

## Model Test – III

### QUESTION SHEET

#### GENERAL INSTRUCTION

1. Write your information (Name, Roll. Number, Date etc.) on your Answer Sheet.
2. Do not write anything on your Question Sheet
3. Use given extra loose sheet for rough work.
4. Mark your correct answers by blackening the appropriate bubble against each question on your Answer Sheet.
5. No negative marks will be given for wrong answers.
6. All pages (Question, Answer Sheet) must be submitted after the examination.
7. Duration of Examination is 2 hours.

*Read the passage and answer the questions (1-6) below.*

Many great inventions are greeted with ridicule and disbelief. The invention of the airplane was no exception. Although many people who heard about the first powered flight on December 17, 1903, were excited and impressed, others reacted with peals of laughter. The idea of flying an aircraft was repulsive to some people. Such people called Wilbur and Orville Wright, the inventors of the first flying machine, impulsive fools. Negative reactions, however, did not stop the Wrights. Impelled by their desire to succeed, they continued their experiments in aviation.

Orville and Wilbur Wright had always had a compelling interest in aeronautics and mechanics. As young boys, they earned money by making and selling kites and mechanical toys. Later, they designed a newspaper-folding machine, built a printing press, and operated a bicycle repair shop. In 1896, when they read about the death of Otto Lilienthal, the brother's interest in flight grew into a compulsion.

Lilienthal, a pioneer in hang-gliding, had controlled his gliders by shifting his body in the desired direction. This idea was repellent to the Wright brothers, however, and they searched for more efficient methods to control the balance of airborne vehicles. In 1900 and 1901, the Wrights tested numerous gliders and developed control techniques. The brothers' inability to obtain enough lift power for the gliders almost led them to abandon their efforts.

After further study, the Wright brothers concluded that the published tables of air pressure on curved surfaces must be wrong. They set up a wind tunnel and began a series of experiments with model wings. Because of their efforts, the old tables were repealed in time and replaced by the first reliable figures for air pressure on curved surfaces. This work, in turn, made it possible for them to design a machine that would fly. In 1903 the Wrights built their first airplane, which cost less than one thousand dollars. They even designed and built their source of propulsion lightweight gasoline engine. When they started the engine on December 17, the airplane pulsed wildly before taking off. The plane managed to stay aloft for twelve seconds, however, and it flew one hundred twenty feet.

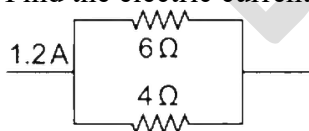
By 1905 the Wrights had perfected the first airplane that could turn, circle, and remain airborne for half an hour at a time. Others had flown in balloons or hang gliders, but the Wright brothers were the first to build a full-size machine that could fly under its power. As the contributors to one of the most outstanding engineering achievements in history, the Wright brothers are accurately called the fathers of aviation.

1. The idea of flying an aircraft was \_\_\_ to some people.
  - a) boring
  - b) distasteful
  - c) exciting
  - d) needless
2. People thought that the Wright brothers had \_\_\_\_\_.
  - a) acted without thinking
  - b) been negatively influenced
  - c) been too cautious
  - d) had not given enough thought

3. Wright's interest in flight grew into a \_\_\_\_.
- a) financial empire      b) plan      c) need to act      d) foolish thought
4. Lilenthal's idea about controlling airborne vehicles was \_\_\_\_ the Wrights.
- a) proven wrong by      b) opposite to the ideas of      c) disliked by      d) accepted by
5. The old tables were \_\_\_\_ and replaced by the first reliable figures for air pressure on curved surfaces.
- a) destroyed      b) canceled      c) multiplied      d) discarded
6. The Wrights designed and built their source of \_\_\_\_.
- a) force for moving forward      b) force for turning around  
c) turning      d) force going backward
7. A noun with physical existence that any five senses can perceive is called....
- a) common noun      b) collective noun      c) abstract noun      d) concrete noun
8. The GENERAL name of a person, place, or thing.
- a) proper noun      b) abstract noun      c) common noun      d) mass Noun
9. He drives a car. Car is the receiver of the action or used as a/an \_\_\_\_\_ in the sentence.
- a) direct Object      b) indirect Object      c) subject      d) object of the Preposition
10. Renz bought Janine a new pair of shoes. Janine used as a/an \_\_\_\_\_ in the sentence.
- a) subject      b) direct object      c) indirect object      d) subjective compliment
11. I saw her .....
- a) blush      b) blushing      c) to blush      d) blushed
12. The relationship ..... the two boys has changed significantly over the past few years.
- a) with      b) among      c) between      d) to
13. In Nepal, many girls get married ..... an early age.
- a) at      b) in      c) on      d) during
14. I'm not ..... the mood for such silly games.
- a) in      b) at      c) on      d) by
15. I will sleep late, ..... I need to study.
- a) and      b) so      c) because      d) while
16. I am allergic to cat, .... I have three of them.
- a) or      b) for      c) yet      d) so
17. I am a vegetarian, ..... I don't eat any meat.
- a) so      b) yet      c) nor      d) but
18. If babies are hungry, they .....
- a) will cry      b) would cry      c) cry      d) cried
19. If the plane is delayed, he ..... late.
- a) will be      b) would      c) will      d) might be
20. The word biology has:
- a) 2 syllables      b) 4 syllables      c) 3 syllables      d) 1 syllable
21. A function  $f(x)$  is said to exist at a point  $x = a$  if  $f(a)$  is
- a) Finite      b) positive      c) negative      d) zero
22. A and B borrowed Rs 1600 and Rs. 1200 from a bank at the same rate of interest on the same day. A paid the interest after 4 years and B paid after 3 years. Determine the rate of interest if A paid Rs. 168 more interest.
- a) 3%      b) 4%      c) 5%      d) 6%
23. A solid metallic sphere of radius  $3cm$  is melted to form a solid right circular cylinder of diameter  $6cm$ . If volume of the cylinder is same as the volume of sphere what is the height of the cylinder?
- a)  $3cm$       b)  $4cm$       c)  $5cm$       d)  $6cm$
24. The sum of the digits of a two-digit number is 8. If the digits are reversed the new number is increases by 36. The number is
- a) 36      b) 63      c) 26      d) 62
25. If  $x = 2 + \sqrt{3}$ , then the value of  $x^2 + \frac{1}{x^2}$  is ....
- a) 14      b) 7      c) 13      d) None of these
26. Let  $f: A \rightarrow B$  be a function. If the different elements in A have a different image in B then the function f is
- a) injective      b) surjective      c) bijective      d) None of these

27. If  $x\%$  of  $y$  is 10 what is the value of  $y$ ?
- a)  $\frac{10}{x}$                       b)  $\frac{100}{x}$                       c)  $\frac{1000}{x}$                       d)  $\frac{x}{100}$
28. If an object is moving at a speed of  $36\text{km/hr}$ , how many meters does it travel in one second?
- a) 10m                      b) 36m                      c) 100m                      d) 360m
29. What is the average of  $4y + 3$  and  $2y - 1$ ?
- a)  $y + 1$                       b)  $y + 2$                       c)  $3y + 1$                       d)  $3y + 2$
30. The value of  $\lim_{x \rightarrow a} \frac{x^2 - a^2}{x - a}$  is
- a)  $a$                       b)  $2a$                       c)  $3a$                       d)  $4a$
31. The value of  $\lim_{x \rightarrow \infty} \frac{x^2 - a^2}{x^2 + a^2}$  is
- a) 1                      b) 2                      c)  $-1$                       d)  $-a$
32. The value of  $\lim_{x \rightarrow 3} \frac{x^3 - 27}{x - 3}$  is
- a) 3                      b) 6                      c) 9                      d) 27
33. The value of  $\sqrt{-2} \times \sqrt{-3}$  is
- a) 6                      b)  $\sqrt{6}$                       c)  $-\sqrt{6}$                       d)  $\sqrt{-6}$
34. How many tangents to a circle can be drawn from an external point?
- a) none                      b) one                      c) two                      d) three
35. The length and breadth of a rectangle are in the ratio 3: 2. If the length is increased by 5m keeping the breadth same, the new area of rectangle is  $2600\text{m}^2$ . What is the perimeter of the original rectangle?
- a) 320m                      b) 300m                      c) 295m                      d) 200m
36. What is the perimeter of a rectangle if it's one side is 24cm and the length of the diagonal is 25cm?
- a) 60cm                      b) 62cm                      c) 72cm                      d) 80cm
37. If the difference between compound interest and simple interest on Rs 7500 for two years is Rs 12 what is the rate of interest?
- a) 8%                      b) 6%                      c) 4%                      d) 2%
38. To complete a work A requires 20 days and A and B require 15 days. In how many days B alone can complete the same work?
- a) 60 days                      b) 45 days                      c) 40 days                      d) 30 days
39. A 16cm long chord is drawn to a circle at a distance of 6cm from the center. What is the length of diameter of the circle?
- a) 12cm                      b) 14 cm                      c) 16 cm                      d) 20cm
40. If  $A = (-2, 2]$  and  $B = (1, 3)$  which of the followings is  $A \cap B$ ?
- a)  $(-2, 3)$                       b)  $[-2, 3]$                       c)  $(1, 2]$                       d)  $(0, 2)$
41. Oxidation is
- a) gain of electron                      b) loss of electron                      c) addition of hydrogen                      d) removal of oxygen
42.  $\text{NH}_3$  gas is
- a) acidic                      b) neutral                      c) amphoteric                      d) basic
43. Molecular formula of Nessler's reagent is
- a) KI                      b)  $\text{K}_2\text{HgI}_2$                       c)  $\text{K}_2\text{HgI}_3$                       d)  $\text{K}_2\text{HgI}_4$
44.  $\text{NH}_3$  and HCl gas when come in contact it
- a) explodes                      b) no reaction                      c) forms dense white fume                      d) produces pop sound
45. Horn silver is
- a)  $\text{AgNO}_3$                       b) AgI                      c) AgCl                      d) AgBr
46. Molecular formula of sal ammoniac is
- a)  $\text{NH}_4\text{OH}$                       b)  $\text{NH}_4\text{Cl}$                       c)  $\text{NH}_4\text{NO}_3$                       d)  $\text{NH}_4\text{Br}$
47. Rusting of iron is
- a) oxidation                      b) reduction                      c) redox                      d) none
48. The valance electrons of zinc is/are:
- a) 1                      b) 2                      c) 3                      d) 4
49. Which of the following metals is not solid at ordinary temperature?
- a) Iron                      b) Zinc                      c) Magnesium                      d) Mercury

50. An atom has mass number 37 and atomic number 17. The number of neutrons are:  
 a) 17                                      b) 20                                      c) 74                                      d) 35
51. The gas responsible for green house effect is  
 a) N<sub>2</sub>                                      b) CO<sub>2</sub>                                      c) NH<sub>3</sub>                                      d) H<sub>2</sub>
52. Chloride ion (Cl<sup>-</sup>) has.....  
 a) 17 electrons                                      b) 16 electrons                                      c) 18 electrons                                      d) 35 electrons.
53. Which of the following elements cannot displace hydrogen from dilute mineral acids.  
 a) Zn                                      b) Fe                                      c) Cu                                      d) Mg
54. Electronic configuration of Al<sup>3+</sup> is  
 a) 2,8,3                                      b) 2,8,8                                      c) 2,8                                      d) 2,8,8,3
55. An element has an atomic number of 15 with which of the following elements will it show similar chemical properties.  
 a) Be (4)                                      b) Ne (10)                                      c) N(7)                                      d) O (8)
56. A body of mass 5 kg possesses momentum 100kgm/s. The kinetic energy of the body is  
 a) 200J                                      b) 400J                                      c) 1000J                                      d) 2000J
57. No work is done if  
 a) displacement is zero                                      b) force is zero  
 c) force and displacement are mutually perpendicular                                      d) All of the above
58. The work done on a body does not depend upon  
 a) Displacement                                      b) force applied  
 c) Angle between force and displacement                                      d) Initial velocity of the body
59. What is the unit for measuring the intensity level of sound?  
 a) Decibel                                      b) Coulomb                                      c) cycles                                      d) Hertz
60. Two bodies are in thermal equilibrium then they must have same  
 a) Heat                                      b) Mass                                      c) Temperature                                      d) All
61. With the increased temperature of substance, density generally:  
 a) Increases                                      b) decreases  
 c) remains constant                                      d) First increases then decreases
62. If two temperatures differ by 25 degrees on Celsius scale, the difference of temperature on Fahrenheit scale is:  
 a) 65<sup>0</sup>F                                      b) 45<sup>0</sup>F                                      c) 38<sup>0</sup>F                                      d) 25<sup>0</sup>F
63. SI unit of molar heat capacity is  
 a) JK mol<sup>-1</sup>                                      b) JK mole                                      c) JK<sup>-1</sup> mol                                      d) JK<sup>-1</sup> mol<sup>-1</sup>
64. Heat required to raise the temperature of 15g of water through 20 °C is  
 a) 63J                                      b) 300cal                                      c) 71.4 J                                      d) 150 J
65. The units of resistivity are:  
 a) ohm                                      b) ohm meter                                      c) ohm/meter                                      d) ohm/meter<sup>2</sup>
66. Which of the following is not equal to watt?  
 a) Joule/second                                      b) Ampere × volt                                      c) (Ampere)<sup>2</sup> × ohm                                      d) Ampere/volt
67. A current of 0.5A exists in a 60-ohm lamp. The applied potential difference is:  
 a) 15V                                      b) 30V                                      c) 60V                                      d) 120V
68. Find the electric current in 6 Ω resistance.



- a) 1.2 A                                      b) 0.72 A                                      c) 0.48 A                                      d) 0 A
69. The image formed by a plane mirror is  
 a) Real and erect                                      b) Real and inverted                                      c) Virtual and erect                                      d) Virtual and inverted
70. Where should the object be placed in convex lens to obtain erect virtual and magnified image?  
 a) At infinity                                      b) At 2F                                      c) Beyond 2F                                      d) Between F and O
71. Which of the following is a volatile memory of computer?  
 a) RAM                                      b) ROM                                      c) Hard Disk                                      d) None
72. What is the purpose of cache memory?  
 a) To store frequently accessed data for faster access  
 b) To permanently store data

- c) To provide extra storage space for the operating system  
d) To control input/output operations
73. What is the purpose of a web browser?  
a) To create websites  
b) To display websites and web pages  
c) To store data and files  
d) To connect to a network
74. Which of the following is an example of application software?  
a) Windows operating system  
b) Microsoft Word  
c) Device drivers  
d) Antivirus software
75. Which of the following is a video file format?  
a) MP3  
b) WAV  
c) MP4  
d) GIF
76. Which of the following is an example of a cyber-attack?  
a) Printing a document  
b) Sending an email  
c) Stealing confidential information from a computer system  
d) Creating a presentation
77. Which of the following is a Microsoft Office application for creating and editing documents?  
a) Excel  
b) PowerPoint  
c) Word  
d) Outlook
78. What is the shortcut key for print?  
a) Ctrl+Z  
b) Ctrl+Y  
c) Ctrl+A  
d) Ctrl+P
79. What does PDF stand for?  
a) Portable Document Format  
b) Personal Data File  
c) Print Document File  
d) Public Disclosure Form
80. What is a network?  
a) A group of interconnected computers and devices  
b) A software program for browsing the internet  
c) A type of firewall used for network security  
d) An input/output device used for data transfer
81. What does Mbps stand for?  
a) Mega-Bits Per Second  
b) Mega-Bytes Per Second  
c) Micro-Bits Per Second  
d) Milli-Bits Per Second
82. Which of the following is an example of a read-write memory?  
a) ROM  
b) CPU cache  
c) Flash memory  
d) RAM
83. What is the file extension for a Microsoft Word Document created in Word?  
a) .htm  
b) .docx  
c) .pdf  
d) .txt
84. Which of the following is the extension for an Excel spreadsheet created in Excel?  
a) .jpeg  
b) .xlsx  
c) .csv  
d) .jsx
85. What is the parent company of Facebook now called?  
a) Alphabet  
b) Meta  
c) Amazon  
d) Tesla
86. Which of the following is a prokaryotic organism?  
a) Fungi  
b) Bacteria  
c) Plants  
d) Animals
87. Which macromolecule is primarily responsible for storing genetic information?  
a) Proteins  
b) Lipids  
c) Carbohydrates  
d) Nucleic acids
88. Which cell organelle is present both in Prokaryotic and Eukaryotic cells?  
a) Golgi bodies  
b) Ribosome  
c) Plastid  
d) Mitochondria
89. Who is known as the father of taxonomy?  
a) Hippocrates  
b) Carolus Linnaeus  
c) Theophrastus  
d) R.H. Whittaker
90. What is the term for a group of similar cells that perform a specific function?  
a) Tissue  
b) Organ  
c) system  
d) Organ-system
91. Which part is responsible for providing colour in the human eye?  
a) Lens  
b) Cornea  
c) Iris  
d) Retina
92. Who is known as the father of Zoology?  
a) Hippocrates  
b) Aristotle  
c) Theophrastus  
d) R.H. Whittaker
93. Eukaryotic unicellular organisms belong to...  
a) Mycota  
b) Animalia  
c) Eubacteria  
d) Protista
94. Which gas is a byproduct of photosynthesis?  
a) Oxygen  
b) Carbon dioxide  
c) Nitrogen  
d) Methane

95. Physiology deals with the study of...  
a) Physical structures      b) Life process      c) Internal structures      d) Movement
96. Locomotory organ of earthworm is called...  
a) Parapodia      b) Suckers      c) Setae      d) Limbs
97. Light enters the eye through....  
a) Lens      b) Cornea      c) Iris      d) Retina
98. Which of the following is parasitic alga?  
a) *Cephaleuros*      b) *Chlorella*      c) *Laminaria*      d) *Batrachospermum*
99. Which part of the brain is responsible for coordinating voluntary movements?  
a) Cerebrum      b) Cerebellum      c) Medulla oblongata      d) Hypothalamus
100. What is the main function of white blood cells?  
a) To transport oxygen      b) To produce hormones  
c) To fight infections      d) To regulate blood pressure

- The End -

## Answer Key

QN	Answer	QN	Answer	QN	Answer	QN	Answer
1	B	26	A	51	B	76	C
2	A	27	C	52	C	77	C
3	C	28	A	53	C	78	D
4	C	29	C	54	C	79	A
5	D	30	B	55	C	80	A
6	A	31	A	56	C	81	A
7	D	32	D	57	D	82	D
8	C	33	C	58	D	83	D
9	A	34	C	59	A	84	B
10	C	35	D	60	C	85	B
11	A	36	B	61	B	86	B
12	C	37	C	62	B	87	D
13	A	38	A	63	D	88	B
14	A	39	D	64	B	89	B
15	B	40	C	65	B	90	A
16	C	41	B	66	D	91	C
17	A	42	D	67	B	92	B
18	C	43	D	68	C	93	D
19	A	44	C	69	C	94	A
20	B	45	C	70	D	95	B
21	A	46	B	71	A	96	C
22	C	47	C	72	A	97	B
23	B	48	B	73	B	98	A
24	C	49	D	74	B	99	B
25	A	50	B	75	C	100	C