

HP B.Sc Nursing Entrance Exam

Question Paper - 2022



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This question paper has been compiled on the basis of question paper shared by students on social media after the exam. We have provided a typed version of the paper because the quality of the scanned paper was not very good.

Q1. Which of the following groups of animals are uricotelic?

- (A) Reptiles, birds, land snails, insects
- (B) Reptiles, birds, land snails
- (C) Aquatic amphibians, birds, land snails, insects
- (D) Amphibians, reptiles, birds, insects

Correct answer : (B)

Q2. Lysosomes are formed from :

- (A) E.R
- (B) Golgi bodies
- (C) Mitochondria
- (D) Both A and B

Correct answer : (B)

Q3. Nucleotides are formed by

- (A) Purine, sugar and phosphate
- (B) Purine, pyrimidine and phosphate
- (C) Purine, pyrimidine, sugar and phosphate
- (D) Pyrimidine, sugar and phosphate

Correct answer : (C)

Q4. Erythropoiesis starts in

- (A) Kidney
- (B) Liver
- (C) Spleen
- (D) Red bone marrow

Correct answer : (D)

Q5. The yellow colour of urine of the vertebrates is due to

- (A) Cholesterol
- (B) Urochrome
- (C) Secretion
- (D) Ultrafiltration

Correct answer : (B)

Q6. Which of the following disorders is not hereditary?

- (A) Haemophilia
- (B) Cataract
- (C) Thalassemia
- (D) Cystic fibrosis

Correct answer : (B)

Q7. Which hormone stimulates the secretion of milk in female?

- (A) Oxytocin
- (B) Progesterone
- (C) LH
- (D) Prolactin

Correct answer : (D)

Q8. Which one is correct for mammalian testis?

- (A) Graffian follicles, Sertoli cells and Leydig cell
- (B) Graffian follicles, Sertoli cells and Seminiferous tubules
- (C) Graffian follicles, Leydig cells and Seminiferous tubules
- (D) Sertoli cells, Seminiferous tubules, Leydig cell

Correct answer : (D)

Q9. Medical Termination of Pregnancy (MTP) is considered comparatively safe upto how many weeks of pregnancy ?

- (A) Six
- (B) Twelve
- (C) Eight
- (D) Eighteen

Correct answer : (B)

Q10. Vasectomy prevents

- (A) production of sperms in testes
- (B) production of semen
- (C) movement of sperms into urethra
- (D) male erection

Correct answer : (C)

Q11. Roots are modified to haustoria in

- (A) Cuscuta
- (B) Zea mays

- (C) Trapa
- (D) Vanda

Correct answer : (A)

Q12. General formula for aerobic respiration is

- (A) $6CO_2 + 6H_2O = C_6H_{12}O_6 + 6O_2$
- (B) $C_6H_{12}O_6 + 6O_2 = 6CO_2 + 6H_2O + 686kcal$
- (C) $C_6H_{12}O_6 = 2C_2H_5OH = 2CO_2 + 2ATP$
- (D) $C_6H_{12}O_6 = 2C_3H_6O_3 + 2ATP$

Correct answer : (B)

Q13. A dioecious flowering plant prevents both

- (A) Autogamy and xenogamy
- (B) Autogamy and geitonogamy
- (C) Cleistogamy and xenogamy
- (D) Geitonogamy and xenogamy

Correct answer : (A)

Q14. Test cross in plants or in Drosophila involves crossing:

- (A) the F1 hybrid with a double recessive genotype
- (B) between two genotypes with the dominant trait
- (C) between two genotypes with the recessive trait
- (D) between two F1 hybrids

Correct answer : (A)

Q15. A person who is trisomic for twenty first pair of chromosomes is

- (A) Klinefelters syndrome
- (B) Downs syndrome
- (C) Turners syndrome
- (D) None of these

Correct answer : (A)

Q16. During dna replication the addition of nucleotides on the lagging strand occurs

- (A) Continuously
- (B) Discontinuously
- (C) Towards the replication fork
- (D) At a faster rate than leading occurs.

Correct answer : (C)

Q17. The preserved fossil remains of Archaeopteryx show that

- (A) it was flying reptile from the Permian period
- (B) reptiles gave rise to birds during Jurassic period
- (C) it was a flying reptile in the Triassic period
- (D) reptiles gave rise to birds during Permian period.

Correct answer : (B)

Q18. There is a restriction endonuclease called EcoRI. What does "co" part in it stand for?

- (A) Coli

- (B) Colon
- (C) Coelom
- (D) Coenzymes

Correct answer : (A)

Q19. Organisms capable of maintaining constant body temperature are

- (A) conformers
- (B) Stenothermal
- (C) poikilothermal
- (D) Homeothermal

Correct answer : (D)

Q20. CH_3CHO and $C_6H_5CH_2CHO$ can be distinguished chemistry by

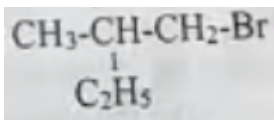
- (A) Benedict's test
- (B) Iodoform test
- (C) Tollen's reagent test
- (D) Fehling solution test

Correct answer : (B)

Q21. An international treaty known as Montreal Protocol was signed to control emission of _____.

- (A) CFC
- (B) Ozone
- (C) Oxygen
- (D) UV rays

Correct answer : (B)



Q22. Which is correct IUPAC name for

- (A) 1-Bromo-2-ethyl propane
- (B) 1-Bromo-2-ethyl2-methylethanol
- (C) 1-Bromo-2-methylbutanol
- (D) Methyl-1-bromobutane

Correct answer : (A)

Q23. The crystal with metal excess defect is :

- (A) NaCl
- (B) FeO
- (C) KCl
- (D) ZnO

Correct answer : (B)

Q24. The S.I. unit of mole fraction is :

- (A) Mol L^{-1}
- (B) Mol Kg^{-1}
- (C) g L^{-1}
- (D) Unit less

Correct answer : (D)

Q25. Match list I with list II and select the correct answer using the codes given below the lists.

	List - I		List - II
1.	Heavy water	A.	Bicarbonates of Mg and Ca in water
2.	Temporary hard water	B.	No foreign ions in water
3.	Soft water	C.	D ₂ O
4.	Permanent hard water	D.	Sulphates and chlorides of Mg and Ca in water

- (A) 1-c, 2-d, 3-b, 4-a
 (B) 1-b, 2-a, 3-c, 4-d
 (C) 1-b, 2-d, 3-c, 4-a
 (D) 1-c, 2-a, 3-b, 4-d

Correct answer : (D)

Q26. An electrochemical cell behave as electrolytic cell when

- (A) $E_{\text{cell}} > E_{\text{ext}}$
 (B) $E_{\text{cell}} = 0$
 (C) $E_{\text{ext}} > E_{\text{cell}}$
 (D) $E_{\text{ext}} = E_{\text{cell}}$

Correct answer : (C)

Q27. Which of the following statement is correct:

- (A) The rate of reaction decreases with passage of time as the concentration of reactants decreases
 (B) The rate of reaction is same at any time during the reaction
 (C) The rate of a reaction is independent of temperature change
 (D) The rate of a reaction decreases with increase in concentration of reactant
 (s)

Correct answer : (A)

Q28. Tanning of leather is :

- (A) colouring of leather by chemicals
- (B) drying process to make leather hard
- (C) polishing of leather to make it look attractive
- (D) coagulative hardening of the leather by chemicals

Correct answer : (D)

Q29. Decomposition of H_2O_2 can be prevented in presence of:

- (A) Glycerol
- (B) Acetanilide
- (C) Phosphoric acid
- (D) All of these

Correct answer : (D)

Q30. Which of the following is a mineral of iron?

- (A) Malachite
- (B) Cassiterite
- (C) Pyrolusite
- (D) Magnetite

Correct answer : (D)

Q31. Froth floatation process used for the concentration of ores

- (A) Oxide

- (B) Sulphide
- (C) Chloride
- (D) None of these

Correct answer : (B)

Q32. The correct name of $[Pt(NH_3)_2Cl_2]$ is :

- (A) Diaminedichloridoplatinum .(II)
- (B) Diaminedichloridoplatinum .(IV)
- (C) Diaminedichloridoplatinum .(O)
- (D) Dichloridodiaminoplatinum .(IV)

Correct answer : (A)

Q33. The number of significant figures in 0.0101 is :

- (A) 3
- (B) 2
- (C) 4
- (D) 5

Correct answer : (A)

Q34. The number of water molecules present in a drop of water weighing 0.018 g is :

- (A) 6.02×10^{26}
- (B) 6.02×10^{23}
- (C) 6.02×10^{20}
- (D) 6.02×10^{19}

Correct answer : (C)

Q35. Which of the following has the maximum number of unpaired electrons?

- (A) Mg^{2+}
- (B) Ti^{3+}
- (C) V^{3+}
- (D) Fe^{3+}

Correct answer : (D)

Q36. Transition metals have general electron configuration :

- (A) ns^2, nd^{1-10}
- (B) $ns^3, np^1, (n-1)d^{1-10}$
- (C) $ns^{1-2}, (n-1)d^{1-10}$
- (D) $ns^2, np^6, (n-1)d^{1-10}$

Correct answer : (B)

Q37. The angle between covalent bond s is maximum in :

- (A) CH_4
- (B) BF_3
- (C) PF_3
- (D) NH_3

Correct answer : (B)

Q38. Real gas approach ideal behaviour at

- (A) Low temperature and low pressure

- (B) *Low temperature and high pressure*
- (C) *High temperature and high pressure*
- (D) *High temperature and low pressure*

Correct answer : (D)

Q39. Which property of water can be used to explain spherical shapes of rain droplets :

- (A) Viscosity
- (B) Surface tension
- (C) Critical phenomenon
- (D) Pressure

Correct answer : (B)

Q40. For an ideal gas C_p and C_v are related as :

- (A) $C_p - C_v = R$
- (B) $C_p / C_v = R$
- (C) $C_p + C_v = R$
- (D) $C_v - C_p = R$

Correct answer : (A)

Q41. If the dimension of a physical quantity is given by $M^a L^b T^c$, then the physical quantity will be

- (A) velocity if $a=1, b=0, c=-1$
- (B) acceleration if $a=1, b=1, c=-2$
- (C) force if $a=0, b=-1, c=-2$
- (D) pressure if $a=1, b=-1, c=-2$

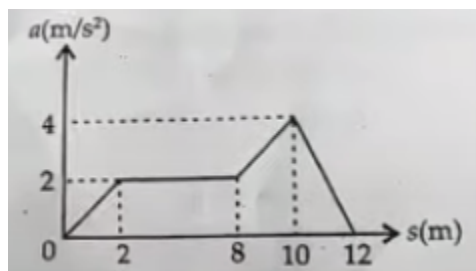
Correct answer : (D)

Q42. A particle located at $x=0$ at time $t=0$, starts moving along with the positive x -direction with a velocity ' v ' that varies as $v=a\sqrt{x}$. The displacement of the particle varies with time as

- (A) t^2
- (B) t
- (C) $t^{1/2}$
- (D) t^3

Correct answer : (A)

Q43. The acceleration-displacement graph of a particle moving in a straight line is as shown in figure, initial velocity of particle is zero. Find the velocity of the particle when displacement of the particle is $s=10\text{m}$.



- (A) $4\sqrt{10} \text{ m/s}$
- (B) $2\sqrt{10} \text{ m/s}$
- (C) $3\sqrt{10} \text{ m/s}$
- (D) $10\sqrt{3} \text{ m/s}$

Correct answer : (A)

Q44. A particle acted upon by constant forces $4\hat{i} + \hat{j} - 3\hat{k}$ and $3\hat{i} + \hat{j} - \hat{k}$ is displaced from the point $\hat{i} + 2\hat{j} + 3\hat{k}$ to point $5\hat{i} + 4\hat{j} + \hat{k}$. The total work done by the forces in SI unit is:

- (A) 20
- (B) 40
- (C) 50
- (D) 60

Correct answer : (B)

Q45. The angular momentum of a particle rotating with a central force is constant due to

- (A) Constant torque
- (B) Constant force
- (C) Constant linear momentum
- (D) Zero torque

Correct answer : (D)

Q46. A small planet is revolving around a very massive star in a circular orbit of radius R with a period of revolution T . If the gravitational force between the planet and the star were proportional to $R^{-5/2}$, then T would be proportional to

- (A) $R^{3/2}$
- (B) $R^{3/5}$
- (C) $R^{7/2}$
- (D) $R^{7/4}$

Correct answer : (D)

Q47. Satellite is revolving around the earth. If it's radius of orbit is increased to 4 times the radius of geostationary satellite, what will become its time period ?

- (A) 8 days
- (B) 4 days
- (C) 2 days
- (D) 16 days

Correct answer : (A)

Q48. The bulk modulus for an incompressible liquid is

- (A) Zero
- (B) Unity
- (C) Infinity
- (D) Between 0 and 1

Correct answer : (C)

Q49. Length of a wire at room temperature is 4.55 m, when the temperature increases upto 100 then its length becomes 4.57m. The coefficient of linear expansion (α) of the given wire is:

- (A) $5.021 \times 10^{-5} K^{-1}$
- (B) $6.021 \times 10^{-5} K^{-1}$
- (C) $7.021 \times 10^{-5} K^{-1}$
- (D) $8.021 \times 10^{-5} K^{-1}$

Correct answer : (B)

Q50. The efficiency of a Carnot engine is 50% and temperature of sink is 500 K. If temperature of source is kept constant and its efficiency raised to 60%, then the required temp. of sink will be:

(A) 100K

(B) 600 K

(C) 400K

(D) 500K

Correct answer : (C)

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