

Note: Each correct answer carries 4 Marks and wrong answer carries negative marks of 1.

Kindly attempt carefully.

- In a class, there are 15 boys and 10 girls. Three students are selected at random. The probability that 1 girl and 2 boys are selected is _____
 a) $\frac{21}{46}$ b) $\frac{25}{117}$ c) $\frac{1}{50}$ d) $\frac{3}{25}$
- A card is drawn from a pack of 52 cards. The probability of getting a queen of club or a king of heart is _____.
 a) $\frac{1}{13}$ b) $\frac{2}{13}$ c) $\frac{1}{26}$ d) $\frac{1}{52}$
- One card is drawn at random from a pack of 52 cards. What is the probability that the card drawn is a face card?
 a) $\frac{1}{13}$ b) $\frac{1}{4}$ c) $\frac{3}{13}$ d) $\frac{9}{52}$
- Two dice are thrown together. What is the probability that the sum of the number on the two faces is divided by 4 or 6?
 a) $\frac{7}{18}$ b) $\frac{14}{35}$ c) $\frac{8}{18}$ d) $\frac{7}{35}$
- Four dice are thrown simultaneously. Find the probability that all of them show the same face.
 a) $\frac{1}{216}$ b) $\frac{1}{36}$ c) $\frac{1}{218}$ d) $\frac{1}{219}$
- If two letters are taken at random from the word HOME, what is the probability that none of the letters would be vowels?
 a) $\frac{1}{6}$ b) $\frac{1}{2}$ c) $\frac{1}{3}$ d) $\frac{1}{4}$
- In a box, there are 8 red, 7 blue and 6 green balls. One ball is picked up randomly. What is the probability that it is neither red nor green?
 a) $\frac{1}{3}$ b) $\frac{3}{5}$ c) $\frac{8}{21}$ d) $\frac{7}{21}$
- In a single throw of two dice, find the probability that neither a doublet nor a total of 8 will appear.
 a) $\frac{7}{15}$ b) $\frac{5}{18}$ c) $\frac{13}{18}$ d) $\frac{16}{3}$
- In a race, the odd favors of cars P,Q,R,S are 1:3, 1:4, 1:5 and 1:6 respectively. Find the probability that one of them wins the race.
 a) $\frac{114}{121}$ b) $\frac{231}{420}$ c) $\frac{319}{420}$ d) $\frac{27}{111}$
- From a pack of 52 cards, 3 cards are drawn. What is the probability that one is ace, one is queen and one is jack?
 a) $\frac{19}{5525}$ b) $\frac{7}{5525}$ c) $\frac{17}{5525}$ d) $\frac{16}{5525}$
- A number X is chosen at random from the numbers -3, -2, -1, 0,1,2,3. What is the probability that $|x| < 2$.
 a) $\frac{5}{7}$ b) $\frac{4}{5}$ c) $\frac{3}{7}$ d) $\frac{3}{4}$
- What is the probability that a leap year has 53 Saturdays and 52 Sundays?
 a) $\frac{1}{7}$ b) $\frac{2}{7}$ c) $\frac{1}{2}$ d) $\frac{3}{2}$
- If a number is chosen at random from the set $\{1,2,3,\dots,100\}$, then the probability that the chosen number is a perfect cube is _____.
 a) $\frac{4}{13}$ b) $\frac{1}{10}$ c) $\frac{1}{2}$ d) $\frac{1}{25}$
- In probability theories, events which can never occur together are classified as _____.
 a) collectively exclusive events b) mutually exhaustive events
 c) mutually exclusive events d) collectively exhaustive events

15. Occurrence of two events in a way that events have some connection in between is classified as _____.
- a) compound events b) mutual events c) connected events d) interlinked events
16. For mutually exclusive events, formula of calculating probability as $\frac{n(A)}{n(S)} + \frac{n(B)}{n(S)}$ is used for
- a) rule of marginal count b) rule of comparison c) rule of addition d) rule of division
17. Probability of event A that does not occur in experiment is equal to
- a) $1-P(A)$ b) $1+P(A)$ c) $1 \times P(A)$ d) $2-P(A)$
18. Number of favourable outcomes are divided by total number of possible occurrences to calculate.
- a) Probability of an event b) total outcomes of a event
c) sample space of experiment d) none of the above
19. A letter is chosen at random from the word 'ASSASSINATION'. What is the probability that it is a consonant?
- a) $\frac{4}{13}$ b) $\frac{7}{13}$ c) $\frac{8}{13}$ d) $\frac{3}{13}$
20. A couple decides to start a family and adopt a kid. After a year, they adopt another kid. What is the probability that the first kid is a girl?
- a) $\frac{1}{5}$ b) $\frac{1}{4}$ c) $\frac{1}{2}$ d) $\frac{1}{9}$
21. From a well-shuffled deck of cards, find the probability of drawing a king.
- a) 0.0769 units b) 0.0679 units c) 0.0769 d) 0.0679
22. A single coin is tossed 5 times. What is the probability of getting at least one head?
- a) $\frac{1}{32}$ b) $\frac{31}{32}$ c) $\frac{32}{31}$ d) $\frac{32}{3}$
23. Find the probability of getting a numbered card when a card is drawn from the pack of 52 cards.
- a) $\frac{9}{13}$ b) $\frac{13}{9}$ c) $\frac{15}{52}$ d) $\frac{9}{52}$
24. One card is drawn at random from the pack of 52 cards, find the probability that it is an honour card.
- a) $\frac{16}{13}$ b) $\frac{13}{16}$ c) $\frac{3}{13}$ d) $\frac{4}{13}$
25. A bag contains 2 red, 3 green and 2 blue balls. Two balls are drawn at random. What is the probability that none of the balls drawn is blue?
- a) $\frac{10}{21}$ b) $\frac{11}{21}$ c) $\frac{2}{7}$ d) $\frac{5}{7}$
26. Dimensions of impulse are _____.
- a) $[ML^{-2}T^{-3}]$ b) $[ML^{-2}]$ c) $[MLT^{-1}]$ d) $[MLT^{-2}]$
27. Weber/m² is equal to _____.
- a) dyne b) tesla c) watt d) henry
28. Which is not a unit of time?
- a) leap year b) year c) second d) light year
29. If error in measurement of radius of sphere is 1% what will be the error in measurement of volume?
- a) 1% b) 1/3 % c) 3% d) 10%
30. The magnetic moment has dimensions of _____
- a) $[LA]$ b) $[L^2A]$ c) $[LT^{-1}A]$ d) $[L^2TL^{-1}A]$
31. The length and breadth of a metal sheet are 3.124m and 3.002m respectively. The area of this sheet up to four correct significant figure is _____.
- a) 9.378m² b) 9.37m² c) 9.378248m² d) 9.3782m²
32. Which of the following quantities do not have same dimensions?
- a) pressure and stress b) tension and surface tension
c) strain and angle d) energy and work
33. "Parsec" is the unit of _____.
- a) time b) distance c) frequency d) angular acceleration

34. What is the dimensional formula for gravitational constant?
 a) $[ML^2T^{-2}]$ b) $[ML^{-1}T^{-1}]$ c) $[M^{-1}L^3T^{-2}]$ d) none of these
35. The force F on a sphere of radius 'a' moving in a medium with velocity 'v' is given by $F=6\pi\eta av$. The dimensions of " η " are _____.
 a) $[ML^{-3}]$ b) $[ML^{-2}]$ c) $[ML^{-1}]$ d) $[ML^{-1}T^{-1}]$
36. The density of cube is measured by measuring its mass and length of its side. If the maximum error in the measurement of mass and length are 4% and 3% respectively. The maximum error in the measurement of density will be _____.
 a) 7% b) 9% c) 12% d) 13%
37. The displacement of particle moving along x-axis with respect to time is $x=at+bt^2-ct^3$. The dimensions of " c " are _____.
 a) T^{-3} b) LT^{-1} c) LT^{-3} d) LT^{-2}
38. a) Thermodynamics - i) Sound waves
 b) Atomic Physics - ii) Nature of particles
 c) High energy Physics - iii) Structure of atom
 d) Acoustics - iv) Heat
 a) (a-ii) (b-i) (c-iv) (d-iii) b) (a-iv) (b-iii) (c-ii) (d-i)
 c) (a-iv) (b-iii) (c-i) (d-ii) d) (a-i) (b-ii) (c-iii) (d-iv)
39. Physical quantity which depends on one or more fundamental quantities for their measurement is called as _____.
 a) Fundamental quantity b) Derived quantity c) M.K.S quantity d) C.G.S quantity
40. Which of the following is dimensional constant?
 a) Refractive index b) Shells law c) Relative density d) Gravitational constant
41. In a particular system the unit of length, mass, and time are chosen to be 10cm, 10g, and 0.1s respectively. The unit of force in this system will be equivalent to _____.
 a) 0.1N b) 1N c) 10N d) 100N
42. A cube has a side of length 1.2×10^{-2} calculate its volume?
 (write in two significant figure)
 a) $1.71 \times 10^{-6}m^3$ b) $1.73 \times 10^{-6}m^3$ c) $1.70 \times 10^{-6}m^3$ d) $1.732 \times 10^{-6}m^3$
43. Which of the following is the dimensional formula for the energy per unit area per second?
 a) $ML^{\circ}T^{\circ}$ b) $ML^{\circ}T^{-3}$ c) ML^2T^{-1} d) MT^{-2}
44. The readings of thickness of metal plate are 0.626cm, 0.627cm, 0.625cm, 0.627cm and 0.0626cm then the average reading will be _____.
 a) 0.6362cm b) 0.6226cm c) 0.6262cm d) 0.6622cm
45. When the number 6.03587 is rounded up to the second place of decimals, it becomes
 a) 6.035 b) 6.04 c) 6.03 d) none of these
46. Suppose the acceleration due to gravity at a place is $10m/s^2$. Its value in $cm/(minute)^2$ is _____.
 a) 36×10^5 b) 3.6×10^5 c) 6×10^4 d) 36×10^4
47. Which of the following is not expressed in proper units?
 a) stress/strain = N/m^2 b) Surface tension = N/m
 c) Energy = $kg \times m/sec$ d) Pressure = N/m^2
48. Which of the following has the dimension of pressure?
 a) ML/T^2 b) M/L^2T^2 c) M/LT^2 d) M/LT
49. Two quantities A and B have different dimensions. Which mathematical operation may be physically meaningful?
 a) A/B b) A+B c) A-B d) A=B

50. Planks constant (h), speed of light in vacuum (c) and Newton's gravitational constant (G) are three fundamental constants. Which of the following combinations of these has dimension of length?
- a) $\sqrt{\frac{Gc}{h^{1/2}}}$ b) $\frac{\sqrt{hG}}{c^{3/2}}$ c) $\frac{\sqrt{hG}}{c^{5/2}}$ d) $\frac{\sqrt{hG}}{c}$
51. What would be the IUPAC name for an element with atomic number 900?
- a) Enniliom b) Ennilnium c) Enuninium d) Ennilunium
52. In 1978, _____ commission on the Nomenclature of Inorganic chemistry decided that it is necessary to have a systematic naming for the elements with atomic number greater than 100.
- a) IUMAC b) IUPAC c) IUNAC d) IUSAC
53. 'hex' is a root word for abbreviation of _____.
- a) q b) p c) h d) o
54. _____ is the symbol of Hassium
- a) Ha b) Hs c) Hh d) Hi
55. The atomic number of seaborgium is _____.
- a) 105 b) 104 c) 106 d) 107
56. The name is derived directly from the _____ of the new element.
- a) atomic mass b) atomic number c) atom ratio d) mass number
57. Yuri Oganessian, Russian physicist discovered the element, then the origin name of the element is _____.
- a) Livermorium b) Tennessine c) Dubnium d) Oganesson
58. The temporary symbol of Moscovium is _____.
- a) Uuq b) Uup c) Uut d) Uuh
59. _____ is the temporary name of Flerovium.
- a) Ununquadium b) Unnilquadium c) Unnilunium d) Ununnium
60. IUPAC has included _____ elements recently.
- a) 3 b) 4 c) 7 d) 8
61. _____ group contains Livermorium element in the modern periodic table
- a) 17th b) 15th c) 16th d) 18th
62. _____ is the symbol of Nihonium.
- a) Nh b) Nn c) Ni d) No
63. Pentnilnium would be the IUPAC name for an element with atomic number _____.
- a) 400 b) 500 c) 600 d) 700
64. Find the correct one for the element Roentgenium is _____.
- a) Uuu b) Uun c) Unu d) Uno
65. Match the following:
- | | | |
|----------------|---|----------------|
| 1) Ununbium | - | a) Livermorium |
| 2) Ununhexium | - | b) Oganesson |
| 3) Ununseptium | - | c) Copernicium |
| 4) Ununoctium | - | d) Tennessine |
- a) (1-c) (2-a) (3-b) (4-d) b) (1-a) (2-c) (3-b) (4-d)
c) (1-c) (2-a) (3-d) (4-b) d) (1-a) (2-c) (3-d) (4-b)
66. Find the odd one out (Based on atomic number)
- a) Md b) No c) Lr d) Fl
67. Temporary symbol for the element Lawrencium is _____.
- a) Uns b) Unu c) Unt d) Unq
68. _____ is the 118th element in the Periodic table.
- a) Uuo b) Uub c) Unu d) Uno
69. Find the temporary name for the atomic number 909?
- a) ennium b) enium c) ennium d) ennnium
70. The temporary name of the element Tennessine is _____.
- a) unnilseptium b) ununseptium c) unnilhexium d) ununhexium

71. Match the following:

Temporary Name	Name of the Element
1. unnilseptium	a) Flerovium
2. ununquadium	b) Meitnerium
3. ununnilium	c) Bohrium
4. unnilennium	d) Darmstadtium
a) (1-a) (2-c) (3-b) (4-d)	b) (1-c) (2-a) (3-d) (4-b)
c) (1-c) (2-a) (3-b) (4-d)	d) (1-a) (2-c) (3-d) (4-b)

72. The abbreviation for IUPAC is _____.

- a) International of Union of Pure and Applied Chemistry
- b) Internation of Unit of Pure and Applied Chemistry
- c) International Union of Pure and Applied Chemistry
- d) Internation Union of Pure and Applied Chemistry

73. Match the following:

1) 616	-	a) Unu
2) 111	-	b) Uun
3) 101	-	c) Uuu
4) 110	-	d) Uuh
a) (1-d) (2-c) (3-b) (4-a)		b) (1-d) (2-a) (3-c) (4-b)
c) (1-d) (2-a) (3-b) (4-c)		d) (1-d) (2-c) (3-a) (4-b)

74. The symbol for the element Meitnerium and Moscovium is _____.

- | | | | |
|--------------|--------------|--------------|--------------|
| a) Mc and Mt | b) Me and Mo | c) Mt and Ms | d) Mt and Mc |
|--------------|--------------|--------------|--------------|

75. Match the following:

Atomic Number	Symbol		
1. 111	a) Md		
2. 116	b) Rg		
3. 101	c) Sg		
4. 106	d) Lv		
a) d, b, c, a	b) b, d, c, a	c) b, d, a, c	d) a, c, b, d

76. The major functions of carbohydrates include _____.

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| a) structural framework | b) storage | c) both (a) and (b) | d) none of the these |
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77. Simple sugars are called _____.

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| a) Oligosaccharides | b) Monosaccharides | c) Polysaccharides | d) Trisaccharides |
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78. The term _____ was coined by Gerardus Johannes Mulder.

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|-----------|-----------|------------|-----------------|
| a) Starch | b) Lipids | c) Protein | d) Carbohydrate |
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79. _____ are made up of more than 10 sugar units and are divided into two types.

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|-------------------|---------------------|---------------------|--------------------|
| a) Trisaccharides | b) Pentasaccharides | c) Oligosaccharides | d) Polysaccharides |
|-------------------|---------------------|---------------------|--------------------|

80. The total dry mass of a cell is made up of _____ of proteins.

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| a) $\frac{2}{3}$ | b) $\frac{3}{5}$ | c) $\frac{3}{4}$ | d) $\frac{4}{5}$ |
|------------------|------------------|------------------|------------------|

81. The most abundant bio molecule on the earth _____.

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| a) Nucleic acids | b) Proteins | c) Lipids | d) Carbohydrates |
|------------------|-------------|-----------|------------------|

82. One of the largest herbarium is located in _____.

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| a) Kew | b) Geneva | c) Berlin | d) Sweden |
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83. Botanical gardens are centers for _____ in their various stages of living.

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|--------------------------|----------------------------------|
| a) zoological park | b) collection of plants |
| c) collection of fossils | d) collection of smaller animals |

84. Quick referral systems in taxonomic studies are _____.

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|---------------------|-------------|--------------|-----------|
| a) Botanical garden | b) Herbaria | c) Monograph | d) Manual |
|---------------------|-------------|--------------|-----------|

85. Botanical gardens with _____ will attract a large number of visitors.

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| a) Medicinal value | b) More plants | c) Aesthetic value | d) Rare Varieties |
|--------------------|----------------|--------------------|-------------------|

86. Herbaria are _____ of preserved plant collections.

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| a) gardens | b) research centre | c) store houses | d) modern botanical garden |
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87. Preparation of Herbarium specimen includes _____ steps.
 a) four b) five c) seven d) six
88. Royal botanical garden was officially opened in the year
 a) 1760 b) 1670 c) 1841 d) 1481
89. The alimentary canal and associated glands form the _____ system.
 a) Excretory System b) Digestive System c) Circulatory System d) Nervous System
90. The gastrointestinal tract is about _____ in length.
 a) 8mts b) 7mts c) 6mts d) 9mts
91. _____ is a digestive enzyme.
 a) Trypsin b) Haemoglobin c) Insulin d) Glucagon
92. Study of all living organisms is made possible by this aspect of taxonomy_____
 a) Identification b) Systematic c) Classification d) Nomenclature
93. _____ occurs through the Respiratory system.
 a) Exchange of fluid b) Circulation c) Excretion d) Exchange of gas
94. The waste which is excreted through lungs are _____.
 a) Oxygen b) Nitrogenous Waste c) Carbondioxide and water vapour d) Sulphur
95. _____ is a pumping organ which helps in the circulatory system.
 a) Lungs b) Liver c) Heart d) Pancreas
96. Name the glands associated with the Human digestive system.
 a) Salivary glands and Pancreas b) Salivary glands and liver
 c) Liver and Pancreas d) Salivary gland, liver and Pancreas
97. Arrange the correct sequence of the steps involved in the process of Human digestion.
 a) digestion, ingestion, assimilation, Egestion and Absorption
 b) Ingestion, Digestion, Absorption, Assimilation and Egestion
 c) Egestion, Absorption, Digestion, Assimilation and Ingestion
 d) Assimilation, Absorption, Ingestion, Digestion and Egestion
98. Carbohydrates from plant sources like starch and cellulose are the compounds made up of many units of _____.
 a) simple sugar b) fatty acid c) glycerol d) amino acid
99. Which of the following is a disaccharide
 a) Ribose b) Maltose c) Glucose d) Cellulose
100. In which of the following forms glucose is stored in plants?
 a) starch b) dextrose c) glycogen d) cellulose
