

1. The pulse is commonly checked at the-
 - A. Femoral artery
 - B. Radial artery
 - C. Jugular vein
 - D. Pulmonary artery
2. What is the normal body temperature in an adult?
 - A. 35°C
 - B. 37°C
 - C. 39°C
 - D. 40°C
3. Hand washing is primarily done to prevent-
 - A. Dehydration
 - B. Malnutrition
 - C. Infection
 - D. Hypertension
4. Which of the following is a sign of dehydration?
 - A. Dry mouth
 - B. Excessive urination
 - C. Moist skin
 - D. Low pulse rate
5. The universal donor blood group is-
 - A. A Negative
 - B. B Positive
 - C. AB Positive
 - D. O Negative
6. The instrument used to measure blood pressure is-
 - A. Thermometer
 - B. Stethoscope
 - C. Sphygmomanometer
 - D. Otoscope
7. The nurse's responsibility in maintaining patient confidentiality is part of-
 - A. Nutrition
 - B. Ethics
 - C. Pharmacology
 - D. Anatomy
8. Which infection control practice is most effective in hospitals?
 - A. Keeping windows closed
 - B. Wearing jewellery
 - C. Hand hygiene
 - D. Limiting patient movement
9. Which of the following is an example of nursing intervention?
 - A. Prescribing medications
 - B. Monitoring vital signs
 - C. Diagnosing diabetes
 - D. Performing surgery
10. The primary purpose of oral care in bedridden patients is to-
 - A. Improve eyesight
 - B. Increase appetite only
 - C. Prevent oral infections
 - D. Reduce blood pressure
11. When assisting a patient to walk for the first time after surgery, the nurse should-
 - A. Leave the patient alone
 - B. Support and observe the patient closely
 - C. Encourage rapid walking
 - D. Ask the patient the patient to run
12. A nurse should report immediately if a patient develops-
 - A. Normal sleep
 - B. Mild hunger
 - C. Stable vital signs
 - D. Difficulty breathing
13. A nurse caring for an elderly patient should pay special attention to-
 - A. Fall prevention
 - B. Hair styling
 - C. Entertainment only
 - D. Hospital decoration

14. The most important factor in effective nurse-patient communication is-
- Using medical jargon
 - Active listening
 - Speaking rapidly
 - Avoiding eye contact
15. Which of the following is an important aspect of patient-centred care?
- Involving patients in decision making
 - Ignoring patient preferences
 - Limiting communication
 - Focussing only on disease
16. The primary purpose of patient identification is to-
- Increase admissions
 - Reduce hospital costs
 - Prevent medical errors
 - Improve hospital rating
17. Which patient requires the most urgent attention-
- Patient with mild headache
 - Patient with chest pain and shortness of breath
 - Patient waiting for discharge
 - Patient requesting water
18. Monitoring intake and output helps assess-
- Hearing ability
 - Vision problems
 - Financial status
 - Fluid balance
19. What is the best source of information about a patient's pain?
- Laboratory report
 - Family member
 - The patient
 - Medical record
20. What is the purpose of discharge teaching?
- Increase hospital stay
 - Prepare the patient for care at home
 - Replace treatment
 - Reduce documentation
21. A point P lies at a distance x from the mid-point of an electric dipole on its axis. The electric potential at point P is proportional to :
- $1/x$
 - $1/x^2$
 - $1/\sqrt{x}$
 - $1/x^3$
22. Three point charges of $+2q$, $+2q$ and $-4q$ are placed at the corners A, B and C of an equilateral triangle ABC of side x. The magnitude of the electric dipole moment of this system is :
- $2\sqrt{3}x$
 - $2qx$
 - $3qx$
 - $3\sqrt{x}$
23. A uniformly charged conducting sphere of 2.4 m diameter has a surface charge density of $80.0 \mu\text{cm}^{-2}$. The charge on the sphere is :
- $0.145 \times 10^{-3}\text{C}$
 - $1.45 \times 10^{-3}\text{C}$
 - $14.5 \times 10^{-3}\text{C}$
 - $145 \times 10^{-3}\text{C}$

24. Power P_1 is dissipated through a series combination and power P_2 is dissipated through the parallel combination of 3 equal resistors. The ratio of P_2/P_1 is :
- A. 9
B. 1/9
C. 1
D. 6
25. A circular coil of N turns and radius R carries a current I . It is unwound and rewound to make another coil of radius $R/2$, current I remaining the same. The ratio of the magnetic moments of the new coil and the original coil is :
- A. 1/2
B. 2/1
C. 1
D. 2
26. A current of 5 A is flowing from east to west in a long straight wire kept on a horizontal table. The magnetic field developed at a distance of 10 cm due south on the table is:
- A. 1×10^{-5} T downwards
B. 1×10^{-5} T upwards
C. 2×10^{-5} T downwards
D. 2×10^{-5} T upwards
27. A coil of area 100 cm^2 is kept at an angle of 30° with a magnetic field of 0.1 T. The magnetic field is reduced to zero in 10^{-4} seconds. The induced emf in the coil is :
- A. $5\sqrt{3}$ V
B. $50\sqrt{3}$ V
C. 5 V
D. 50 V
28. A 15Ω resistor, an 80 m H inductor and a capacitor of capacitance C are connected in series with a 50 Hz ac source. If the source voltage and current in the circuit are in phase, the value of capacitance is:
- A. $100 \mu\text{F}$
B. $160 \mu\text{F}$
C. $142 \mu\text{F}$
D. $127 \mu\text{F}$
29. A ray of light incident on face AB of an equilateral glass prism, shows minimum deviation of 30° . The speed of light through the prism is :
- A. 3×10^8 m/s
B. 2.122×10^8 m/s
C. 0.2122×10^8 m/s
D. 21.2×10^8 m/s
30. A screen is placed 90 cm from an object. The image of the object on the screen is formed by a convex lens at two different locations separated by 20 cm, the focal length of the lens is :
- A. 21.39 cm
B. 12.39 cm
C. 19.89 cm
D. 12 cm

31. In an interference experiment , third bright fringe is obtained at a point on the screen with a light of 700 nm. What should be the wavelength of the light source in order to obtain the fifth bright fringe at the same point ?

- A 750 nm
- B 630 nm
- C 420 nm
- D 550 nm

32. Specify the transition of electron in the wavelength of the line in the Bohr model of hydrogen atom which gives rise to the spectral line of highest wavelength.

- A $n = 3$ to $n = 1$
- B $n = 3$ to $n = 2$
- C $n = 4$ to $n = 1$
- D $n = 4$ to $n = 2$

33. In an extrinsic semiconductor , the number density of holes is $4 \times 10^{20}/\text{m}^3$. If the number density of intrinsic carriers is $1.2 \times 10^{15}/\text{m}^3$, the number density of electrons in it is :

- A $1.8 \times 10^9/\text{m}^3$
- B $2.4 \times 10^{10}/\text{m}^3$
- C $3.6 \times 10^9/\text{m}^3$
- D $4.8 \times 10^{10}/\text{m}^3$

34. A straight wire of length 200 cm carries a current of 10 A . If this wire is placed in a magnetic field of 0.15 T making an angle of 45° with the magnetic field , the applied force on the wire will be:

- A. 1.5 N
- B. 3N
- C. 4.24 N
- D. 2.12 N

35. A 300Ω resistor and a capacitor of $7.96 \mu\text{F}$ are connected in series to a 200 V—50 Hz ac source . The current in the circuit is

- A. 0.4 A
- B. 0.1 A
- C. 0.6 A
- D. 0.8 A

36. When the energy of the incident radiation is increased by 20 % , the kinetic energy of the photoelectrons emitted from a metal surface increased from 0.5e V to 0.8 e V . The work function of the metal is

- A. 0.65 e V
- B. 1 e V
- C. 1.3 e V
- D. 1.5 e V

37. When a semiconductor is doped with a p type impurity, each impurity atom will

- A. remain electrically neutral
- B. give away one electron
- C. acquire positive charge
- D. acquire negative charge

38. 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. $2L$, $L/2$

39. A certain charge Q is divided into two parts q and $(Q - q)$. How should the charges Q and q be divided so that q and $(Q - q)$ placed at a certain distance apart experience maximum electrostatic repulsion ?
- $Q = q/2$
 - $Q = 4q$
 - $Q = 2q$
 - $Q = 3q$
40. Ten identical cells, each of potential E and internal resistance r , are connected in series to form a closed circuit. An ideal voltmeter connected across three cells, will read :
- $13E$
 - $10E$
 - $7E$
 - $3E$
41. Equal volumes of 0.2 M HCl and 0.1 M Ba(OH)_2 are mixed. The pH of the resulting solution is:
- 7
 - 1
 - 10
 - 12
42. Which of the following is NOT aromatic?
- Cyclooctatetraene
 - Pyridine
 - Cyclopropenyl cation
 - Furan
43. The species with maximum bond angle is:
- NH_3
 - H_2O
 - BF_3
 - CH_4
44. Which molecule violates the octet rule but has no lone pair on the central atom?
- BF_3
 - NH_3
 - SF_4
 - XeF_2
45. Which orbital has the maximum number of radial nodes?
- 2s
 - 3d
 - 3p
 - 4p
46. The energy of an electron in the second Bohr orbit of hydrogen atom is:
- -3.4 eV
 - -13.6 eV
 - -1.51 eV
 - -1.51 eV
47. Which pair shows negative deviation from Raoult's law?
- Benzene + Toluene
 - Acetone + Chloroform
 - Hexane + Heptane
 - Benzene + Ethylene
48. One mole of an ideal gas expands isothermally at 300 K from 1 L to 10 L . The value of q is equal to:
- 0
 - K
 - $-w$
 - ΔU

49. How many conformations are obtained during one complete rotation of ethane about the C–C bond?
- Infinite
 - 2
 - 3
 - 12
50. Which of the following is a non-reducing sugar?
- Glucose
 - Sucrose
 - Maltose
 - Lactose
51. Which of the following compound can form a zwitter ion?
- Aniline
 - Ethylamine
 - Benzoic acid
 - Glycine
52. Iodoform test is not given by
- Pentan-3-one
 - Pentan-2-one
 - Ethanal
 - Ethanol
53. Heating of phenyl methyl ether with HI produces
- Iodobenzene
 - Benzene
 - Phenol
 - Methane
54. Which among the following compounds will give us a secondary alcohol on heating with Grignard reagent followed by acid hydrolysis?
- HCHO
 - C_2H_5CHO
 - CH_3COCH_3
 - $RCOOC_2H_5$
55. IUPAC name of m-cresol is
- 3-Chlorophenol
 - 3-MethoxyPhenol
 - Benzene-1,3-diol
 - 3-Methylphenol
56. Phenol is less acidic than _____.
- Ethanol
 - 2-Nitrophenol
 - 2-Methylphenol
 - 2-Methoxyphenol
57. Which of the following alkyl halide will undergo SN^1 reaction most readily?
- $(CH_3)_3C-I$
 - $(CH_3)_3C-F$
 - $(CH_3)_3C-Cl$
 - $(CH_3)_3C-Br$
58. Which of the following pairs of gases contain the same number of molecules?
- 6 g of O_2 and 22 g of CO_2
 - 28 g of N_2 and 22 g of CO_2
 - 32 g of CO_2 and 32 g of N_2
 - 16 g of O_2 and 14 g of N_2
59. What is the shape of the orbital whose azimuthal quantum number is 0
- spherical
 - dumbbell
 - double dumbbell
 - circular
60. which oxide of nitrogen is isoelectronic with CO_2
- NO_2
 - NO
 - N_2O_3
 - N_2O
61. The function $x^3 + y^3 - 3xy$ is minimum at:
- (1,1)
 - (1,0)
 - (0,1)
 - (0,0)

62. The value of $\sin^2 29^\circ + \sin^2 61^\circ$ is:
- 1
 - 0
 - $2\sin^2 29^\circ$
 - $2\cos^2 61^\circ$
63. If the altitude of the sun is at 60° , then the height of the vertical tower that will cast a shadow of length 30 m is:
- $30\sqrt{3}$ m
 - 15 m
 - $\frac{30}{\sqrt{3}}$ m
 - $15\sqrt{2}$ m
64. The function $f(x) = e^x$ from \mathbb{R} to \mathbb{R} is
- Both 1-1 and onto
 - Onto but not 1-1
 - 1-1 but not onto
 - Neither 1-1 nor onto
65. The value of the function $\frac{\cot x - \tan x}{\cot 2x}$ is
- $\frac{\pi}{4}$
 - 2
 - 4
 - $\frac{\pi}{12}$
66. If a set A has n elements, then the number of elements in the power set of A is :
- 2^n
 - n^2
 - 2^{2n}
 - 2^{n+1}
67. If A and B are two sets such that $A \cup B = A \cap B$, then
- $B \subseteq A$
 - $A = B$
 - $A \neq B$
 - $A \subseteq B$
68. If $ax^2 + bx + c = 0$ has equal roots, then $c =$
- $\frac{-b}{2a}$
 - $\frac{b}{2a}$
 - $\frac{-b^2}{4a}$
 - $\frac{b^2}{4a}$
69. If AM and HM between two numbers are 27 and 12 respectively, then their GM is :
- 9
 - 18
 - 24
 - 36
70. The number of 5 letter words, which can be formed from the word 'IMAGE' without repetition using permutations, is:
- 240
 - 120
 - 90
 - 60
71. In solving a quadratic equation of form $x^2 + ax + b = 0$, one student took the wrong value of a and get the roots as 6 and 2, while another student took the wrong value of b and got the roots as 6 and 1. What are the correct values a and b respectively?
- 7, 12
 - 3, 4
 - 7, 12
 - 3
72. What is the fourth term in the expansion of $(x - 2y)^{12}$?
- $-7160 x^9 \times y^3$
 - $-1670 x^9 \times y^3$
 - $-1607 x^9 \times y^3$
 - $-1760 x^9 \times y^3$

73. The value of the determinant

$$\begin{vmatrix} 3 & 1 & 7 \\ 5 & 0 & 2 \\ 2 & 5 & 3 \end{vmatrix} \text{ is:}$$

- A. 144
- B. 134
- C. 125
- D. 124

74. The determinant of the matrix

$$\begin{bmatrix} 2022 & 2021 & 2021 & 2021 \\ 2022 & 2022 & 2021 & 2021 \\ 2022 & 2022 & 2022 & 2021 \\ 2022 & 2022 & 2022 & 2022 \end{bmatrix} \text{ is:}$$

- A. 0
- B. 1
- C. 2021
- D. 2022

75. The coordinates of the point P dividing the line segment joining the points A(1, 3) and B(4, 6) in the ratio 2 : 1 are:

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

76. If the distance between straight lines $y = mx + c_1$ and $y = mx + c_2$ is $|c_1 - c_2|$, then

- A. $m = c_1$
- B. $m = c_2$
- C. $m = 0$
- D. $m = 1$

77. The equation of the perpendicular bisector of the line segment joining A(-2, 3) and B(6, -5) is:

- A. $x - y = 3$
- B. $x - y = 1$

- C. $x + y = 3$
- D. $x + y = -1$

78. If θ is the angle between two unit vectors, a and b , then $\cos\theta$ is equal to:

- A. $a - b$
- B. $a + b$
- C. $|a \times b|$
- D. $a \cdot b$

79. The conic represented by the equation $3x^2 + 5y^2 - 10y - 2xy + 50x + 148 = 0$, is a(n):

- A. Parabola
- B. Circle
- C. Hyperbola
- D. Ellipse

80. The coordinates of the reflection of the point (1, -2, 3) with respect to the plane $2x - 3y + 2z + 3 = 0$, is given by:

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

81. Synonym of mitigate:

- A. Increase
- B. Reduce
- C. Confirm
- D. Delay

82. Antonym of obscure:

- A. Dark
- B. Famous
- C. Hidden
- D. Clear

83. One word for “a place where birds are kept”:

- A. Apiary
- B. Aquarium
- C. Aviary
- D. Zoo

84. Correct spelling:

- A. Inoculate
- B. Inoculate
- C. Inocullate
- D. Inocullatte

85. Meaning of idiom “to add fuel to the fire”:

- A. To solve a problem
- B. To make a situation worse
- C. To start a fire
- D. To help someone

86. Choose the correct passive form: The committee will announce the results tomorrow.

- A. The results will announce by the committee tomorrow.
- B. The results will be announced by the committee tomorrow.
- C. The committee will be announced the results tomorrow.
- D. The results are announced by the committee tomorrow.

87. Fill in with the correct article: She is M.A. in English Literature.

- A. A
- B. An
- C. The
- D. No article

88. Identify the error: Each of the students have submitted their project.

- A. Each
- B. Have
- C. Their
- D. No error

89. Choose the correct indirect speech: He said, “I have been working here since 2020.”

- A. He said that he has been working here since 2020.
- B. He said that he had been working there since 2020.
- C. He told that he was working there since 2020.
- D. He said that he worked there since 2020.

90. Select the correctly spelt word:

- A. Accomodation
- B. Accommodation
- C. Acommodation
- D. Accomadation

91. “The wind whispered through the trees.” is an example of:

- A. Simile
- B. Metaphor
- C. Personification
- D. Alliteration

92. Choose the synonym of “Ephemeral”:

- A. Eternal
- B. Temporary
- C. Essential
- D. Evident

93. Choose the antonym of “Reluctant”:

- A. Hesitant
- B. Unwilling
- C. Eager
- D. Doubtful

94. Fill in the blank with the correct phrasal verb: The meeting was _____ due to rain.

- A. Called on
- B. Called off
- C. Called out
- D. Called up

95. Which sentence uses the subjective mood correctly?

- A. I wish I was there.
- B. If I were you, I would apologize.
- C. He acts like he is the boss.
- D. She demands that he leaves now.

96. Identify the type of clause: Although he was tired, he finished the work.

- A. Noun clause
- B. Adjective clause
- C. Adverb clause
- D. Principal clause

97. Choose the correct transformation of the given sentence: He is too weak to walk.

- A. He is so weak that he cannot walk.
- B. He is very weak to walk.
- C. He is weak so he cannot walk.
- D. He is weak that he cannot walk.

98. Spot the correct sentence:

- A. One of my friends are a doctor.
- B. One of my friends is a doctor.
- C. One of my friend is a doctor.
- D. One of my friends were a doctor.

99. Who wrote Wings of Fire, the autobiography of A.P.J. Abdul Kalam?

- A. Arun Tiwari
- B. A.P.J. Abdul Kalam & Arun Tiwari
- C. Y.S. Rajan
- D. Chetan Bhagat

100. Malgudi Days is a collection of short stories by:

- A. Mulk Raj Anand
- B. R.K. Narayan
- C. Raja Rao
- D. Ruskin Bond

