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Paper Code

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(To be filled in the
OMR Sheet)

प्रश्नपुस्तिका क्रमांक
Question Booklet No.

O.M.R. Serial No.

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प्रश्नपुस्तिका सीरीज
Question Booklet Series

D

BCA (Fourth Semester) Examination, July-2022

BCA-405(N)

Mathematics-III

Time : 1:30 Hours

Maximum Marks-100

जब तक कहा न जाय, इस प्रश्नपुस्तिका को न खोलें

- K-376**
- निर्देश : —
1. परीक्षार्थी अपने अनुक्रमांक, विषय एवं प्रश्नपुस्तिका की सीरीज का विवरण यथास्थान सही- सही भरें, अन्यथा मूल्यांकन में किसी भी प्रकार की विसंगति की दशा में उसकी जिम्मेदारी स्वयं परीक्षार्थी की होगी।
 2. इस प्रश्नपुस्तिका में 100 प्रश्न हैं, जिनमें से केवल 75 प्रश्नों के उत्तर परीक्षार्थियों द्वारा दिये जाने हैं। प्रत्येक प्रश्न के चार वैकल्पिक उत्तर प्रश्न के नीचे दिये गये हैं। इन चारों में से केवल एक ही उत्तर सही है। जिस उत्तर को आप सही या सबसे उचित समझते हैं, अपने उत्तर पत्रक (O.M.R. ANSWER SHEET) में उसके अक्षर वाले वृत्त को काले या नीले बाल प्वाइंट पेन से पूरा भर दें। यदि किसी परीक्षार्थी द्वारा किसी प्रश्न का एक से अधिक उत्तर दिया जाता है, तो उसे गलत उत्तर माना जायेगा।
 3. प्रत्येक प्रश्न के अंक समान हैं। आप के जितने उत्तर सही होंगे, उन्हीं के अनुसार अंक प्रदान किये जायेंगे।
 4. सभी उत्तर केवल ओ०एम०आर० उत्तर पत्रक (O.M.R. ANSWER SHEET) पर ही दिये जाने हैं। उत्तर पत्रक में निर्धारित स्थान के अलावा अन्यत्र कहीं पर दिया गया उत्तर मान्य नहीं होगा।
 5. ओ०एम०आर० उत्तर पत्रक (O.M.R. ANSWER SHEET) पर कुछ भी लिखने से पूर्व उसमें दिये गये सभी अनुदेशों को सावधानीपूर्वक पढ़ लिया जाय।
 6. परीक्षा समाप्ति के उपरान्त परीक्षार्थी कक्ष निरीक्षक को अपनी ओ०एम०आर० शीट उपलब्ध कराने के बाद ही परीक्षा कक्ष से प्रस्थान करें।
 7. निगेटिव मार्किंग नहीं है।
- महत्वपूर्ण : — प्रश्नपुस्तिका खोलने पर प्रथमतः जाँच कर देख लें कि प्रश्नपुस्तिका के सभी पृष्ठ भलीभाँति छपे हुए हैं। यदि प्रश्नपुस्तिका में कोई कमी हो, तो कक्ष निरीक्षक को दिखाकर उसी सीरीज की दूसरी प्रश्नपुस्तिका प्राप्त कर लें।

1. Complementary function for $(D^2 + 1)y = 0$ is :
 - (A) $c_1 \cos x$
 - (B) $c_2 \sin x$
 - (C) $c_1 + c_2 \cos x$
 - (D) $c_1 \cos x + c_2 \sin x$
2. Complementary function for ODE $(D^2 - 1)y = 0$, where $D \equiv \frac{d}{dx}$ is :
 - (A) $(c_1 + c_2 x)e^x$
 - (B) $c_1 e^x + c_2 e^{-x}$
 - (C) e^x
 - (D) e^{-x}
3. Sequence $\langle a_n \rangle = \{5, 5, 5, \dots\}$ i.e. $a_n = 5 \ \forall \ n \in N$ is :
 - (A) Constant sequence
 - (B) Not bounded above
 - (C) Not bounded below
 - (D) Not bounded
4. Sequence $\langle \frac{1}{n+1} \rangle$ converges to :
 - (A) 1
 - (B) 0
 - (C) ∞
 - (D) -1

5. Sequence $\langle a_n \rangle = \langle n \rangle$ has :
- (A) Infinitely many terms
 - (B) Finitely many terms
 - (C) n terms
 - (D) NOT
6. Sequence $\langle \frac{1}{n} \rangle$ is :
- (A) Bounded above
 - (B) Bounded below
 - (C) Neither bounded above nor bounded below
 - (D) Option (A) and (B) both
7. ODE $\frac{dy}{dx} = \frac{x^2+y^2}{xy}$ is :
- (A) Homogeneous ODE
 - (B) Non homogeneous ODE
 - (C) Linear in x
 - (D) Linear in y
8. If $f(x)$ is periodic function with period $2c$ then Fourier coefficient a_0 is :
- (A) $\frac{1}{4c} \int_a^b f(x) dx$
 - (B) $\frac{1}{3c} \int_a^b f(x) dx$
 - (C) $\frac{1}{c} \int_a^b f(x) dx$
 - (D) NOT

9. $\frac{e^{iz}-e^{-iz}}{2i}$ is equal to :
- (A) $\cos z$
 - (B) $\cos hz$
 - (C) $\sin z$
 - (D) $\sin hz$
10. Locus of $|z| < 1$ is :
- (A) $x^2 + y^2 = 1$
 - (B) $x^2 + y^2 > 1$
 - (C) $x^2 + y^2 < 1$
 - (D) $x + y < 1$
11. Imaginary part of $\frac{3-2i}{7+4i}$ is :
- (A) $\frac{2}{5}$
 - (B) $\frac{-2}{5}$
 - (C) $\frac{1}{5}$
 - (D) NOT
12. $\tan^{-1}\left(\frac{4}{7}\right) + \tan^{-1}\left(\frac{3}{11}\right)$ is :
- (A) $\frac{\pi}{4}$
 - (B) $\frac{-\pi}{4}$
 - (C) 1
 - (D) NOT
13. Curl of a vector field is :
- (A) Scalar
 - (B) Vector
 - (C) Never be a vector
 - (D) NOT

14. $\frac{d}{dt}(\vec{a} \times \vec{b}) =$
- (A) $\vec{a} \times \frac{d\vec{b}}{dt} + \frac{d\vec{a}}{dt} \times \vec{b}$
- (B) $\vec{a} \times \frac{d\vec{b}}{dt} + \frac{d\vec{a}}{dt} \vec{b}$
- (C) $\vec{a} \times \frac{d\vec{b}}{dt} + \vec{b} \times \frac{d\vec{a}}{dt}$
- (D) NOT
15. For solenoidal field vector $\vec{v}$, divergence of $\vec{v}$ is :
- (A) Non zero
- (B) Zero
- (C) Never zero
- (D) NOT
16. Gradient of $|\vec{r}|$ is :
- (A) $\frac{\vec{r}}{r}$
- (B) $\vec{r}$
- (C) $\frac{\vec{r}}{r^2}$
- (D) r
17. $\nabla f(r)$ is :
- (A) $f'(r)$
- (B) $f'(r)\nabla r$
- (C) $f'(r)\vec{r}$
- (D) $\frac{f'(r)}{r}$
18. A vector which is perpendicular to both vectors $\vec{a}$ and $\vec{b}$ is :
- (A) $|\vec{a} \times \vec{b}|$
- (B) $\vec{a} \times \vec{b}$
- (C) $|2\vec{a} \times \vec{b}|$
- (D) $|\vec{b} \times \vec{a}|$

19. Euler's Formula is :
- (A) $e^{i\theta} = \cos \theta + i \sin \theta$
 - (B) $e^{-i\theta} = \cos \theta + i \sin \theta$
 - (C) $e^{i\theta} = 2 \cos \theta + \sin \theta$
 - (D) $e^{-i\theta} = \cos \theta - \sin \theta$
20. Real part of $f(z) = \sin z$ is :
- (A) $\sin x \cos y$
 - (B) $\sin x \cos hy$
 - (C) $\sin hx \cos y$
 - (D) $\sin x \sin hy$
21. If $f(x) = \cos x$ is defined in $[-1, 1]$ then Fourier coefficient b_n is :
- (A) 4
 - (B) -1
 - (C) +1
 - (D) 0
22. Infinite series $f(x) = \frac{a_0}{2} + \sum_{n=1}^{\infty} a_n \cos\left(\frac{n\pi x}{c}\right) + \sum_{n=1}^{\infty} b_n \sin\left(\frac{n\pi x}{c}\right)$ is :
- (A) Fourier series
 - (B) Laplace series
 - (C) Taylor's series
 - (D) Not
23. If $f(x) = \sin x \cos 2x$ then $f(x)$ is :
- (A) Even function
 - (B) Odd function
 - (C) Neither even nor odd
 - (D) NOT
24. If $(2x + 2) + i(y - 5) = 0$ then :
- (A) $x = 1, y = 5$
 - (B) $x = -1, y = -5$
 - (C) $x = 1, y = -5$
 - (D) $x = -1, y = 5$

25. Which of the following is true ?
- (A) $|z_1 + z_2| \geq |z_1| + |z_2|$
 - (B) $|z_1 + z_2| = |z_1| + |z_2|$
 - (C) $|z_1 + z_2| \leq |z_1| + |z_2|$
 - (D) NOT
26. If $\phi(x, y, z) = x + y + z$ then gradient of ϕ is :
- (A) $i + j + k$
 - (B) $i + j$
 - (C) $x + y + z$
 - (D) 0
27. If $\vec{r} = xi + yj + zk$ then $\text{curl } \vec{r}$ is equal to :
- (A) 1
 - (B) $\vec{r}$
 - (C) 0
 - (D) 1
28. If $\vec{v} = \vec{w} \times \vec{r}$ then $\text{curl } \vec{v}$ is :
- (A) $\vec{w}$
 - (B) $\vec{w} \times \vec{r}$
 - (C) $2\vec{w}$
 - (D) NOT
29. If $\phi(x, y, z) = x + y$, then directional derivative of $\phi(x, y, z)$ in the direction of $\vec{a} = i$ is :
- (A) 0
 - (B) 1
 - (C) -1
 - (D) i

30. Maximum rate of increase of scalar point function $\phi(x, y, z)$ is :
- (A) $\nabla\phi$
 - (B) $-|\nabla\phi|$
 - (C) $|\nabla\phi|$
 - (D) $-\nabla\phi$
31. Degree of ODE $\sin\left(\frac{dy}{dx}\right) = 1$ is :
- (A) 1
 - (B) 0
 - (C) 2
 - (D) Does not exist
32. Order of ODE $\left(\frac{dy}{dx}\right)^2 + y = 0$ is :
- (A) 1
 - (B) 2
 - (C) Not defined
 - (D) -1
33. Differential equation $(1 + 4xy + 2y^2)dx + (1 + 4xy + 2x^2)dy = 0$ is :
- (A) Linear in x
 - (B) Linear in y
 - (C) Exact ODE
 - (D) Homogeneous ODE
34. If $(x + 5) + i(y + 3) = 0$ then :
- (A) $x = 5, y = 3$
 - (B) $x = -5, y = 3$
 - (C) $x = 5, y = -3$
 - (D) $x = -5, y = -3$

35. Argument value of $z = 1 + i$ is :
- (A) $\frac{\pi}{2}$
 (B) $\frac{\pi}{4}$
 (C) 0
 (D) $\frac{-\pi}{4}$
36. Cube roots of unity are :
- (A) $1, w, w^2$
 (B) $1, -1, 0$
 (C) $1, 1, 1$
 (D) Not
37. Modulus value of $z = x + iy$ is :
- (A) $\sqrt{x^2 + y}$
 (B) $\sqrt{x^2 + y^2}$
 (C) $\tan^{-1}\left(\frac{y}{x}\right)$
 (D) $\sqrt{x^2 - y^2}$
38. If $f(x) = x$ is periodic in $[0, 2\pi]$ then Fourier coefficient a_0 is :
- (A) $a_0 = \pi$
 (B) $a_0 = 2\pi$
 (C) $a_0 = \pi/2$
 (D) NOT
39. $\frac{1}{D+1}e^x$ is :
- (A) e^x
 (B) $\frac{1}{2}e^x$
 (C) $\frac{1}{4}e^x$
 (D) $\frac{-1}{4}e^x$

40. $\frac{1}{D^2} \sin 2x$ is equal to :
- (A) $\frac{-1}{2} \sin 2x$
 - (B) $\frac{-1}{16} \sin 2x$
 - (C) $\frac{1}{4} \sin 2x$
 - (D) $\frac{-1}{4} \sin 2x$
41. Fourier coefficients a_0, a_n, b_n are obtained by :
- (A) Taylor's Formula
 - (B) Maclaurin's Formula
 - (C) Euler's Formula
 - (D) Laplace Formula
42. If $f(x) = \cos x$ in $[-l, l]$ then Fourier coefficient b_n is :
- (A) 1
 - (B) l
 - (C) $-l$
 - (D) 0
43. $\int_c^{c+2\pi} \sin nx \, dx$ is :
- (A) π
 - (B) c
 - (C) 0
 - (D) 2π
44. Differential equation $\frac{3dy}{dx} + \frac{2}{x+1}y = \frac{x^3}{y^2}$ is reduced to linear for transformation :
- (A) $y = x^3$
 - (B) $y^2 = t$
 - (C) $y^3 = t$
 - (D) NOT

45. If $f(x) = \sin x$ is given in $\left[-\frac{\pi}{2}, \frac{\pi}{2}\right]$, then value of a_n in Fourier series :
- (A) 0
 - (B) 1
 - (C) 2
 - (D) 3
46. In Fourier series of $f(x)$, coefficients a_0, a_n, b_n are called :
- (A) Laplace coefficients
 - (B) Fourier coefficients
 - (C) Taylor's coefficients
 - (D) Not
47. Value of $\sqrt{-100}$ is :
- (A) 10
 - (B) -10
 - (C) $10i$
 - (D) $-10i$
48. $\overline{z_1 + z_2}$ is equal to :
- (A) $\bar{z}_1 - \bar{z}_2$
 - (B) $\bar{z}_1 + \bar{z}_2$
 - (C) $z_1 - z_2$
 - (D) NOT
49. Real part of $f(z) = 4 + i$ is :
- (A) 1
 - (B) 4
 - (C) $4 + i$
 - (D) i
50. Roots of equation $z^2 + 1 = 0$ are :
- (A) $i, -i$
 - (B) $1, i$
 - (C) $1, -1$
 - (D) $-1, i$

51. If $z = -1 + i$ then modulus amplitude form of z is :

(A) $z = \sqrt{2} e^{(5\pi/4)i}$

(B) $z = \sqrt{2} e^{(-5\pi/4)i}$

(C) $z = \sqrt{2} e^{(\pi/4)i}$

(D) $z = \sqrt{2} e^{(-\pi/4)i}$

52. Series $\sum_{n=1}^{\infty} \left(\frac{1}{n}\right)^{2022}$ is :

(A) Convergent

(B) Divergent

(C) Oscillatory

(D) Oscillatory finitely

53. Series $\sum_{n=1}^{\infty} (-1)^n$ is :

(A) Convergent

(B) Divergent

(C) Oscillatory

(D) NOT

54. Series $\sum_{n=0}^{\infty} x^n$ is oscillatory if :

(A) $x = 1$

(B) $x = -1$

(C) $x = 2$

(D) $x = 0$

55. Sequence $\{1, -1, 1, -1, 1, -1, \dots\}$ is

(A) Convergent

(B) Divergent

(C) Oscillatory

(D) Not convergent

56. n^{th} partial sum in the series $\sum_{n=1}^{\infty} a_n$ is :
- (A) $a_1 + a_2 + a_3 + \dots + a_{n-1}$
- (B) $a_1 + a_2 + a_3 + \dots + a_n$
- (C) $a_1 + a_2 + a_3 + \dots + a_{n+1}$
- (D) $a_0 + a_1 + a_2 + \dots + a_n$
57. If sequence $\langle a_n \rangle$ is convergent then $\lim_{n \rightarrow \infty} a_n$ is :
- (A) unique
- (B) Not unique
- (C) Always more than one limits
- (D) NOT
58. Sequence $\{3, 3, 3, 3, \dots\}$ is :
- (A) Bounded above only
- (B) Bounded below only
- (C) Bounded above and bounded below
- (D) Unbounded
59. Modulus value of $z = a + ib$ is :
- (A) $a^2 + b^2$
- (B) $\sqrt{a^2 + b^2}$
- (C) $\sqrt{a^2 - b^2}$
- (D) $a^2 - b^2$
60. Argument value of $z = -1 - i$ is :
- (A) $\frac{\pi}{4}$
- (B) $\frac{-\pi}{4}$
- (C) $\frac{-3\pi}{4}$
- (D) $\frac{3\pi}{4}$

61. If $f(x)$ is periodic with period $\omega = 2l$ then Fourier coefficient :
- (A) $a_0 = \frac{1}{4l} \int_a^b f(x) dx$
- (B) $a_0 = \frac{1}{l} \int_a^b f(x) dx$
- (C) $a_0 = \frac{4}{l} \int_a^b f(x) dx$
- (D) NOT
62. In Fourier series, a_0, a_n, b_n are obtained by :
- (A) Euler's formula
- (B) Laplace formula
- (C) Taylor's formula
- (D) Maclaurin's formula
63. In Fourier series of $f(x)$, $f(x)$ is :
- (A) Periodic
- (B) Non periodic
- (C) Discontinuous
- (D) Non differentiable
64. $\frac{dy}{dx} + Py = Qy^n$ is linear ODE if :
- (A) $n = 1$
- (B) $n = 2$
- (C) $n = 0$
- (D) $n = -1$
65. ODE $M dx + N dy = 0$ is exact if :
- (A) $\frac{\partial M}{\partial y} = \frac{\partial N}{\partial x}$
- (B) $\frac{\partial M}{\partial y} \neq \frac{\partial N}{\partial x}$
- (C) $\frac{\partial M}{\partial x} = \frac{\partial N}{\partial y}$
- (D) $\frac{\partial M}{\partial x} \neq \frac{\partial N}{\partial y}$

66. $\frac{dy}{dx} + Py = Qy^n$ ($n \neq 0, 1$) is :
- (A) Linear in y
 - (B) Non Linear in x
 - (C) Bernoulli equation
 - (D) NOT
67. $f(x, y) = x^2 + y^2 + xy$ is homogeneous function of degree :
- (A) 1
 - (B) 0
 - (C) 2
 - (D) NOT
68. Degree of ODE $\left(\frac{d^2y}{dx^2}\right)^2 + \frac{d^2y}{dx^2} + y = 0$ is :
- (A) 1
 - (B) 2
 - (C) 4
 - (D) NOT
69. Integrating factor in linear ODE $\frac{dy}{dx} + Py = Q$ is :
- (A) $\int_e P dx$
 - (B) $\int_e P dy$
 - (C) $\int_e P dx + c$
 - (D) $\int_e P dy + c$
70. Order of ODE $\left(\frac{dy}{dx}\right)^2 + y = 0$ is :
- (A) 1
 - (B) 2
 - (C) Not defined
 - (D) NOT

71. ODE $y \frac{dy}{dx} = x$ is :
- (A) Linear in y
 - (B) Non Linear in y
 - (C) Order of ODE is 2
 - (D) Degree of ODE is 2
72. Degree of homogeneous ODE $(x^2 - y^2)dx + 3xy dy = 0$ is :
- (A) 1
 - (B) 2
 - (C) 0
 - (D) NOT
73. $\frac{dy}{dx} + 2y = x^2$ is :
- (A) Linear ODE in x
 - (B) Linear in y
 - (C) Linear in both variable x and y
 - (D) NOT
74. Solution of $x dx - y dy = 0$ is :
- (A) $x = y + c$
 - (B) $x^2 - y^2 = c$
 - (C) $x - y = c$
 - (D) NOT
75. $\sin^{-1} x + \cos^{-1} x$ is :
- (A) $\frac{\pi}{2}$
 - (B) $\frac{-\pi}{3}$
 - (C) $\frac{\pi}{3}$
 - (D) NOT

76. Divergence of $\vec{r}$ is :
- (A) 1
(B) 0
(C) 3
(D) 4
77. Maximum value of directional derivative of $\phi = 2x^2 + 3y^2 + 5z^2$ at (1, 1, -1) is :
- (A) 10
(B) -4
(C) $\sqrt{152}$
(D) 152
78. Solution of $\frac{d^2y}{dx^2} - y = 0$ is :
- (A) $y = c_1e^x + c_2e^{-x}$
(B) $y = c_1e^x + c_2e^x$
(C) $y = c_1e^x$
(D) $(c_1 + c_2x)e^x$
79. Particular integral for $F(D)y = f(x)$ is :
- (A) $\frac{1}{F(D)} f(x)$
(B) $\frac{1}{F(D)} f(x) + c$ ($c \neq 0$)
(C) $\frac{1}{F(D)} f(x) + 1$
(D) NOT
80. Integrating factor in ODE $\frac{dy}{dx} + ay = e^{mx}$ is :
- (A) e^{mx}
(B) e^x
(C) e^a
(D) e^{ax}

81. $\frac{dy}{dx} = \frac{(x+y)+1}{2(x+y)+1}$ reduces to variable separable form if :
- (A) $x - y = v$
 - (B) $x + y = v$
 - (C) $x^2 + y^2 = v$
 - (D) $xy = v$
82. $y - x \frac{dy}{dx} = x + y \frac{dy}{dx}$ is :
- (A) Homogeneous ODE of degree 2
 - (B) Homogeneous ODE of degree 0
 - (C) Homogeneous ODE of degree 1
 - (D) Non homogeneous ODE
83. Solution of $\frac{dy}{dx} = \frac{x}{y}$ is :
- (A) $y^2 = x^2 + c$
 - (B) $y^2 = -x^2 + c$
 - (C) $y = x + c$
 - (D) $y = x - c$
84. $\frac{dy}{dx} = \frac{ax+by+c}{dx+ey+f}$ is transformed into linear ODE by taking $x = X + h$, $y = Y + K$ if :
- (A) $ae - bd = 0$
 - (B) $ae - bd \neq 0$
 - (C) $ad - be \neq 0$
 - (D) $ad - be = 0$
85. Solution of $(D^2 + 5D + 4)y = 0$ is :
- (A) $c_1 e^x + c_2 e^{-4x}$
 - (B) $c_1 e^{-x} + c_2 e^{4x}$
 - (C) $c_1 e^{-x} + c_2 e^{-4x}$
 - (D) NOT

86. Particular Integral for $(D^2 + 2D + 1)y = 0$ is :
- (A) $\frac{1}{2}$
 - (B) 0
 - (C) 2
 - (D) NOT
87. Particular integral for $(D^2 + 1)y = e^{2x}$ is :
- (A) $\frac{1}{4}e^{2x}$
 - (B) $\frac{1}{5}e^{2x}$
 - (C) $\frac{1}{2}e^{2x}$
 - (D) $\frac{1}{6}e^{2x}$
88. If $\text{curl } (\vec{v}) = 0$ then field $\vec{v}$ is :
- (A) Solenoidal
 - (B) Rotational
 - (C) Irrotational
 - (D) NOT
89. Curl of a vector field $\vec{f}(x, y, z) = x^2i + 2zj - yk$ is :
- (A) $-3i$
 - (B) $-3j$
 - (C) $-3k$
 - (D) 0
90. Field $\vec{F} = 2xy\hat{i} + (x^2 + z^2)\hat{j} + 2zy\hat{k}$ is :
- (A) Solenoidal
 - (B) Rotational
 - (C) Irrotational
 - (D) NOT

91. $\sum_{n=1}^{\infty} \frac{1}{n^4}$ is :
(A) Divergent series
(B) Oscillatory series
(C) Convergent series
(D) NOT
92. p – series $\sum_{n=1}^{\infty} \frac{1}{n^p}$ is divergent :
(A) $p = 2$
(B) $p = 3$
(C) $p = 4$
(D) $p = 0$
93. Series $\sum_{n=0}^{\infty} x^n$ is convergent if :
(A) $|x| = 1$
(B) $|x| > 1$
(C) $|x| < 1$
(D) $x = 1$
94. Series $\sum_{n=1}^{\infty} \cos \frac{1}{n}$ is :
(A) Convergent
(B) Divergent
(C) Oscillatory
(D) NOT
95. If series $\sum_{n=1}^{\infty} a_n$ is convergent then :
(A) $\lim_{n \rightarrow \infty} a_n = 0$
(B) $\lim_{n \rightarrow \infty} a_n \neq 0$
(C) $\lim_{n \rightarrow \infty} a_n = 1$
(D) $\lim_{n \rightarrow \infty} a_n =$ does not exist

96. Series $\sum_{n=1}^{\infty} \frac{1}{n}$ is :
(A) Convergent
(B) Divergent
(C) Oscillatory
(D) NOT
97. If sequence, $\langle a_n \rangle$ is bounded above there exist a real number k s.t. :
(A) $a_n \leq k, \forall n \in N$
(B) $a_n \geq k, \forall n \in N$
(C) $a_n < -k, \forall n \in N$
(D) NOT
98. Sequence $\langle 2 + \frac{7}{n+5} \rangle$ converges to :
(A) 7
(B) 0
(C) 5
(D) 2
99. Sequence $\langle 1 + \frac{1}{n} \rangle$ is :
(A) Bounded
(B) Not bounded
(C) Bounded above only
(D) Bounded below only
100. In sequence $\langle a_n \rangle$, where $a_n = \frac{1}{n}$ least upper bound is :
(A) 0
(B) 1
(C) 2
(D) -1

Rough Work / रफ कार्य

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