

Roll No. ....

Question Booklet Number

O. M. R. Serial No.

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Question Booklet Number
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## M. Sc. (Electronics) (Second Semester)

### EXAMINATION, 2022-23

#### ELECTROMAGNETICS, ANTENNA AND MICROWAVE THEORY

Paper Code						
E	L	C	2	0	2	N

Questions Booklet Series
<b>A</b>

Time : 1:30 Hours ]

[ Maximum Marks : 75

#### Instructions to the Examinee :

परीक्षार्थियों के लिए निर्देश :

1. Do not open the booklet unless you are asked to do so.
  2. The booklet contains 100 questions. Examinee is required to answer 75 questions in the OMR Answer-Sheet provided and not in the question booklet. All questions carry equal marks.
  3. Examine the Booklet and the OMR Answer-Sheet very carefully before you proceed. Faulty question booklet due to missing or duplicate pages/questions or having any other discrepancy should be got immediately replaced.
1. प्रश्न-पुस्तिका को तब तक न खोलें जब तक आपसे कहा न जाए।
  2. प्रश्न-पुस्तिका में 100 प्रश्न हैं। परीक्षार्थी को 75 प्रश्नों को केवल दी गई OMR आन्सर-शीट पर ही हल करना है, प्रश्न-पुस्तिका पर नहीं। सभी प्रश्नों के अंक समान हैं।
  3. प्रश्नों के उत्तर अंकित करने से पूर्व प्रश्न-पुस्तिका तथा OMR आन्सर-शीट को सावधानीपूर्वक देख लें। दोषपूर्ण प्रश्न-पुस्तिका जिसमें कुछ भाग छपने से छूट गए हों या प्रश्न एक से अधिक बार छप गए हों या उसमें किसी अन्य प्रकार की कमी हो, तो उसे तुरन्त बदल लें।

(Remaining instructions on the last page)

(शेष निर्देश अन्तिम पृष्ठ पर)

***(Only for Rough Work)***

1. Which of the following is zero ?
  - (A) grad div
  - (B) div grad
  - (C) curl grad
  - (D) curl curl
  
2. Given field  $A = 3x_2yz a_x + x_3z a_y + (x_3y - 2z) a_z$ , it can be said that A is :
  - (A) Conservative
  - (B) Divergenceless
  - (C) Solenoidal
  - (D) Rotational
  
3. A loop is rotating about the y-axis in a magnetic field  $B = B_a \sin \omega t a_x \text{ Wb/m}^2$ . The voltage induced in the loop is due to :
  - (A) Motional emf
  - (B) Transformer emf
  - (C) A combination of motional and transformer emf
  - (D) None of the above
  
4. The flux through each turn of a 100-turn coil is  $(t^3 - 2t) \text{ mWb}$ , where  $t$  is in seconds. The induced emf at  $t = 2 \text{ s}$  is :
  - (A) 1 V
  - (B) -1 V
  - (C) 4 mV
  - (D) 0.4 V
  
5. Electromagnetic waves travel faster in conductors than in dielectrics.
  - (A) True
  - (B) False
  - (C) Nothing can be said
  
6. Which of the following statements is not true of waves in general ?
  - (A) It may be a function of time only.
  - (B) It may be sinusoidal or cosinusoidal.
  - (C) It must be a function of time and space.
  - (D) For practical reasons, it must be finite in extent.
  
7. The Poynting vector physically denotes the power density leaving or entering a given volume in a time-varying field.
  - (A) True
  - (B) False
  - (C) Nothing can be said
  
8. In an air line, adjacent maxima are found at 12.5 cm and 37.5 cm. The operating frequency is :
  - (A) 1.5 GHz
  - (B) 600 MHz
  - (C) 300 MHz
  - (D) 1.2 GHz

9. If the elements of a binomial array are separated by  $\lambda/4$ , how many shape patterns are generated with no minor lobes ?
- (A) 2  
(B) 4  
(C) 8  
(D) 16
10. At microwave frequencies, we prefer waveguides to transmission lines for transporting EM energy because of all the following except that :
- (A) Losses in transmission lines are prohibitively large.  
(B) Waveguides have larger bandwidths and lower signal attenuation.  
(C) Transmission lines are larger in size than waveguides.  
(D) Transmission lines support only TEM mode.
11. A very small thin wire of length  $X/100$  has a radiation resistance of :
- (A)  $0 \Omega$   
(B)  $0.08 \Omega$   
(C)  $7.9 \Omega$   
(D)  $790 \Omega$
12. At a distance of 8 km from a differential antenna, the field strength is  $12 \mu\text{V/m}$ . The field strength at a location 20 km from the antenna is :
- (A)  $75 \mu\text{V/m}$   
(B)  $30 \mu\text{V/m}$   
(C)  $4.8 \mu\text{V/m}$   
(D)  $1.92 \mu\text{V/m}$
13. A receiving antenna in an airport has a maximum dimension of 3 m and operates at 100 MHz. An aircraft approaching the airport is  $1/2$  km from the antenna. The aircraft is in the far field region of the antenna.
- (A) True  
(B) False
14. A receiving antenna is located 100 m away from the transmitting antenna. If the effective area of the receiving antenna is  $500 \text{ cm}^2$  and the power density at the receiving location is  $2 \text{ mW/m}^2$ , the total power received is :
- (A)  $0.11 \mu\text{W}$   
(B)  $1 \mu\text{W}$   
(C)  $10 \mu\text{W}$   
(D)  $100 \mu\text{W}$

15. For avoiding ground losses, better is the surface conductivity, less is the :
- (A) Attenuation
  - (B) Phase velocity
  - (C) Propagation constant
  - (D) Tilt angle
16. On which factors of earth does the magnitude of tilt angle depend in surface wave ?
- (a) Permittivity
  - (b) Conductivity
  - (c) Resistivity
  - (d) Reflectivity
- Codes :**
- (A) (a) and (b)
  - (B) (c) and (d)
  - (C) (a) and (c)
  - (D) (b) and (d)
17. What is the direction of varying orientation of polarized surface wave at the earth surface in a wave tilt mechanism ?
- (A) Horizontal
  - (B) Vertical
  - (C) Diagonal
  - (D) Opposite
18. Which layer has the atmospheric conditions exactly opposite to that of standard atmosphere ?
- (A) Depression layer
  - (B) Regression layer
  - (C) Inversion layer
  - (D) Invasion layer
19. If the maximum electron density for F-layer in Ionosphere is  $4 \times 10^6$  electrons/cm<sup>3</sup>, then what will be the critical frequency of EM wave for F-layer ?
- (A) 4 MHz
  - (B) 9 MHz
  - (C) 18 MHz
  - (D) 25 MHz
20. According to Secant law, which frequency is greater than critical frequency by a factor of  $\sec \theta_i$  ?
- (A) MUF
  - (B) LUF
  - (C) OWF
  - (D) UHF
21. How is the effect of selective fading reduced ?
- (a) By high carrier reception
  - (b) By low carrier reception
  - (c) By single side band system
  - (d) By double side band system
- Codes :**
- (A) (a) and (c)
  - (B) (b) and (d)
  - (C) (a) and (d)
  - (D) (b) and (c)

22. In lens antenna, what kind of wave energy is transformed into plane waves ?
- (A) Convergent
  - (B) Divergent
  - (C) Contingent
  - (D) Congruent
23. What is the functioning role of an antenna in receiving mode ?
- (A) Radiator
  - (B) Converter
  - (C) Sensor
  - (D) Inverter
24. In radio communication link, what is the shape/nature of waves generated by transmitting antenna ?
- (A) Spherical
  - (B) Plane
  - (C) Triangular
  - (D) Square
25. Which among the following is an application of high frequency ?
- (A) SONAR
  - (B) Subsurface communication
  - (C) Radio navigation
  - (D) Facsimile
26. Wave front is basically a locus of points acquiring similar :
- (A) Phase
  - (B) Frequency
  - (C) Amplitude
  - (D) Wave equation
27. In which kind of waveform is the phase velocity defined ?
- (A) Sinusoidal
  - (B) Rectangular
  - (C) Square
  - (D) Triangular
28. Power density is basically termed as power per unit area :
- (A) Reflected
  - (B) Refracted
  - (C) Radiated
  - (D) Diffracted
29. If the path difference of two waves with single source traveling by different paths to arrive at the same point, is  $\lambda/2$ , what would be the phase difference between them ?
- (A)  $\beta \times (\lambda/2)$
  - (B)  $\beta/(\lambda/2)$
  - (C)  $\beta + (\lambda/2)$
  - (D)  $\beta - (\lambda/2)$
30. Which ionization layer exists during day time and usually vanishes at night due to highest recombination rate ?
- (A) D-region
  - (B) Normal E-region
  - (C) Sporadic E-region
  - (D) Appleton region

31. What is the possible range of height for the occurrence of sporadic E-region with respect to normal E-region ?
- (A) 20 km-50 km  
 (B) 45 km-85 km  
 (C) 90 km-130 km  
 (D) 140 km-200 km
32. F2 layer of appleton region acts as a significant reflecting medium for frequency radio waves :
- (A) Low  
 (B) Moderate  
 (C) High  
 (D) All of the above
33. The knowledge of which parameter is sufficient for deriving the timevarying electromagnetic field ?
- (A) Electric field intensity  
 (B) Magnetic field intensity  
 (C) Current density  
 (D) Power density
34. Under which conditions of charge does the radiation occur through wire antenna ?
- (A) For a charge with no motion  
 (B) For a charge moving with uniform velocity with straight and infinite wire  
 (C) For a charge oscillating in time motion  
 (D) All of the above
35. In a non-isotropic directional antenna, which radiating lobe axis makes an angle of  $180^\circ$  w.r.t. major beam of an antenna ?
- (A) Minor lobe  
 (B) Side lobe  
 (C) Back lobe  
 (D) None of the above
36. Which among the following elucidate the generation of electromagnetic waves ?
- (a) Ampere's law  
 (b) Faraday's law  
 (c) Gauss's law  
 (d) Kirchhoff's law
- Codes :**
- (A) (a) and (b)  
 (B) (b) and (c)  
 (C) (c) and (c)  
 (D) (b) and (d)
37. If an antenna draws 12 A current and radiates 4 kW, then what will be its radiation resistance ?
- (A) 22.22 ohm  
 (B) 27.77 ohm  
 (C) 33.33 ohm  
 (D) 39.77 ohm

38. Under which conditions of two unit vectors, the polarization loss factor (PLF) is equal to unity ?
- (A) Perpendicular  
 (B) Perfectly aligned  
 (C) Angle inclination ( $\Psi_p$ )  
 (D) All of the above
39. Which property/ies of antenna is/are likely to be evidenced in accordance to Reciprocity theorem ?
- (A) Equality of impedances  
 (B) Equality of directional patterns  
 (C) Equality of effective lengths  
 (D) All of the above
40. Self impedance of an antenna is basically :
- (A) Its input impedance during the removal of all other antennas  
 (B) Its impedance by taking into consideration the consequences of other antennas  
 (C) Both (A) and (B)  
 (D) None of the above
41. In solution evaluation process of inhomogeneous vector potential wave equation, if points are completely removed from the source, then by which factor does the time varying field and static solution differ ?
- (A)  $e^{-jkr}$   
 (B)  $e^{jkr}$   
 (C)  $e^{-jk/r}$   
 (D)  $e^{(jk+r)}$
42. The concept of magnetic vector potential finds its major application in deriving expression of magnetic field intensity especially for :
- (A) Real fields  
 (B) Imaginary fields  
 (C) Complex fields  
 (D) None of the above
43. A dipole carries r.m.s. current of about 300 A across the radiation resistance  $2 \Omega$ . What would be the power radiated by an antenna ?
- (A) 90 kW  
 (B) 135 kW  
 (C) 180 kW  
 (D) 200 kW



44. What is/are the major applications of an infinitesimal dipole that contribute/s to its analysis ?
- (A) Field pattern estimation due to any length of antenna  
 (B) Improvement in radiation resistance by increasing dipole length  
 (C) Both (A) and (B)  
 (D) None of the above
45. What is/are the advantages of using ferrite loops ?
- (a) Increase in magnetic field intensity  
 (b) Increase in radiation resistance  
 (c) Decrease in magnetic field intensity  
 (d) Decrease in radiation resistance
- Codes :**
- (A) (a) and (b)  
 (B) (c) and (d)  
 (C) (a) and (d)  
 (D) (b) and (c)
46. In an electrically large loop, an overall length of the loop is equal to :
- (A)  $\lambda/2$   
 (B)  $\lambda$   
 (C)  $\lambda/10$   
 (D)  $\lambda/50$
47. How do the elements of an active region behave ?
- (A) Inductive  
 (B) Capacitive  
 (C) Resistive  
 (D) None of the above
48. By how many times is an input impedance of a folded dipole at resonance greater than that of an isolated dipole with same length as one of its sides ?
- (A) 2  
 (B) 3  
 (C) 4  
 (D) 6
49. Which mode of radiation occurs in an helical antenna due to smaller dimensions of helix as compared to a wavelength ?
- (A) Normal  
 (B) Axial  
 (C) Both (A) and (B)  
 (D) None of the above
50. A rectangular horn antenna operating at 4 GHz has the wavelength of 0.075 m and gain of about 13dBi. What will be its required capture area ?
- (A)  $0.0149 \text{ m}^2$   
 (B)  $0.0475 \text{ m}^2$   
 (C)  $0.5521 \text{ m}^2$   
 (D)  $0.9732 \text{ m}^2$

51. What is the nature of radiation pattern of an isotropic antenna ?
- (A) Spherical  
(B) Dough-nut  
(C) Elliptical  
(D) Hyperbolic
52. In broadside array, all the elements in the array should have similar excitation along with similar amplitude excitation for maximum radiation.
- (A) Phase  
(B) Frequency  
(C) Current  
(D) Voltage
53. Which among the following is regarded as a condition of an ordinary endfire array ?
- (A)  $\alpha < \beta d$   
(B)  $\alpha > \beta d$   
(C)  $\alpha = \pm \beta d$   
(D)  $\alpha \neq \pm \beta d$
54. Which mode of propagation is adopted in HF antennas ?
- (A) Ionospheric  
(B) Ground wave  
(C) Tropospheric  
(D) All of the above
55. For which band/s is the space wave propagation suitable over 30 MHz ?
- (A) VHF  
(B) SHF  
(C) UHF  
(D) All of the above
56. If the tower antenna is not grounded, which method of excitation is/are applicable for ?
- (A) Series  
(B) Shunt  
(C) Both (A) and (B)  
(D) None of the above
57. In ungrounded antennas, if an excitation is applied directly across the base insulator, then on which factor/s would the voltage across the insulator depend ?
- (A) Power delivered to antenna  
(B) Power factor of impedance  
(C) Both (A) and (B)  
(D) None of the above
58. Which among the following exhibits perpendicular nature in TEM wave ?
- (A) Electric field  
(B) Magnetic field  
(C) Direction of propagation  
(D) All of the above

59. Which equations are regarded as wave equations in frequency domain for lossless media ?
- (A) Maxwell's
  - (B) Lorentz
  - (C) Helmholtz
  - (D) Poisson's
60. Which type of ground wave travels over the earth surface by acquiring direct path through air from transmitting to receiving antennas ?
- (A) Surface wave
  - (B) Space wave
  - (C) Both (A) and (B)
  - (D) None of the above
61. After which phenomenon/phenomena do the waves arrive at the receiving antenna in ionospheric propagation ?
- (A) Reflection or Scattering
  - (B) Refraction
  - (C) Defraction
  - (D) All of the above
62. Which mechanism/s is/are likely to occur in mid-frequency operation corresponding to ionospheric region ?
- (A) Only reflection
  - (B) Only refraction
  - (C) Partial reflection and refraction
  - (D) None of the above
63. Which among the following plays a primary role in generation of conduction current in an ionosphere due to presence of electric field ?
- (A) Ions
  - (B) Motion of electrons
  - (C) Neutral molecules
  - (D) None of the above
64. Which type of wire antennas are also known as dipoles ?
- (A) Linear
  - (B) Loop
  - (C) Helical
  - (D) All of the above
65. Which antennas are renowned as patch antennas especially adopted for space craft applications ?
- (A) Aperture
  - (B) Microstrip
  - (C) Array
  - (D) Lens
66. Which conversion mechanism is performed by parabolic reflector antenna ?
- (A) Plane to spherical wave
  - (B) Spherical to plane wave
  - (C) Both (A) and (B)
  - (D) None of the above

67. Which antenna radiating region/s has/have independent nature of angular field distribution over the distance from the antenna ?
- (A) Reactive near-field region  
 (B) Fresnel region  
 (C) Fraunhofer region  
 (D) All of the above
68. The vector magnetic potential shows the inverse relationship with its :
- (A) Source  
 (B) Distance of point from the source  
 (R)  
 (C) Both (A) and (B)  
 (D) None of the above
69. In the solutions of inhomogeneous vector potential wave equation, which component exists if the source is at origin and the points are removed from the source ( $J_z = 0$ ) ?
- (A) Inward  
 (B) Outward  
 (C) Both (A) and (B)  
 (D) None of the above
70. If a half-wave dipole operates at 300 MHz with  $\lambda = 0.5$  m and  $D_0 = 1.643$ , what will be its effective area ?
- (A)  $0.032 \text{ m}^2$   
 (B)  $0.047 \text{ m}^2$   
 (C)  $0.65 \text{ m}^2$   
 (D)  $0.99 \text{ m}^2$
71. Which auxiliary functions assist in solving the radiation problem by evaluation of E and H using sources J and M ?
- (A) Scalar potentials  
 (B) Vector potentials  
 (C) Gradient potentials  
 (D) Divergence potentials
72. If an observation point is closely located to the source, then the field is termed as :
- (A) Induced  
 (B) Radiated  
 (C) Reflected  
 (D) Far-field
73. As one moves away from the transmitter, the ground waves eventually disappear because of :
- (A) Maximum single hop distance limitation  
 (B) Loss of line-of-sight condition  
 (C) Tilting  
 (D) Interference from the sky waves

74. The abnormal variation in ionosphere is :
- Ionospheric storm
  - Seasonal variation
  - Diurnal variation
  - All of the above
75. .... is not between F<sub>2</sub> layer and D layer.
- G region
  - E layer
  - F<sub>1</sub> layer
  - All of the above
76. The fluctuation in the received signal strength at the receiver or a random variation in the received signal is known as :
- Absorption
  - Cycling
  - Fluctuation
  - Fading
77. The frequency for satellite communication should be :
- More than the critical frequency
  - Less than the critical frequency
  - Equal to the critical frequency
  - None of the above
78. The critical frequency of a wave is 30 MHz and departing angle is 60°. The MUF is given to be :
- 60 MHz
  - 15 MHz
  - 120 MHz
  - 30 MHz
79. The electromagnetic waves get absorbed in the atmosphere. The absorption of electromagnetic waves mainly depends on :
- Distance from the transmitter
  - The polarization of waves
  - The frequency in use
  - All of the above
80. The effect of skip distance in frequency is :
- It decreases with increase in frequency
  - It increases with increase in frequency
  - It increases with decrease in frequency
  - It decreases with decrease in frequency
81. The crossed dipoles in a turnstile antenna are excited with voltages :
- In phase with each other
  - 180° out of phase with each other
  - 120° out of phase with each other
  - 90° out of phase with each other
82. If a linear uniform array consists of 9 isotropic elements separated by  $\lambda/4$ , what would the directivity of a broadside array in dB ?
- 6.53 dB
  - 7.99 dB
  - 8.55 dB
  - 9.02 dB

83. For Yagi-Uda array the term that is not applicable is :
- (A) Good bandwidth
  - (B) High gain
  - (C) Folded dipole
  - (D) Parasitic elements
84. Radiation efficiency of an antenna is given by :
- (A) Directivity/Maximum power gain
  - (B) Maximum power gain/Directivity
  - (C) Radiation resistance/Antenna resistance
  - (D) Antenna resistance/Radiation resistance
85. What should be the height of an antenna in order to consider it to be in free space ?
- (A)  $2\lambda$
  - (B)  $> 5\lambda$
  - (C)  $< 3\lambda$
  - (D)  $\lambda$
86. Which of the following statement is true for bandwidth of an antenna ?
- (A) Inversely proportional to  $1/Q^2$
  - (B) Directly proportional to  $Q^2$
  - (C) Directly proportional to  $Q$
  - (D) Inversely proportional to  $Q$
87. In loop antennas the radiation pattern formed is :
- (A) Semicircle
  - (B) Circle
  - (C) Cardioid
  - (D) None of the above
88. Consider a vertical earthed antenna. This antenna will be resonant when its physical height will be :
- (A)  $\lambda/4$
  - (B)  $\lambda$
  - (C)  $\lambda/2$
  - (D)  $2\lambda$
89. Circular polarization is formed in :
- (A) Helical antenna
  - (B) Yagi-Uda antenna
  - (C) Parabolic antenna
  - (D) Dipole antenna
90. Let the directivity of a microwave antenna be 900. The maximum effective aperture will be :
- (A)  $716.19 \lambda^2$
  - (B)  $71.619 \lambda^2$
  - (C)  $7.1619 \lambda^2$
  - (D)  $71619 \lambda^2$
91. Which one of the following statement is true for log periodic antenna ?
- (A) Frequency dependent antenna
  - (B) Frequency independent antenna
  - (C) Directional antenna
  - (D) None of the above
92. Triatics are :
- (A) Supports for antenna conductors
  - (B) Small height antennas directly mounted on ship, jeeps etc.
  - (C) The towers or masts, which are used as radiators
  - (D) The towers or masts, which are not used as radiators

93. According to Siegel and Labus, antennas can be treated as :
- (A) Earthed transmission line
  - (B) Closed transmission line
  - (C) Opened out transmission line
  - (D) Shorted transmission line
94. If the length of elements of an array is greater than  $\lambda/2$ , which will be the operating region of an array ?
- (A) Transmission line region
  - (B) Active region
  - (C) Reflective region
  - (D) All of the above
95. What kind of beamwidth is/are produced by Chebyshev arrays for given side lobe level (SLL) ?
- (A) Widest
  - (B) Narrowest
  - (C) Both (A) and (B)
  - (D) None of the above
96. What would happen if the rms value of induced emf in loop acquires an angle  $\theta = 90^\circ$  ?
- (A) Wave is incident in direction of plane of the loop with induced maximum voltage
  - (B) Wave is incident normal to plane of the loop with no induced voltage
  - (C) Wave is incident in opposite direction of plane of the loop with minimum voltage
  - (D) None of the above
97. What is the far-field position of an electric short dipole ?
- (A) Along  $x$ -axis
  - (B) Along  $y$ -axis
  - (C) Along  $z$ -axis
  - (D) Along  $xy$  plane
98. If the radius of loop is  $\lambda/20$  in a free space medium, what will be the radiation resistance of 8-turn small circular loop ?
- (A)  $0.7883 \Omega$
  - (B)  $50.45 \Omega$
  - (C)  $123.17 \Omega$
  - (D)  $190.01 \Omega$
99. In a good conductor, E and H are in time phase.
- (A) True
  - (B) False
  - (C) Nothing can be said
100. What is the major factor for determining whether a medium is free space, lossless dielectric, lossy dielectric, or good conductor ?
- (A) Attenuation constant
  - (B) Constitutive parameters ( $a, e, f\epsilon$ )
  - (C) Loss tangent
  - (D) Reflection coefficient

4. Four alternative answers are mentioned for each question as—A, B, C & D in the booklet. The candidate has to choose the correct answer and mark the same in the OMR Answer-Sheet as per the direction :

**Example :**

**Question :**

Q. 1 (A) ● (C) (D)

Q. 2 (A) (B) ● (D)

Q. 3 (A) ● (C) (D)

Illegible answers with cutting and over-writing or half filled circle will be cancelled.

5. Each question carries equal marks. Marks will be awarded according to the number of correct answers you have.
6. All answers are to be given on OMR Answer sheet only. Answers given anywhere other than the place specified in the answer sheet will not be considered valid.
7. Before writing anything on the OMR Answer Sheet, all the instructions given in it should be read carefully.
8. After the completion of the examination candidates should leave the examination hall only after providing their OMR Answer Sheet to the invigilator. Candidate can carry their Question Booklet.
9. There will be no negative marking.
10. Rough work, if any, should be done on the blank pages provided for the purpose in the booklet.
11. To bring and use of log-book, calculator, pager and cellular phone in examination hall is prohibited.
12. In case of any difference found in English and Hindi version of the question, the English version of the question will be held authentic.

**Impt. :** On opening the question booklet, first check that all the pages of the question booklet are printed properly. If there is any discrepancy in the question Booklet, then after showing it to the invigilator, get another question Booklet of the same series.

4. प्रश्न-पुस्तिका में प्रत्येक प्रश्न के चार सम्भावित उत्तर—A, B, C एवं D हैं। परीक्षार्थी को उन चारों विकल्पों में से सही उत्तर छँटना है। उत्तर को OMR आन्सर-शीट में सम्बन्धित प्रश्न संख्या में निम्न प्रकार भरना है :

उदाहरण :

प्रश्न :

प्रश्न 1 (A) ● (C) (D)

प्रश्न 2 (A) (B) ● (D)

प्रश्न 3 (A) ● (C) (D)

अपठनीय उत्तर या ऐसे उत्तर जिन्हें काटा या बदला गया है, या गोले में आधा भरकर दिया गया, उन्हें निरस्त कर दिया जाएगा।

5. प्रत्येक प्रश्न के अंक समान हैं। आपके जितने उत्तर सही होंगे, उन्हीं के अनुसार अंक प्रदान किये जायेंगे।
6. सभी उत्तर केवल ओ. एम. आर. उत्तर-पत्रक (OMR Answer Sheet) पर ही दिये जाने हैं। उत्तर-पत्रक में निर्धारित स्थान के अलावा अन्यत्र कहीं पर दिया गया उत्तर मान्य नहीं होगा।
7. ओ. एम. आर. उत्तर-पत्रक (OMR Answer Sheet) पर कुछ भी लिखने से पूर्व उसमें दिये गये सभी अनुदेशों को सावधानीपूर्वक पढ़ लिया जाये।
8. परीक्षा समाप्ति के उपरान्त परीक्षार्थी कक्ष निरीक्षक को अपनी OMR Answer Sheet उपलब्ध कराने के बाद ही परीक्षा कक्ष से प्रस्थान करें। परीक्षार्थी अपने साथ प्रश्न-पुस्तिका ले जा सकते हैं।
9. निगेटिव मार्किंग नहीं है।
10. कोई भी रफ कार्य, प्रश्न-पुस्तिका के अन्त में, रफ-कार्य के लिए दिए खाली पेज पर ही किया जाना चाहिए।
11. परीक्षा-कक्ष में लॉग-बुक, कैलकुलेटर, पेजर तथा सेल्युलर फोन ले जाना तथा उसका उपयोग करना वर्जित है।
12. प्रश्न के हिन्दी एवं अंग्रेजी रूपान्तरण में भिन्नता होने की दशा में प्रश्न का अंग्रेजी रूपान्तरण ही मान्य होगा।

**महत्वपूर्ण :** प्रश्नपुस्तिका खोलने पर प्रथमतः जाँच कर देख लें कि प्रश्न-पुस्तिका के सभी पृष्ठ भलीभाँति छपे हुए हैं। यदि प्रश्नपुस्तिका में कोई कमी हो, तो कक्षनिरीक्षक को दिखाकर उसी सिरीज की दूसरी प्रश्न-पुस्तिका प्राप्त कर लें।