Roll No. ....

O. M. R. Serial No. | | | | | | | | |

Question Booklet Number

M. Sc. (Second Semester) (NEP) EXAMINATION, 2022-23

PHYSICS

(Mathematical Physics–II)

Paper Code							
B	0	1	0	8	0	1	T

Questions Booklet Series
A

Time : 1:30 Hours] [*Maximum Marks : 75*

Instructions to the Examinee :

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.

परीक्षार्थियों के लिए निर्देश :

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. The differential equation that contains unknown function of two or more variables is called :

(A) ordinary differential equation

(B) partial differential equation

(C) ordinary difference equation

(D) partial difference equation

2. A partial differential equation requires :

(A) Equal number of dependent and independent variables

(B) Exactly one independent variable

(C) Two or more independent variables

(D) More than one dependent variables

3. The order and degree of the $\frac{\partial^2 z}{\partial x^2}+3xy\left(\frac{\partial z}{\partial x}\right)^2+5\frac{\partial z}{\partial y}=g$ are :

(A) 1, 1

(B) 1, 2

(C) 2, 1

(D) 2, 2

4. In PDE, what is the highest power of derivative ?

(A) order of a differential equation

(B) solution of a differential equation

(C) degree of a differential equation

(D) None of the above

5. The partial differential equation of $z=f(x^2+y^2)$ formed by the elimination of arbitrary function is :

(A) $xp+yq=0$

(B) $xp+xq=0$

(C) $xq+yp=0$

(D) $yp-xq=0$

6. The differential equation whose solution is $z=(x-a)(y-b)$, is :

(A) $pq=2z$

(B) $pq=z$

(C) $p=2zq$

(D) $p=2q$

7. If partial differential equation has first degree in the unknown function and its partial derivative, it is called :

(A) Linear

(B) Non-linear

(C) Homogeneous

(D) Non-homogeneous

8. The differential equation $r^2 - 6s - t^2 = 0$ is of order :

(A) one

(B) two

(C) three

(D) None of the above

9. The linear partial differential equation of order one is known as :

(A) Lagrange's linear PDE

(B) Cauchy's linear PDE

(C) Charpit's linear PDE

(D) None of the above

10. The partial differential equation of $z = (a^2 + x^2)(b^2 + y^2)$ by eliminating arbitrary constant is :

(A) $xyz = 4pq$

(B) $2xyz = pq$

(C) $4xyz = pq$

(D) $xyz = pq$

11. The solution of $x^2 p + y^2 q = (x + y)z$ is :

(A) $f(xy,\ x - y) = 0$

(B) $f\left(\frac{xy}{z}, \frac{x-y}{z}\right) = 0$

(C) $f(zx,\ z - x) = 0$

(D) None of the above

12. The differential equation $yzp + zxy = xy$, where $p = \frac{\partial z}{\partial x}, q = \frac{\partial z}{\partial y}$ has order and degree as :

(A) order 2, degree 2

(B) order 1, degree 2

(C) order 1, degree 1

(D) order 2, degree 1

13. The partial differential equation of the sphere $(x - a)^2 + (y - b)^2 + z^2 = r^2$ is :

(A) $z^2(p^2 + q^2 + 1) = r^2$

(B) $z(p^2 + q^2 + 1) = r^2$

(C) $z(p^2 + q^2 + 1) = r$

(D) $z^2(p^2 + q^2 - 1) = r^2$

14. The partial differential equation of $z = f(x+t) + f(x-t)$ formed by elimination of arbitrary function is :

(A) $r - t = 0$

(B) $r + t = 0$

(C) $r - s = 0$

(D) $r + s = 0$

15. Which of the following is a Lagrange's partial differential equation ?

(A) $pq = z$

(B) $p^2 - q^2 = 1$

(C) $px^2 + qx^2 = z^2$

(D) None of the above

16. The differential equation $\frac{\partial^3 z}{\partial x^3} - 4\frac{\partial^2 z}{\partial x \partial y} + \left(\frac{\partial z}{\partial x}\right)^4 = 0$ has degree :

(A) One

(B) Two

(C) Three

(D) Four

17. The solution of

$$q^2 x(1+y^2) = py^2$$

is :

(A) $z = a(1+y^2)$

(B) $z = \frac{ax^2}{2} - a(1+y^2) + b$

(C) $z = \frac{ax^2}{2} + \sqrt{a(1+y^2)} + b$

(D) $z = \frac{ax}{2} + \sqrt{a(1+y^2)} + b$

18. Form a PDE of :

$$z = (x-y)\phi(x^2 - y^2)$$

(A) $py - xq = z$

(B) $py + xq = z$

(C) $px + yq = z$

(D) $px - yq = z$

19. Solve $(2p+1)q = pz$:

(A) $a\log(z-a) = x - ay + b$

(B) $2a\log(z+a) = ay + b$

(C) $2a\log(z-a) = x + ay + b$

(D) $a\log(z+a) = 3x + ay + b$

20. The second order partial differential equation

$$3x^2\frac{\partial^2 u}{\partial x^2}-6xy\frac{\partial^2 u}{\partial x\partial y}+3y^2\frac{\partial^2 u}{\partial y^2}-5\frac{\partial u}{\partial x}+7\frac{\partial u}{\partial y}=6x^2y$$

is :

(A) Elliptic equation

(B) Parabolic equation

(C) Hyperbolic equation

(D) Depends on the value of x and y

21. The solution of partial differential equation

$x(y-z)p+y(z-x)q=z(x-y)$

is :

(A) $f(xyz,\ x+y+z)=0$

(B) $f(xyz,\ x-y+z)=0$

(C) $f(xyz,\ x+y-z)=0$

(D) None of the above

22. The solution of partial differential equation $p\tan x+q\tan y=\tan z$ is :

(A) $f\left(\frac{\sin x}{\sin y},\frac{\cos y}{\cos z}\right)=0$

(B) $f\left(\frac{\cos x}{\cos y},\frac{\cos y}{\cos z}\right)=0$

(C) $f\left(\frac{\sin x}{\sin y},\frac{\sin y}{\sin z}\right)=0$

(D) None of the above

23. In the one-dimensional diffusion equation $\frac{\partial u}{\partial t}=\mathrm{D}\frac{\partial^2 u}{\partial x^2}, u(x,t)$ and D represent respectively :

(A) density and diffusion coefficient

(B) diffusion and density coefficient

(C) viscosity and diffusion coefficient

(D) diffusion and viscosity coefficient

24. The one-dimensional wave equation is :

(A) $\frac{\partial u}{\partial t}=c\frac{\partial u}{\partial x}$

(B) $\frac{\partial^2 u}{\partial t^2}=c^2\frac{\partial^2 u}{\partial x^2}$

(C) $\frac{\partial^2 u}{\partial x^2}=c^2\frac{\partial^2 u}{\partial t^2}$

(D) None of the above

25. The partial differential equation of $z=\mathrm{A}x^2+\mathrm{B}y^2$ by eliminating arbitrary constant is :

(A) $z=xp+yq$

(B) $2z=xp+yq$

(C) $z=xp-yq$

(D) $2z=xp-yq$

26. Every group of order 4 is :

(A) cyclic

(B) abelian

(C) non-abelian

(D) None of the above

27. Which of the following is an example of field ?

(A) Z_4

(B) Z_6

(C) Z_7

(D) Z_{10}

28. Which of the following is not an Integral Domain ?

(A) Z_2

(B) Z_7

(C) Z_5

(D) Z_4

29. How many properties can be held by a group ?

(A) 2

(B) 3

(C) 5

(D) 4

30. A cyclic group can be generated by :

(A) singular element

(B) non-singular element

(C) inverse element

(D) multiplicative element

31. Which of the following is not a group ?

(A) $(R, +, \bullet)$

(B) $(Z, -, \bullet)$

(C) $(R^*, \bullet)$

(D) $(Q^*, +, \bullet)$

32. Which of the following is not a field ?

(A) Z_4

(B) Z_7

(C) Z_5

(D) Z_2

33. Characteristic of Ring Z_4 is :

(A) 0

(B) 2

(C) 3

(D) 4

34. Which of the following is an example of an ideal of ring R ?

(A) Z

(B) O

(C) Q

(D) 2Z

35. Which of the following is an example of transcendental number ?

(A) $\sqrt{2}$

(B) π

(C) i

(D) 2

36. Find the polynomial which is reducible over Q :

(A) x^2+3

(B) x^2+5x

(C) x^4-2

(D) x^2+1

37. Number of elements in D_4 is :

(A) 2

(B) 1

(C) 8

(D) 4

38. Which sentence is true ?

(A) set of all matrices forms a group under multiplication.

(B) set of all rational negative numbers for a group under multiplication.

(C) set of all non-singular matrices forms a group under multiplication

(D) None of the above

39. Find the polynomial which is irreducible over Q :

(A) x^2+3

(B) x^2+5x+4

(C) x^4

(D) x^2-1

40. Number of zero divisors of Q is :

(A) 1

(B) 3

(C) 2

(D) 0

41. Find the number of units in the ring Z_5 :

(A) 2

(B) 4

(C) 3

(D) 1

42. Find number of proper subgroups of S_3 :

(A) 5

(B) 4

(C) 3

(D) None of the above

43. Find splitting field of $(x^3 - 2, x^2 - 3)$ over Q :

(A) $Q(\sqrt{3}, \sqrt{2})$

(B) $Q(\sqrt{3})$

(C) $Q(\sqrt{2})$

(D) R

44. A non-empty set A is termed as an algebraic structure is :

(A) with respect to binary operation *

(B) with respect to ternary operation ?

(C) with respect to binary operation +

(D) with respect to unary operation –

45. Matrix multiplication is :

(A) commutative property

(B) associative property

(C) additive property

(D) None of the above

46. Which of the following is a maximal ideal of Z ?

(A) 4Z

(B) Z_2

(C) Q

(D) 2Z

47. Find number of proper normal subgroups of Z_6 :

(A) 2

(B) 4

(C) 3

(D) 1

48. $\{1, i, -i, -1\}$ is :

(A) Semigroup

(B) Subgroup

(C) Abelian group

(D) Cyclic group

49. If G is a prime order group, then G has :

(A) No improper subgroup

(B) No proper subgroup

(C) Two improper subgroups

(D) None of the above

50. What is an inverse of $-i$ in the multiplicative group of $\{1, -1, i, -i\}$?

(A) -1

(B) 1

(C) i

(D) None of the above

51. Any group of order 3 is :

(A) cyclic and abelian

(B) cyclic but not abelian

(C) infinite cyclic group

(D) None of the above

52. If the function $f(x)$ is even, then which of the following is zero ?

(A) a_n

(B) b_n

(C) a_0

(D) Nothing is zero

53. What are Fourier coefficients ?

(A) The term that are present in a Fourier series.

(B) The term that are obtained through Fourier series.

(C) The terms which consist of the Fourier series along with their sine or cosine values.

(D) None of the above

54. Which of the following is an even function of t ?

(A) t^2

(B) $t^2 - 4t$

(C) $t^3 + 6$

(D) $t^3 - 6$

55. Estimate the value of y for $x = 10$, given that :

x	y
5	12
6	13
9	14
11	16

(A) 14.11

(B) 14.66

(C) 15.66

(D) None of the above

56. The root of the equation $x^3+2x-5=0$ lies in (1, 1.5). Its value by applying the method of false position only once is :

(A) 4/3

(B) 5/4

(C) 35/27

(D) 33/25

57. Find number of labours getting wages between ₹ 100 and ₹ 140, given that :

Wages (in ₹)	No. of Labours
0–50	9
50–100	30
100–150	35
150–200	28

(A) 63

(B) 67

(C) 73

(D) None of the above

58. For finding real root of the equation $x^2-x=2$ by Newton-Raphson method, choose $x_0=1$, then the value of x_2 is :

(A) – 1

(B) 3

(C) 11/5

(D) None of the above

59. If 2.236146 is an approximation to $\sqrt{5}$, then the relative error is :

(A) 3.4883×10^{-5}

(B) 4.8383×10^{-5}

(C) 8.3483×10^{-4}

(D) 5.8438×10^{-4}

60. Let $f(x)=x^3-x-5=0$. By Bisection method first two approximation x_0 and x_1 are 1.5 and 2.25 respectively, then x_2 is :

(A) 1.625

(B) 1.875

(C) 1.999

(D) None of the above

61. Find the fourth approximation of the root of the equation $x^3 + x - 11 = 0$, between 2 and 3, using Bisection method :

(A) 1.925

(B) 2.832

(C) 2.5215

(D) 2.0625

62. From the following table, the extrapolated value of y at x = 14 is :

x	y
3	6
5	24
7	58
9	108
11	174

(A) 303

(B) 294

(C) 308

(D) None of the above

63. Evaluate :

$$\int_0^3 \frac{1}{2+x^2}\,dx$$

by using Simpson's $\frac{3}{8}$ rule by taking 3 strips :

(A) 0.507

(B) 0.5007

(C) 0.3939

(D) None of the above

64. The Runge-Kutta method has the error of order :

(A) 1

(B) 3

(C) 5

(D) 2

65. For N = 28 and $x_0 = 55$, the first approximation to $\sqrt{\mathrm{N}}$ by Newton's interaction formula is :

(A) 5.295

(B) 5.582

(C) 5.396

(D) None of the above

66. Given the following tabulated values :

x	y
3	168
7	120
9	72
10	63

The correct value of y at $x = 6$ is :

(A) 132

(B) 147

(C) 140

(D) 127

67. The absolute error Bisection method is :

(A) 2^n

(B) $\frac{1}{2^n}|b-a|$

(C) $\frac{1}{|b-a|}$

(D) $|b-a|2^n$

68. If the first two approximation x_0 and x_1 to a root of $x^3 - x - 4 = 0$ are 1.666 and 1.780 respectively, then find x_2 by Regula-Falsi method :

(A) 1.974

(B) 1.794

(C) 1.896

(D) 1.687

69. Find the value of $\int_2^6 x \log x\, dx$ taking 4 strips by Simpson's $\frac{1}{3}$rd rule up to four decimals :

(A) 21.8901

(B) 23.6581

(C) 22.8661

(D) 20.8356

70. A periodic function is given by a function which :

(A) has a period T = 2π

(B) satisfies $f(t+\mathrm{T}) = -f(t)$

(C) has a period T = π

(D) satisfies $f(t+\mathrm{T}) = f(t)$

71. The Newton's iterative formula to find the value of $3\sqrt{\mathrm{N}}$ is :

(A) $x_{i+1} = \left(2x_i - \frac{\mathrm{N}}{x_i^2}\right)$

(B) $x_{i+1} = \frac{1}{3}\left(x_i - \frac{\mathrm{N}}{x_i^2}\right)$

(C) $x_{i+1} = \frac{1}{3}\left(2x_i + \frac{\mathrm{N}}{x_i^2}\right)$

(D) None of the above

72. If the first approximation of $x^3 - 3x - 5 = 0$ is $(x_0) = 2$, then find x_1 by Newton-Raphson method :

(A) 2.2806

(B) 2.2790

(C) 2.3333

(D) 3.9468

73. Find the value of $\int_2^3 \frac{1}{1+x^2} dx$ taking four intervals by Trapezoidal rule and also find the error when compared to its exact value :

(A) 0.1759, 0.000004

(B) 0.1826, 0.04

(C) 0.1953, 0.004

(D) 0.1423, – 0.0004

74. The Lagrange's interplation polynomial corresponding to the pairs of values of x and y given in the following table is :

x	y
1	36
3	16
4	9
7	72

(A) $x^3 - 6x^2 + 9x + 36$

(B) $x^3 - 6x^2 + 18x - 45$

(C) $3x^3 + 4x^2 - 5x + 27$

(D) $x^3 - 7x^2 + 5x + 37$

75. The estimate of $\int_{0.5}^{1.5} \frac{dx}{x}$ obtained using Simpson's rule with three point function evaluation exceeds the exact value by :

(A) 0.235

(B) 0.012

(C) 0.024

(D) 0.068

76. The Fourier cosine transform of the function $f(x)$ is :

(A) $F_c(\lambda) = \int_0^\infty f(u) \cos \lambda u \, du$

(B) $F_c(\lambda) = \int_0^\infty f(u) \cos u \, du$

(C) $F_c(\lambda) = \int_0^\infty f(\lambda u) \cos u \, du$

(D) None of the above

77. If $f(t)$ is even function, then its Fourier transform F(s) is :

(A) Real and odd

(B) Real and even

(C) Imaginary and even

(D) Imaginary and odd

78. The Fourier sine transform of $\frac{e^{-ax}}{x}$ is :

(A) $\tan^{-1}(s)$

(B) $\tan^{-1}(a/s)$

(C) $\tan^{-1}(s/a)$

(D) None of the above

79. If $F\{f(x\} = F(\lambda)$, then $F\{f(x-a)\}$ is :

(A) $e^{i\lambda a}F(\lambda)$

(B) $e^{i\lambda t}F(\lambda)$

(C) $e^{-i\lambda a}F(\lambda)$

(D) $e^{-i\lambda t}F(\lambda)$

80. The Fourier cosine transform $F_c(\lambda)$ of $f(x) = e^{-x}, x > 0$ is given by :

(A) $\frac{2}{1+\lambda^2}$

(B) $\frac{1}{1-\lambda^2}$

(C) $\frac{\lambda}{1+\lambda^2}$

(D) $\frac{1}{1+\lambda^2}$

81. The Fourier cosine transform $f(x) = e^{-x^2}$ is :

(A) $\frac{\sqrt{\pi}}{2}e^{\frac{s^2}{4}}$

(B) $\frac{\sqrt{\pi}}{2}e^{\frac{-s^2}{4}}$

(C) $e^{\frac{-5^2}{4}}$

(D) None of the above

82. If $f(t)$ is odd function, then its Fourier transform F(s) is :

(A) real and odd

(B) real and even

(C) imaging and even

(D) imaginary and odd

83. If F(s) is Fourier transform of $f(x)$, then which of the following is true ?

(A) $F\{x\,f(x)\} = -\frac{d}{d^{s}}F(s)$

(B) $F\{x\,f(x)\} = -i\frac{d}{ds}F(s)$

(C) $F\{x\,f(x)\} = \frac{d}{ds}F(s)$

(D) $F\{x\,f(x)\} = i\frac{d}{ds}F(s)$

84. If $F\{f(x)\} = F(s)$ and $F\{g(x)\} = G(s)$, then by Parseval's identity $\frac{1}{2\pi}\int_{-\infty}^{\infty} F(s)\,G(s)\,ds$ = :

(A) $\int_{0}^{\infty} f(x)g(x)\,dx$

(B) $\frac{1}{2\pi}\int_{-\infty}^{\infty} f(x)g(x)\,dx$

(C) $\int_{-\infty}^{\infty} f(x)g(x)\,dx$

(D) None of the above

85. $L^{-1}[1] =$

(A) $\delta(t)$

(B) 1

(C) $u(t)$

(D) Doesn't exist

86. Laplace transformation of $\delta(t-a)$ is :

(A) $e^{\delta g}$

(B) e^{ag}

(C) e^{-ag}

(D) $e^{\delta t}$

87. $L^{-1}[e^{-ag}] =$

(A) $H(t-a)$

(B) $u(t)$

(C) $\delta(t-a)$

(D) $f(t-a)$

88. The Fourier transform of the function $f(x)$ is $F(\lambda)$. The inversion formula is :

(A) $\frac{1}{2\pi}\int_{-\infty}^{\infty} F(\lambda)\,e^{i\lambda x}\,d\lambda$

(B) $\frac{1}{\pi}\int_{-\infty}^{\infty} F(\lambda)\,e^{-i\lambda x}\,d\lambda$

(C) $\frac{1}{2\pi}\int_{0}^{\infty} F(\lambda)\,e^{-i\lambda x}\,d\lambda$

(D) None of the above

89. The polynomial x^2+1 is irreducible over :

(A) C

(B) Q(i)

(C) Z(i)

(D) R

90. Let E is $Q(\sqrt{3},\sqrt{7})$ and F is Q. Then index of E over F is :

(A) 2

(B) 3

(C) 4

(D) 1

91. Which are the Fourier coefficients in the following ?

(A) a_0, a_n and b_n

(B) a_n

(C) b_n

(D) a_n and b_n

92. Fourier series uses which domain representation of signals ?

(A) Time domain representation

(B) Frequency domain representation

(C) Neither depends on the situation

(D) Both (A) and (B)

93. How does Fourier series make it easier to represent periodic signals ?

(A) Harmonically related

(B) Periodically related

(C) Sinusoidally related

(D) Exponentially related

94. Number of automorphisms from $Q(\sqrt{2})$ to $Q(\sqrt{3})$ is :

(A) 1

(B) 2

(C) 3

(D) 0

95. Select Ring from the following :

(A) $(R, +, \bullet)$

(B) $(Z, -, \bullet)$

(C) $(R^*, +, \bullet)$

(D) $(Q^*, +, \bullet)$

96. Which of the following is a prime ideal of Z ?

(A) Z

(B) Z_2

(C) Q

(D) 2Z

97. The field $Q\left(\sqrt{3}+\sqrt{7}\right)$ is isomorphic to :

(A) Q

(B) R

(C) $Q(\sqrt{3}, \sqrt{7})$

(D) None of the above

98. Find k_1, by Runge-Kutta method of fourth order if $\frac{dy}{dx} = 2x + 3y^2$ and $y(0,1) = 1.1165$, $h = 0.1$:

(A) 0.3993

(B) 0.9393

(C) 0.3939

(D) 0.9933

99. The partial differential equation of

$$z = (x-a)^2 + (y-b)^2,$$

by eliminating arbitrary constant is :

(A) $p^2 q^2 = 4z$

(B) $p^2 + q^2 = 4z$

(C) $p^2 - q^2 = 4z$

(D) $pq = 4z$

100. Find number of generators of the group Z_{10} :

(A) 4

(B) 2

(C) 1

(D) 3

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 Ⓐ ● Ⓒ Ⓓ

Q. 2 Ⓐ Ⓑ ● Ⓓ

Q. 3 Ⓐ ● Ⓒ Ⓓ

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 ny 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 छाँटना है। उत्तर को OMR आन्सर-शीट में सम्बन्धित प्रश्न संख्या में निम्न प्रकार भरना है :

उदाहरण :

प्रश्न :

प्रश्न 1 Ⓐ ● Ⓒ Ⓓ

प्रश्न 2 Ⓐ Ⓑ ● Ⓓ

प्रश्न 3 Ⓐ ● Ⓒ Ⓓ

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।