HP B.Sc Nursing Entrance Exam

Question Paper - 2021



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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. Earthworm has

(A) Two eyes
(B) No eyes
(C) Many eyes
(D) One eyes

Correct answer : (B)

Q2. A Chordate character is

(A) gills
(B) postanal tails
(C) spiracles
(D) chitinous exosk

Correct answer : (B)

Q3. Lymphoid tissue is found in

(A) lymph nodes
(B) tonsils
(C) thymus
(D) all of these

Correct answer : (D)

Q4. Tendons connect

(A) nerve to muscle
(B) bone to bone

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(C) muscle to muscle
(D) bone to muscle

Correct answer : (D)

Q5. Mouth part of cockroach are suited for

(A) piercing
(B) biting and chewing
(C) absorbing
(D) drinking

Correct answer : (B)

Q6. Which is not found in prokaryotic cell

(A) plasma membrane
(B) cell wall
(C) nuclear membrane
(D) ribosomes

Correct answer : (C)

Q7. How many types of cell division occur in our body?

(A) 2
(B) 4
(C) 3
(D) 1

Correct answer : (A)

Q8. After surgical removal of infected gallbladder, the person should be carefully in intake of

(A) fat
(B) starch
(C) sugar
(D) protein

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Correct answer : (A)

Q9. The net energy yield from aerobic respiration in eukaryotic cells is

(A) 10 ATP
(B) 30 ATP
(C) 36 ATP
(D) 38 ATP

Correct answer : (C)

Q10. One hemoglobin carry how many oxygen

(A) 4
(B) 2
(C) 6
(D) 8

Correct answer : (A)

Q11. Which of the following vitamins is used to prevent bleeding?

(A) vitamin A
(B) vitamin C
(C) vitamin B_{12}
(D) vitamin K

Correct answer : (D)

Q12. Which of the following pairs is incorrect?

(A) Uricotelic-Birds
(B) Uricotelic-Insects
(C) Ammonotelic-Tadpole
(D) Ureotelic-Elephant

Correct answer : (B)

Q13. Which of the following is removed from the filtrate at the loop of Henle?

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(A) Amino acids
(B) Hormones
(C) Water
(D) Glucose

Correct answer : (C)

Q14. In human eyes, the blind spot contains

(A) rods
(B) cones
(C) both rods and cones
(D) neither rods nor cones

Correct answer : (D)

Q15. AIDS is widely diagnosed by

(A) Widal test
(B) ELISA
(C) PCR
(D) Chromatography

Correct answer : (B)

Q16. National Botanical Institute is located in

(A) Mumbai
(B) Kolkata
(C) Lucknow
(D) Chennai

Correct answer : (C)

Q17. Ozone saves the biosphere by absorbing the high energy radiation called

(A) X rays
(B) Gamma rays
(C) Cosmic rays

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(D) Infra rays (IR)

Correct answer : (D)

Q18. Bacillus thuringiensis (Bt) strains have been used for designing novels.

(A) biofertilizers
(B) bio-metallurgical techniques
(C) bio-mineralization processes
(D) bio-insecticidal plants

Correct answer : (D)

Q19. First life form on earth was a

(A) cyanobacterium
(B) chemoheterotroph
(C) autotroph
(D) photoautotroph

Correct answer : (B)

Q20. The coconut water and the edible part of coconut are equivalent to

(A) Endosperm
(B) Endocarp
(C) Mesocarp
(D) Embryo

Correct answer : (A)

Q21. Seedless fruit in banana is produced because of

(A) Asexual reproduction
(B) Parthenogenesis
(C) Triploid
(D) Cross pollination

Correct answer : (B)

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Q22. sweet potato is a modification of :

(A) Stem
(B) Adventitious root
(C) Hypocotyl
(D) Flowering axis

Correct answer : (B)

Q23. Heartwood differs from sapwood in :

(A) presence of rays and fibers
(B) absence of vessels and parenchyma
(C) having dead and non-conducting elements
(D) being susceptible to pests and pathogens

Correct answer : (C)

Q24. Leaves become fleshy to store food in :

(A) Calotropis, Guava
(B) Onion, Garlic
(C) Turnip, Carrot
(D) Colocasia, Zaminkand

Correct answer : (B)

Q25. "Comma" shaped bacteria are known as

(A) coccus
(B) spiral
(C) spirillum
(D) vibrio

Correct answer : (D)

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Q26. The largest oxidation number exhibited by an element depends on its outer electronic configuration.With which of the following outer electronic configuration the element will exhibit the largest oxidation number

(A) $3d^1 4s^2$
(B) $3d^3 4s^2$
(C) $3d^5 4s^1$
(D) $3d^5 4s^2$

Correct answer : (D)

Q27. Units of rate constant of first and zero order reactions in terms of molarity M unit are respectively

(A) $sec^{-1},\ M\ sec^{-1}$
(B) $M\ sec^{-1,}\ sec^{-1}$
(C) $sec^{-1},\ M$
(D) $M,\ sec^{-1}$

Correct answer : (A)

Q28. Fool's gold is :

(A) FeO
(B) $CuFeS_2$
(C) Fe_3O_4
(D) FeS_2

Correct answer : (D)

Q29. Separation of colloidal particles from those of molecular dimension with electricity is known as

(A) Electrolysis
(B) Electrophoresis
(C) Electrodialysis

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(D) None of these

Correct answer : (C)

Q30. First ionization enthalpy of Al is lower than that of Mg, This is because

(A) the size of Al is bigger than Mg
(B) ionization enthalpy decreases in the period from left to right
(C) It is easier to remove electron from unpaired $3p^1$ $than\ from\ paired\ 3s^2$
(D) aluminum is a passive metal while magnesium is active

Correct answer : (C)

Q31. In a polar molecule, the ionic charge is 4.8 x 10^{-10} esu.If the interionic distance is 1 Å unit, then the dipole moment is

(A) 0.48 debye
(B) 4.18 debye
(C) 4.8 debye
(D) 41.8 debye

Correct answer : (C)

Q32. The boiling point of methanol is greater than methyl thiol because

(A) there is intramolecular hydrogen bonding in methanol and intermolecular hydrogen bonding is methyl thiol.
(B) there is intermolecular hydrogen bonding in methanol and no hydrogen bonding is methyl thiol.
(C) there is no hydrogen bonding in methanol and intermolecular hydrogen bonding is methyl thiol.
(D) there is no hydrogen bonding in methanol and intramolecular hydrogen bonding is methyl thiol.

Correct answer : (B)

Q33. On heating sodium metal in dry ammonia, the compound form is :

(A) Sodium hydride

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(B) Sodium azide
(C) Sodium nitrate
(D) Sodium amide

Correct answer : (D)

Q34. Which of the following solutes will produce temporary hardness in water?

(A) $MgCl_2$
(B) NaCl
(C) $Mg(HCO_3)2$
(D) $NaHCO_3$

Correct answer : (C)

Q35. What is Borax bead?

(A) $Na_2B_4O_7.10H_2O$
(B) $Na_2B_4O_7$
(C) $NaBO_2 + B_2O_3$
(D) B_2O_3

Correct answer : (C)

Q36. Which of the following is an industrial fuel?

(A) Water Gas($Co + H_2$)
(B) $Coal\ Gas(Co + H_2 + CH_4 + CO_2)$
(C) Producer Gas($Co + N_2$)
(D) All of these

Correct answer : (D)

Q37. Which of the following compounds is commonly known as inorganic benzene?

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(A)B_2H_6

(B) C_5H_5B

(C) $C_3N_3H_3$

(D) $B_3N_3H_6$

Correct answer : (D)

Q38. The hybridization of Xe in XeF_2 is :

(A) sp^3

(B) sp^2

(C) sp^3d

(D) sp^2d

Correct answer : (C)

Q39. The metals present in insulin , hemoglobin and vitamin B_{12} are respectively :

(A) Zn, Hg, Cr
(B) Co, Fe, Zn
(C) Mg, Fe, Co
(D) Zn, Fe, Co

Correct answer : (D)

Q40. The IUPAC Name of $[Ni(NH_3)_4][NiCl_4]$ is:

(A) Tetrachloronickel(II)-tetraamminenickel(II)
(B) Tetraamminenickel(II)-Tetrachloronickel(II)
(C) Tetraamminenickel(II)-Tetrachloronickelate(II)
(D) Tetrachloronickel(II)-Tetrachloronickelate(II)

Correct answer : (C)

Q41. The brown ring complex compound is formulated as $[Fe(H_20)_5NO]SO_4$ .the oxidation state of Fe is :

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(A) +1
(B) +2
(C) +3
(D) 0

Correct answer : (A)

Q42. S_N1 **reaction is favoured by**

(A) Non-polar solvents
(B) More no. of alkyl group on the carbon atom attached to the halogen atom
(C) Small groups on the carbon attached to the halogen atom
(D) None of the above

Correct answer : (B)

Q43. Which of the following is Not true about glucose

(A) It contains five hydroxyl groups
(B) It is a reducing sugar
(C) It is aldopentose
(D) It si aldohexose

Correct answer : (C)

Q44. Role of Gypsum in cement is :

(A) It decreases the rate of setting
(B) It increases the rate of setting
(C) To provide water molecules for hydration process
(D) To help to remove water molecules

Correct answer : (A)

Q45. Which of the following compounds does not exist

(A) Xe_2
(B) C_2

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(C) N_2

(D) O_2

Correct answer : (C)

Q46. Isotonic solutions have same

(A) Osmotic pressures
(B) Freezing point
(C) Boiling points
(D) Different osmotic pressures

Correct answer : (A)

Q47. Chloroform reacts with air and sunlight to give

(A) $COCl_2$

(B) CCl_4

(C) CH_2Cl_2

(D) Cl_2

Correct answer : (A)

Q48. A black sulphide when reacts with Ozones becomes white, the white is

(A) $BaSO_4$

(B) $ZnSO_4$

(C) $FeSO_4$

(D) $PbSO_4$

Correct answer : (D)

Q49. The relation between ΔG and ΔH is:

(A) $\Delta H = \Delta G - T\,\Delta S$

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(B) $\Delta G = \Delta H - T\,\Delta S$

(C) $T\,\Delta S - \Delta S = \Delta H$

(D) $\Delta H = T\,\Delta G + \Delta S$

Correct answer : (B)

Q50. Volume occupied by one molecule of water (density = $1 g/cm^3$) is:

(A) $3 * 10^{-23} cm^3$

(B) $5.5 * 10^{-23} cm^3$

(C) $9 * 10^{-23} cm^3$

(D) $6.023 * 10^{-23} cm^3$

Correct answer : (A)

Q51.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)

Q52. An automobile traveling with a speed of 60 km/h, can brake to stop within a distance of 20 m.If the car is going twice as fast,i.e. 120km/h, the stopping distance will be

(A) 20m

(B) 40m

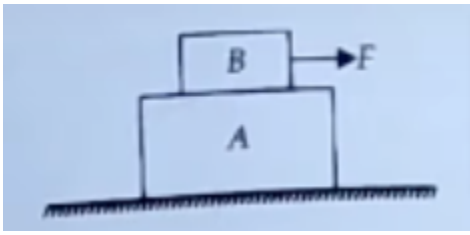
(C) 60m

(D) 80m

Correct answer : (D)

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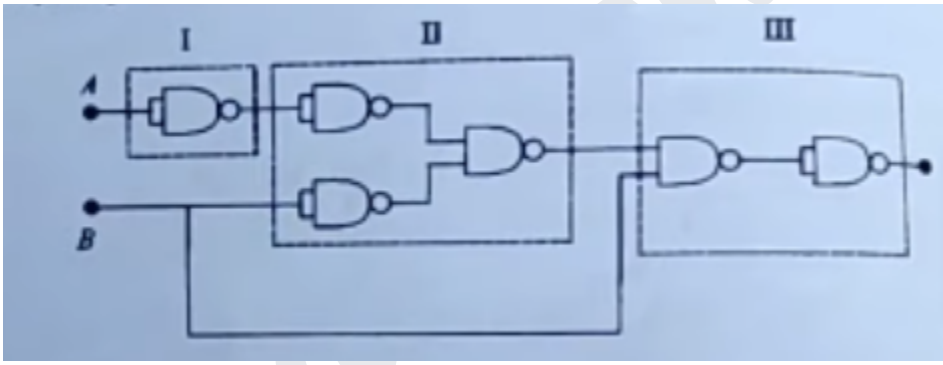
Q53. Block of mass 35 kg is resting on a frictionless floor. Another block B of mass 7kg is resting on it as shown in fig. The coefficient of static friction between the blocks is 0.5, while the coefficient of kinetic friction is 0.4. If a force of 100 N is applied to the block B, acceleration of block A will be (Take g = $10m/s^{-2}$)



(A)$0.8m/s^{-2}$
(B) $2.4m/s^{-2}$
(C) $0.4m/s^{-2}$
(D) $4.4m/s^{-2}$

Correct answer : (C)

Q54. Identify the gate in box I.



(A) AND
(B) NOR
(C) NOT
(D) XOR

Correct answer : (C)

Q55. Two trains A and B are running in the same direction on parallel tracks such that A is faster than B. If packets of equal weight are transferred between them. What will happen due to this?

(A) A will be accelerated but B will be retarded
(B) B will be accelerated but A will be retarded
(C) There will be no change in A but B will be accelerated
(D) There will be no change in B but A will be accelerated

Correct answer : (B)

Q56. A wheel is rotating at 900 r.p.m, about its axis. When power is cut off it comes to rest in 1 minute. The angular retardation in rad/s^2 is:

(A) π/2
(B) π/4
(C) π/6
(D) π/8

Correct answer : (A)

Q57. An artificial satellite is moving around earth in a circular orbit with speed equal to one fourth the escape speed of a body from the surface of earth. The height of satellite above earth's surface is (where R=R is radius of earth)

(A) 2R
(B) R/2
(C) R
(D) R/4

Correct answer : (B)

Q58. The ground state energy of a hydrogen atom is −13.6 eV. What are the kinetic and potential energies of the electron in this state respectively?

(A) 13.6eV, -13.6eV
(B) 13.6eV, -27.2eV
(C) 72.2eV, -13.6eV
(D) 27.2eV, -27.2eV

Correct answer : (B)

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Q59. What is the minimum thickness of a thin film required for constructive interference in the reflected light from it given the refractive index of the film= 1.5,wavelength of the light incident on the film = 600nm ?

(A) 100 nm
(B) 300 nm
(C) 50 nm
(D) 200 nm

Correct answer : (C)

Q60. A metallic rod l cm long, A square cm in cross-section is heated through t ◦C. If linear expansion is α per degree centigrade and Y is the Young's modulus , the force required to prevent the rod from expanding is

(A) YαT
(B) YαT/1+αT
(C) YαT/1-αT
(D) None

Correct answer : (B)

Q61. In Young's double-slit experiment, 12 fringes are observed to be formed in a certain segment of the screen when light of wavelength 600nm is used. If the wavelength of light is changed to 400nm, number of fringes observed in the same segment of the screen is given by

(A) 12
(B) 18
(C) 24
(D) 30

Correct answer : (B)

Q62. A gas mixture consists of 2 moles of oxygen and 4 moles of Argon at temperature T. Neglecting all vibrational moles, the total internal energy of the system is

(A) 4RT
(B) 5RT

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(C) 15RT
(D) 11RT

Correct answer : (D)

Q63. A series LCR circuit with R = 20 Ω , L = 1.5 H and C = 35 μF is connected to a variable-frequency 200 V ac supply. When the frequency of the supply equals the natural frequency of the circuit, what is the average power transferred to the circuit in one complete cycle?

(A) 20 kW
(B) 2000 W
(C) 200kW
(D) 0.2kW

Correct answer : (D)

Q64. The equation of displacement of two waves are given as

$$y_1 = 10\sin\left(3\pi t + \frac{\pi}{3}\right)$$

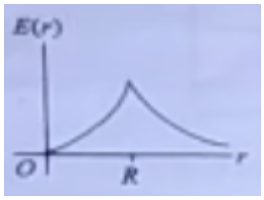
$$y_2 = 5(\sin 3\pi t + \sqrt{3}\cos 3\pi t)$$

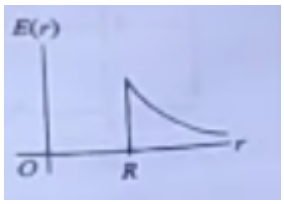
Then, what is the ratio of their amplitudes?

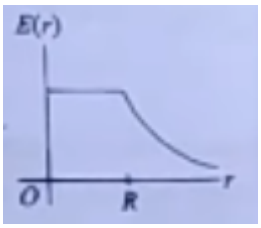
(A) 1:2
(B) 2:1
(C) 1:1
(D) None of the above

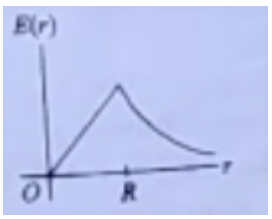
Correct answer : (B)

Q65. A thin spherical shell of radius R has charge Q spread uniformly over its surface. Which of the following graphs most closely represents the electric field E(r) produced by the shell in the range $0 \leq r < \infty$, where r is the distance from the centre of the shell?

(A) 

(B) 

(C) 

(D) 

Correct answer : (C)

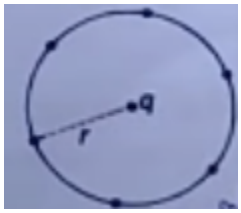
Q66. A parallel plate capacitor of capacity C ∘ is charged to a potential V ∘ .(i) The energy stored in the capacitor when the battery is disconnected and the plate separation is doubled is U_1 (ii) the energy stored in the capacitor when the charging battery is kept connected and the separation between the capacitor plates is doubled is U_2 . Then value of U_1/U_2 is:

(A) 4
(B) 3/2
(C) 2
(D) 1/2

Correct answer : (D)

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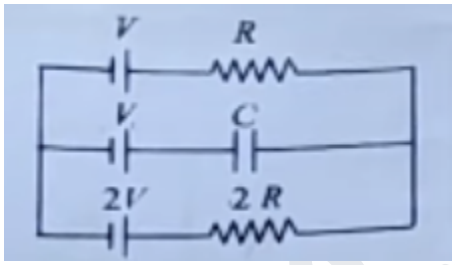
Q67. A point charge is surrounded by six spherical charges at distance r as shown in the figure how much work is done by force of electrostatic repulsion when the point charge at the centre is removed to infinity?



(A) $6q/4\pi\epsilon 0r$
(B) $6q^2/4\pi\epsilon 0r$
(C) $36q^3/4\pi\epsilon 0r$
(D) 0

Correct answer : (D)

Q68. In the given circuit, with steady current, the potential drop across the capacitor must be:



(A) V
(B) V/2
(C) V/3
(D) 2V/3

Correct answer : (B)

Q69. A proton and an α-particle, moving with the same velocity, enter a uniform magnetic field, acting normal to the plane of their motion. The ratio of the radii of the circular paths described by the proton and α-particle is

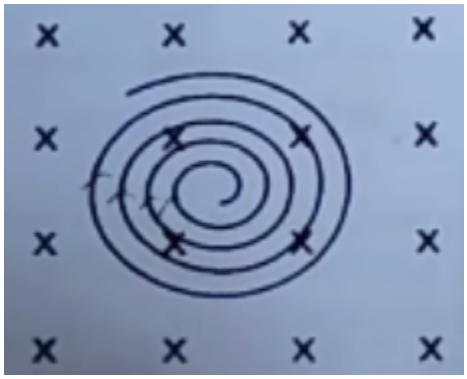
(A) 1 : 2
(B) 1 : 4
(C) 1 : 16

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(D) 4 : 1

Correct answer : (D)

Q70. A uniform magnetic field is directed out of the page. A charged particle , moving in the plane of the page, follows a clockwise spiral of decreasing radius as shown in the fig. Now:



(A) the charge is positive and slowing down
(B) the charge is negative and slowing down
(C) the charge is negative and speeding up
(D) the charge is negative and moving with constant speed

Correct answer : (C)

Q71. The primary and secondary coils of a transformer have 50 and 1500 turns respectively. If the magnetic flux linked with the primary coil is given by $\phi=\phi_0 +4t$, where ϕ is in webers, t is time in seconds and ϕ_0 is a constant, the output voltage across the secondary coil is:

(A) 120 volt
(B) 220 volt
(C) 30 volt
(D) 90 volt

Correct answer : (B)

Q72. A magnet of magnetic moment $10\ Am^2$ is freely suspended in a uniform magnetic field of strength 5 T. The work done in rotating the magnet through an angle 60^0 is given by :

(A) 5J

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(B) 10J
(C) 25J
(D) 50J

Correct answer : (B)

Q73. The current through a coil of self-inductance L=2mH is given by i=t 2 e −t at time t. How long it will take to make the emf zero?

(A) 1s
(B) 2s
(C) 3s
(D) 4s

Correct answer : (C)

Q74. Two coaxial solenoids are made by winding thin insulated wire over a pipe of cross-sectional area A=$10cm^2$ and length =20cm. If one of the solenoids has 300 turns and the other 400 turns, their mutual inductance is ($\mu_0 = 4\pi \times 10^{-7} TmA^{-1}$)

(A) $2.4\pi * 10^{-4}H$
(B) $2.4\pi * 10^{-5}H$
(C) $4.8\pi * 10^{-4}H$
(D) $4.8\pi * 10^{-5}H$

Correct answer : (B)

Q75. The total current passing through any surface of which the closed loop is the perimeter is

(A) sum of conduction current and displacement current
(B) displacement of conduction current and displacement current
(C) product of conduction current and displacement current
(D) fraction of conduction current and displacement current

Correct answer : (C)

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Q76. Synonym of Gist is :

(A) Elaborate
(B) Good
(C) Essence
(D) Bad

Correct answer : (A)

Q77. Antonym of Triumph :

(A) Win
(B) Defeat
(C) Victory
(D) Gain

Correct answer : (C)

Q78. Choose the correct spelt word :

(A) Circumference
(B) Circumferrence
(C) Circumferance
(D) Circumfurence

Correct answer : (A)

Q79. Choose the correct sentence :

(A) They do not sell less than ten pounds of coffee.
(B) They do not sell fewer than ten pounds of coffee
(C) They do not sell smaller than ten pounds of coffee
(D) They do not sell lesser than ten pounds of coffee

Correct answer : (A)

Q80. Choose the correct sentence :

(A) Although it was raining, but we had the picnic.

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(B) Although it was raining, we had the picnic.
(C) Although it was raining, since we had the picnic.
(D) Although it was raining, though we had the picnic.

Correct answer : (D)

Q81. Select the correct conversion of a given direct statement into an indirect statement.
The customer said to him, " Will you have the shirt ready by tomorrow evening?"

(A) The customer asked him that he will have shirt ready by next day evening.
(B) The customer asked him if he would have the shirt ready by next day evening.
(C) The customer asked him if he will have the shirt ready by next day evening.
(D) The customer asked him that he would have the shirt ready by next day evening.

Correct answer : (B)

Q82. Select the correct options to fill in the blanks.
You are .....a nice person.....everybody likes to be your friend.

(A) such,as
(B) such,that
(C) same,as
(D) so,that

Correct answer : (B)

Q83. Select the correct options to fill in the blanks.
My friend Ganesha.....lives in heaven,has a mouse as a vehicle.

(A) whose
(B) who
(C) that
(D) he

Correct answer : (B)

Q84. Select the correct options to fill in the blanks.
.....a doctor.....in time,the patient can be saved.

(A) Had,arrives

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(B) If,arrives
(C) Do,arrived
(D) Will,arrive

Correct answer : (B)

Q85. Select the correct options to fill in the blanks.
Mosquito is flying……your head.

(A) inside
(B) outside.
(C) on
(D) over

Correct answer : (D)

Q86. The scientific study of human mind and behaviour is called

(A) Astrology
(B) Anthropology
(C) Pathology
(D) Psychology

Correct answer : (D)

Q87. A group of lions is called :

(A) A pack
(B) A flock.
(C) A pride
(D) A gaggle

Correct answer : (C)

Q88. One who is fit to be chosen or selected is called

(A) Legible
(B) Illegible
(C) Ineligible

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(D) Eligible

Correct answer : (D)

Q89. What is the meaning of the idiom " Birds of a feather flock together"?

(A) Birds having similar feathers are seen flying together
(B) People with the same tastes and interests will be found together.
(C) The same type of birds stays together.
(D) The feathers of birds are usually found at the same plane

Correct answer : (B)

Q90. Which of the given words is an adjective?

(A) Runs
(B) Handsome
(C) Has
(D) Ram

Correct answer : (B)

Q91. The oath of office is conducted to the president by

(A) The speaker of Lok Sabha
(B) The Chief justice of India
(C) The Vice-President of India
(D) The Prime Minister of India.

Correct answer : (A)

Q92. The number of spokes in the CHAKRA of Indian National Flag is :

(A) 20
(B) 33
(C) 24
(D) 40

Correct answer : (C)

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Q93. Which of the following rivers originate out of India?

(A) Brahmaputra
(B) Beas
(C) Ravi
(D) Jhelum

Correct answer : (A)

Q94. Which of the following gasses is not known as green-house gas

(A) Methane
(B) Nitrous oxide
(C) Carbon di-oxide
(D) Hydrogen

Correct answer : (D)

Q95. Which of the following cities is famous for Dussehra Celebrations?

(A) Kangra
(B) Mandi
(C) Keylong
(D) Kullu

Correct answer : (B)

Q96. Who is known as "the Iron Man"

(A) Jawahar Lal Nehru
(B) Sardar Vallabhai Patel
(C) Mahatma Gandhi
(D) Dr. Rajendra Prasad

Correct answer : (B)

Q97. Covishield vaccine is manufactured by

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(A) Serum Institute of India
(B) Bharat Biotech
(C) Johnson & Johnson Pharma
(D) Pfizer

Correct answer : (A)

Q98. Which of the following methods is NOT successful in preventing the spread of Covid-19

(A) Vaccine
(B) Social distancing
(C) Triple layer mask
(D) Prophylactic use of paracetamol tablets

Correct answer : (B)

Q99. Who won Gold Medal for India in Javelin through in Japan Olympics 2021?

(A) Neeraj Chopra
(B) Meerabai Chanu
(C) Bajrang Punia
(D) Babita Phogat

Correct answer : (A)

Q100. Pandoh dam is situated on which of the following rivers in Himachal Pradesh ?

(A) Beas
(B) Ravi
(C) Chenab
(D) Satluj

Correct answer : (A)

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