^{2+}
- (C) Na^+
- (D) All have equal reducing power

27. A reaction with reaction quotient Q_c and equilibrium constant K_c will proceed in the direction of the products when:

- (A) $Q_c = K_c$
 - (B) $Q_c > K_c$
 - (C) $Q_c < K_c$
 - (D) $Q_c = 0$
-

28. Which of the following is not isoelectronic?

- (A) CO
 - (B) CN^-
 - (C) NO^+
 - (D) O_2^-
-

29. LiH, HClO_4 , O_3 , P_4 Oxidation states of the elements are respectively:

- (A) -1, +7, 0, 0
 - (B) +1, +7, -1, 0
 - (C) -1, +5, -1, +3
 - (D) +1, +5, 0, 0
-

30. Which of the following has a higher dipole moment?

- (A) NH_3
 - (B) NF_3
 - (C) Both have equal dipole moments
 - (D) None of the above
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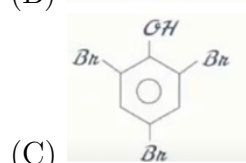
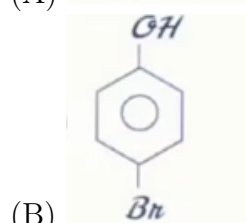
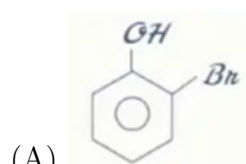
31. Triclinic crystal system has the following unit cell dimensions:

- (A) $a = b = c$ and $\alpha = \beta = \gamma = 90^\circ$
- (B) $a = b \neq c$ and $\alpha = \beta = \gamma = 90^\circ$
- (C) $a \neq b \neq c$ and $\alpha \neq \beta \neq \gamma \neq 90^\circ$
- (D) $a = b \neq c$ and $\alpha = \beta = 90^\circ, \gamma = 120^\circ$

32. Point out the wrong statement: Physical adsorption is characterised by

- (A) Attraction due to weak Vander Waal's forces
 - (B) Irreversible nature of adsorption
 - (C) Multimolecular adsorption layers
 - (D) Decrease in adsorption with increase in temperature
-

33. With excess bromine, phenol reacts to form



- (D) Mixture of (A) and (B)
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34. The IUPAC name of the complex compound $[\text{CoCl}_2(\text{en})_2]\text{Cl}$ is:

- (A) Dichloridobis(ethane-1,2-diamine)cobalt(III) chloride
 - (B) Dichloridobis(ethane-2,1-diamine)cobalt(III) chloride
 - (C) Dichloridobis(ethylenediamine)cobalt(III) chloride
 - (D) Bis(ethylenediamine)cobalt(III) chloride
-

35. Muscle cells contain _____ protein.

- (A) Casein
- (B) Actin
- (C) Myosin

(D) Lactose

36. Which of the following shows ferrimagnetism?

- (A) TiO_2
 - (B) CrO_2
 - (C) MnO
 - (D) Fe_3O_4
-

37. What is the conjugate base of HSO_3^- ?

- (A) SO_3^{2-}
 - (B) H_2SO_3
 - (C) OH^-
 - (D) H_2SO_4
-

38. Amorphous substances show

- (A) isotropic
 - (B) Short range order
 - (C) Long range order
 - (D) Have no sharp M.P.
-

39. Which of the following series in the spectrum of hydrogen atom lies in the visible region of the electromagnetic spectrum?

- (a) Paschen series
 - (b) Balmer series
 - (c) Lyman series
 - (d) Brackett series
-

40. Calculate the angular velocity of an electron in a hydrogen atom in the second orbit ($n = 2$).

- (A) 5.15×10^{15} rad/s
 - (B) 7.15×10^{15} rad/s
 - (C) 8.15×10^{15} rad/s
 - (D) 12.25×10^{15} rad/s
-

42. Which planet is referred to as the "Swift" planet?

- (A) Venus
 - (B) Mars
 - (C) Mercury
 - (D) Jupiter
-

43. Who was the first Indian woman to receive the Arjuna Award?

- (A) P. T. Usha
 - (B) Karnam Malleswari
 - (C) Mary Kom
 - (D) N. Lumsden
-

44. A book always has:

- (A) Pages
 - (B) Chapter
 - (C) Diagram
 - (D) Cover
-

45. An object is placed 10 cm in front of a concave mirror with a focal length of 20 cm. What is the magnification produced?

- (A) 1
 - (B) 2
 - (C) 0.5
 - (D) -2
-

46. What is the angular momentum of an electron in an atom if the principal quantum number $n = 2$?

- (A) $\frac{h}{\pi}$
 - (B) $\frac{2h}{\pi}$
 - (C) $\frac{h}{2\pi}$
 - (D) $\frac{\pi}{h}$
-

47. If $L = 40 \text{ mH}$, $C = 100 \text{ } \mu\text{F}$, what is the angular frequency ω at resonance?

- (A) 400
 - (B) 100
 - (C) 500
 - (D) 250
-

48. What is the molar specific heat at constant volume C_V of a diatomic gas molecule if one additional vibrational degree of freedom is considered?

- (A) $\frac{3}{2}R$
 - (B) $\frac{5}{2}R$
 - (C) $\frac{7}{2}R$
 - (D) $\frac{9}{2}R$
-

49. If the energy band gap is 0.72 eV , what is the wavelength of the emitted photon?

- (A) $1.1 \text{ } \mu\text{m}$
 - (B) $1.4 \text{ } \mu\text{m}$
 - (C) $1.7 \text{ } \mu\text{m}$
 - (D) $2.0 \text{ } \mu\text{m}$
-

50. A current of $I = 20 \text{ } \mu\text{A}$ flows in a long straight wire. What is the magnetic field B at a distance $r = 1 \text{ cm}$ from the wire?

- (A) $20 \times 10^{-11} \text{ T}$
- (B) $30 \times 10^{-11} \text{ T}$

- (C) 40×10^{-11} T
(D) 50×10^{-11} T
-

51. In an inelastic collision, two bodies with masses $m_1 = 1$ kg and $m_2 = 3$ kg collide. Their initial velocities are $u_1 = 2$ m/s and $u_2 = 0$ m/s, respectively. What is the change in kinetic energy (ΔK)?

- (A) 1.0 J
(B) 1.2 J
(C) 1.5 J
(D) 2.0 J
-

52. A moon completes one revolution around the Earth in 27 days. If the size (mass) of the moon becomes four times its original size, what will be the new time period?

- (A) 54 days
(B) 13.5 days
(C) 108 days
(D) 6.75 days
-

53. 1 mole of oxygen is heated at constant pressure (1 atm) from 20°C to 80°C , and then cooled from 80°C to 20°C at constant volume. If $C_p = 7.03$ cal/mol $^\circ\text{C}$ and $C_v = 5.04$ cal/mol $^\circ\text{C}$, what is the difference between the heat supplied and the heat rejected?

- (A) 302.4 cal
(B) 119.4 cal
(C) 421.8 cal
(D) 60.0 cal
-

54. If the day before yesterday was Tuesday, what will be the day after tomorrow?

- (A) Sunday
(B) Saturday

- (C) Monday
 - (D) Thursday
-

55. Ram said, "Anu's mother is the only daughter of my mother." How is Anu related to Ram?

- (A) Maternal Uncle
 - (B) Niece
 - (C) Aunt
 - (D) Father
-

56. Identify the odd one out in the sequence: 5, 7, 9, 12, 14, 16

- (A) 5
 - (B) 7
 - (C) 12
 - (D) 14
-

57. Seema earns 800 per week. After 30 days, her weekly income becomes 960. What is the percentage increase in her income?

- (A) 10%
 - (B) 15%
 - (C) 20%
 - (D) 25%
-