



Al-Razi Guess Paper consist of 100 MCQs, 100 Short Questions and Long Questions to get 100% Success in Examination

OBJECTIVE TYPE

Multiple Choice Questions

1. The particles that emitted from the hot metal surface are:

- A Holes B Protons
C Neutrons d Electrons

2. waves transfer:

- A Frequency B Wavelength
C Velocity d Energy

3. The index of refraction depends on:

- A Focal length
b Speed of light
C Image distance
D Body distance

4. What does the term e-mail stand for?

- A Emergency Mail
b Electronic Mail
C External Mail D None

5. The ___ of waves does not depend on other characteristics.

- A Speed B Frequency
C Amplitude D Wavelength

6. Which method is used to transfer energy?

- A Conduction B Radiation
C Wave motion d All these

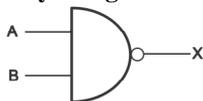
7. The Focal length formula is:

- a $f = \frac{R}{2}$ B $f = \frac{R}{4}$
C $f = \frac{R}{3}$ D $f = \frac{R}{5}$

8. From which of them can we get all kinds of information?

- A Books B Teacher
C Computer d Internet

9. Which logic operation is obtained by this gate?



- A AND B NOR
C NAND D OR

10. The output of NAND gate will be 0 if:

- A A=1, B=0 B A=0, B=1
C A=1, B=1 D A=0, B=0

11. Which is the type of sound energy?

- A Chemical B Thermal
C Electrical d Mechanical

12. The formula for capacitance is:

- A QV b $\frac{Q}{V}$
C QV D $\frac{V}{Q}$

13. A method in which electrons are emitted from the heated surface of the metal is called:

- A Boiling B Evaporation
C Thermionic emission
D Conduction

14. The sun emits energy:

- A By nuclear fission
b By nuclear fusion
C Due to combustion of gases
D By chemical reaction

15. The brain of any computer system is:

- A Monitor B Memory
C CPU D Control unit

16. Computer Based Information System (CBIS) can be accessed from:

- A 4 B 3 C 5 D 6

17. The presence of magnetic field can be detected by:

- A Small mass
B Stationary positive charge
C Stationary negative charge
d Magnetic compass

18. If the ratio of turns of the transformer is 10:

A $I_3 = 10I_p$

B $N_s = \frac{N_p}{10}$

C $V_s = V_p \times 10$

d $N_s = 10N_p$

19. The speed of sound at $0^\circ C$ is:

A $386ms^{-1}$ B $376ms^{-1}$

C $331ms^{-1}$ D $231ms^{-1}$

20. All electromagnetic waves in a vaccum behave the same:

- a Speed B Frequency

- C Amplitude D Wavelength

21. The value of K in Coulomb's law is:

A $9 \times 10^9 Nm^{-2}C^{-2}$

b $9 \times 10^9 Nm^2C^{-2}$

C $9 \times 10^9 m^{-2}C^{-2}$

D $9 \times 10^9 Nm^2C^2$

22. ___ is the formula of electric field intensity.

a $E = \frac{F}{q}$ B $E = Fq$

C $E = \frac{1}{qF}$ D $E = 2Fq$

23. The frequency is equal to:

a $f = \frac{1}{T}$ B $f = \frac{\ell}{g}$

C $f = 2\pi\sqrt{\frac{\ell}{g}}$ D $f = kx$

24. The relationship between velocity, frequency and wavelength of a wave is:

A $v\lambda = \lambda$ b $f\lambda = v$

C $v\lambda = f$ D $v = \frac{\lambda}{f}$

25. If $X=A \cdot B$ then X is 1, if:

a A=1, B=1 B A=0, B=0

C A=0, B=1 D A=1, B=0

26. In computer terminology Information means:

- A Any data
B Redundant data
C Processed data
D More data

27. The audible frequency range of sound of a normal person is:

A 10 Hz - 10 kHz

b 20 Hz - 20 kHz

C 25 Hz - 25 kHz

D 30 Hz - 30 kHz

28. The ___ part of a DC motor reverses the direction of the current flowing through the coil after every half cycle.

- A Armature B Commutator
C Brushes d Slip rings

29. The direction of the applied emf in the circuit follows the law of conservation:

- A Mass B Charge
C Momentum d Energy

30. How many kilobytes is in one megabyte?

- a 1024 kB B 1034 kB
C 1044 kB D 1054 kB

31. Isotopes are atoms of the same element having different:

- a Atomic mass
B Atomic number
C Number of protons
D Number of electrons

32. An electroscope is an instrument used for:

- a detect the presence of charge
B detect the current
C detect radiations
D None of these

33. The unit of sound intensity is:

- A Wm^{-1} b Wm^{-2}
C Wm^{-3} D Wm

34. The unit of electric intensity is:

- a NC^{-1} B $N.m$
C $N.C$ D $N.A$

35. _____ is used as a dielectric in a mica capacitor.

- a Mica B Plastic
C Paper D Aluminum

36. A transformer is used to change the value of:

- A charge B energy
C power d voltage

37. The capacitor stores:

- A Current B Voltage
C Charge D Resistance

38. The formula for Hooke's law is:

- A $k = \frac{-2F}{x}$ b $F = -kx$
C $x = -Fk$ D $k = -Fx$

39. The time period formula for a simple pendulum is:

- A $T = 2\pi\sqrt{\frac{m}{g}}$ B $T = 2\pi\sqrt{\frac{m}{k}}$
C $T = 2\pi\sqrt{\frac{\ell}{g}}$ D $T = 2\pi\sqrt{\frac{g}{\ell}}$

40. Which type of image is formed by concave lens on screen?

- A Inverse and real

- B Inverse and virtual
C Direct and Real
d Direct and Virtual

41. The Boolean symbol of NAND gate is:

- A $X = A+B$ B $X = A-B$
C $X = A.B$ d $X = \overline{A.B}$

42. The time period formula for simple harmonic motion of a mass m attached to a spring is:

- A $T = 2\pi\sqrt{\frac{k}{m}}$
b $T = 2\pi\sqrt{\frac{m}{k}}$
C $T = 2\pi\sqrt{\frac{1}{m}}$
D $T = 4\pi\sqrt{\frac{m}{4}}$

43. Find the time period of a simple pendulum of length one meter.

- a 1.99s B 2.11s
C 1.89s D 1.88s

44. The speed equation of wave is:

- a $f \times \lambda$ B $f \times v$
C $\frac{1}{\lambda v}$ D $\frac{v}{\lambda}$

45. A large ripple tank with a vibrator at 30 Hz that produces 25 complete waves at a distance of 50 cm. What will its velocity?

- A $53cm s^{-1}$
b $60cm s^{-1}$
C $75cm s^{-1}$
D $1500cm s^{-1}$

46. A positive electric charge attracts other:

- A Positive charge
b repels other positive charge
C attracts Neutral charge
D repels Neutral charge

47. Each thunderbolt of lightning is equal to:

- A 2000 million joules of energy
B 3000 million joules of energy
C 1000 million joules of energy
D 4000 million joules of energy

48. The unit of electric power is:

- A Ampere b Watt
C Joule D Volt

49. If $X = A + B$ while $X = 0$ then:

- a $A=0, B=0$ B $A=1, B=1$
C $A=0, B=1$ D $A=1, B=0$

50. Which is not processing?

- A Sorting B Storing
C Using d Collecting

51. Which of the following radiations has more penetrating power?

- A beta particle b gamma rays
C Alpha particle
D Beta and all penetrating have the same potential

52. The mouthpiece and earpiece are parts of a _____:

- A Microscope b Telephone
C Television D Computer

53. Radio Waves are:

- A Mechanical
b Electromagnetic
C Sound waves
D All of these

54. Michael Faraday belongs to:

- a England B America
C Saudi Arabia D Russia

55. Which of the following is not the same as Watt:

- A J/S B AV
C $A^2\Omega$ d A/V

56. The symbol of fixed resistor is:

- a  B 
C  D 

57. Reason for flow of electric current in conductor:

- A Positive ions
B Negative ions
C Positive charges
d Free electrons

58. A current of 3A passes through a wire in one minute. How much charge passes through the wire:

- A 3C b 180C
C $180 \times 10^{-3}C$ D 20C

59. Instrument that is used for generating transverse and longitudinal waves is:

- A Cord B Ripple tank
C Helical spring
D Tuning force

60. If the length of a pendulum is doubled, its time period will be:

- a $\sqrt{2}T$ B $2T$
C $T/2$ D $T/\sqrt{2}$

61. Loudness of sound depends mostly on?

- A Frequency B Period
C Wavelength d Amplitude

62. The sound level of rustling leaves is:

- A 40dB B 30dB
C 20dB d 10dB

63. The intensity of the train siren is:

- A 150dB B 130dB
C 100dB d 120dB

64. That quality of sound by which we can distinguish between high and low sound is called:

- A Pitch B Quality
C Intensity d Loudness

65. The laws of reflection of light are:

- a 2 B 3 C 4 D 5

66. The image formed by concave mirror is:

- A Real B Virtual
C Real or Virtual
d Real and Virtual

67. A body lies on the center of curvature of a concave mirror. What will be the position of the image formed?

- A Outward from Center of curvature
B At the center of curvature
C Between the center of curvature and the focal point
d At the focal point

68. The speed of light in water is approximately:

- A $3.3 \times 10^8 \text{ ms}^{-1}$
B $2.5 \times 10^8 \text{ ms}^{-1}$
C $2.3 \times 10^8 \text{ ms}^{-1}$
D $2.4 \times 10^8 \text{ ms}^{-1}$

69. The refractive index of diamond is:

- A 1.22 B 1.52
C 2.21 d 2.42

70. The Refractive index of ice is:

- A 1.36 b 1.31
C 1.33 D 1.00

71. The critical angle of water is:

- a 48.8° B 49.50°
C 45° D 46°

72. An endoscope that used to examine the throat is called:

- A Gastroscope B Cystoscope
C Bronchoscope

D None of these

73. Image is formed by camera, is:

- a Real, inverted and very small
B Virtual, straight and very small
C Virtual, straight and huge
D Real, inverted and very large

74. The instrument used to determine the nature of charge:

- A Stroboscope
b Electroscope
C Spectroscope
D Microscope

75. The SI unit of capacitance is:

- A Newton B Volt
C Coulomb d Farad

76. Two capacitors having capacitances $12\mu\text{F}$ and $6\mu\text{F}$ respectively are connected in parallel to a 12V battery. Its equivalent capacitance is:

- A $6\mu\text{F}$ B $12\mu\text{F}$
C $1.2\mu\text{F}$ d $18\mu\text{F}$

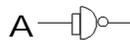
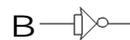
77. The Law of Lenz is exactly the same as the Law of ____.

- A Conservation of mass
b Conservation of energy
C Conservation of charge
D Conservation of momentum

78. The working principle of transformer is:

- a principle of mutual induction
B principle of DC motor
C principle of AC generator
D principle of self-induction

79. The symbol of a diode is:

- A  B 
C  d 

80. The Boolean symbol for NOR gate is:

- A $X = A + B$
B $X = A.B$
C $X = \overline{A.B}$
d $X = \overline{A + B}$

81. Which of these is not a storage device?

- A Hard disk B Flash drive
C Keyboard D Cassettes

82. CD refers to:

- A Computer disk
B Chemical disk
C Compact disc
D None of these

83. A process that helps users to view web pages is called:

A Email B Gmail

C Browser D MS Office

84. ___ are also called gamma ray.

- a Photons B Electrons
C Protons D Positrons

85. The half-life of Uranium

$^{235}_{92}\text{U}$ is:

- a 7.1×10^8 year
B 7.1×10^9 year
C 7.1×10^{10} year
D 7.1×10^{11} year

86. When uranium (92 protons) emits a beta particle, how many protons will remain?

- A 89 B 90 C 91 d 93

87. Which of the following is not radioactive element:

- A Uranium B Polonium
C Thorium d Sodium

88. Step-up transformer:

- A Increases the input current
b Increases the input voltage
C has more turns in the

primary coil

- D has fewer turns in the secondary coil

89. Which quantity remains constant in an ideal transformer?

- A Voltage b Power
C Current
D Both A and B

90. In CRO the grid potential is:

- A Positive B Zero
C Neutral d Negative

91. CRO controls the brightness of the fluorescent screen at.

- A Anode
b Negative potential of Grid
C Plates D Cathode

92. Which two gates can be used so that the output as AND gate can be used?

- A NOT gates B OR gates
C NOR gates
d NAND gates

93. If $X = \overline{A + B}$ when $X = 1$ then:

- A $A=1, B=1$ B $A=0, B=1$
C $A=0, B=0$ D $A=1, B=0$

94. Cell phones send and receive messages as ____.

- A Sound waves
B Longitudinal waves
C Radio waves
D Mechanical waves

95. One byte equals:

- A 10 bits b 8 bits
C 6 bits D 4 bits

96. The basic operation of a computer is:

- A Arithmetic operations
 B Logic operation
 C Non-arithmetic operations
 D Arithmetic and Logic Operation

97. An isotope of uranium has the number of neutrons:

- A 92 B 146 C 238 D 330

98. There are rays used for brain radiotherapy.

- A Alfa rays B Beta rays
 C Gamma rays D X-rays

99. The change in nucleon number during a beta-decay is:

- A decreases 4 B increases 4
 C Does not change
 D Decreases 2

100. One kg of Uranium-235 fission reaction gives energy:

- A $4.7 \times 10^{11} J$ B $5.7 \times 10^{11} J$
 C $6.7 \times 10^{11} J$ D $7.7 \times 10^{11} J$

Short Questions

1. What is meant by ohmic conductor?
2. What is meant by electric potential?
3. Define echo. Write the speed of sound in air at normal temperature.
4. Define loudness. On what factors does it depend?
5. Define Coulomb's law.
6. Write the definition of electric power and its unit.
7. Write two uses of ultrasound.
8. Define simple harmonic motion.
9. What is the difference between mechanical waves and electromagnetic waves?
10. What is electrostatic?
11. Define EMF.
12. State Ohm's law and write its equation.
13. State Joule's law.
14. Define isotopes.
15. What is meant by pitch of sound?
16. What is an Electroscope?
17. How is nature of charge detected by electroscope?
18. What is the difference between hardware and software?
19. What is meant by Internet?
20. What is meant by regular reflection of light?
21. Define resistivity and write its formula.
22. Explain the types of transformer.
23. Define Analogue quantities and give examples.
24. What is meant by insulator? Write an example of it.

25. Write two hazards of radiations.

26. Define intensity of sound.

27. Define conventional current.

28. What is meant by solenoid?

29. Name any two factors affecting the induced E-M-F.

30. What is meant by resolving power?

31. How does a circuit breaker work?

32. What is word processing?

33. Define nuclear fusion and write its equation.

34. Write the formula for parallel method of connecting capacitors.

35. What is a variable capacitor?

36. What is a transformer? Write its principle.

37. What is Telecommunication?

38. Write two properties of alpha particle.

39. Define refractive index. What is its unit?

40. What is meant by electric field lines? What is their direction?

41. Write the definition of electromagnet.

42. What is a Re Lay? How does it work?

43. What is meant by spring constant?

44. Define sound waves and give an example.

45. Define half-life.

46. What is compression?

47. Define pitch and quality.

48. What is meant by ultrasound?

49. What is the right-hand rule for finding the magnetic poles of a current-carrying coil?

50. Write two/three uses of computer.

51. Explain Fleming's left-hand rule.

52. Define electromagnetic induction.

53. Define Lenz's law.

54. Define mutual induction.

55. Define restoring force.

56. Define Restoring Force. Which component of weight acts as the restoring force in the vibratory motion of a simple pendulum?

57. What is meant by damping oscillations?

58. What is meant by sound level? Write its formula.

59. What is the audible frequency range?

60. Why Ultrasound is beneficial in the Medical Field?

61. What is meant by reflection of light?

62. State the laws of reflection.

63. Define critical angle.

64. What is meant by Shortsightedness?

65. Define electronic field.

66. What is electric field intensity? Write its unit.

67. What is meant by potential difference?

68. Define resistance and write its unit.

69. Define kilowatt hour.

70. What is meant by thermionic emission?

71. What are the magnitudes of voltage and current for the filament of a tungsten bulb? Briefly explain.

72. What is the difference between ADC and DAC?

73. Define natural radioactivity.

74. Write the definition of nuclear transmutation.

75. Define transverse waves and longitudinal waves.

76. Write two effects of noise on human health.

77. What is the difference between musical sound and noise?

78. What is a light pipe?

79. Explain the difference between variable and fixed capacitors.

80. State the difference between conductors and insulators.

81. If resistors of $6k\Omega$ and $4k\Omega$ are connected in series with a $10V$ battery, what will be the equivalent resistance?

82. State the right-hand rule for a straight wire.

83. Define OR gate and construct its truth table.

84. Define CPU. Why is it called brain of computer?

85. What is the difference between data and information?

86. Explain the difference between primary memory and secondary memory.

87. Define time period and frequency.

88. What is the difference between vibration and amplitude in terms of simple pendulum?

89. What is sound quality?

90. Find the frequency of a sound wave when the speed of the sound is 340 m/s and the wavelength is 0.5 m .

91. Define refraction of light.

92. Write the laws of refraction.

93. Define capacitance.

94. Define Farad.

95. If a $0.5C$ charge passes through a wire in $10s$, how much current flows in the wire?

96. Define Ohm. Write its symbol.

97. Name two protective devices for safe use of electricity.

98. What is logic operation? Name its two types.

99. How is the NOT Gate use as inverter?

100. Define Photophone.