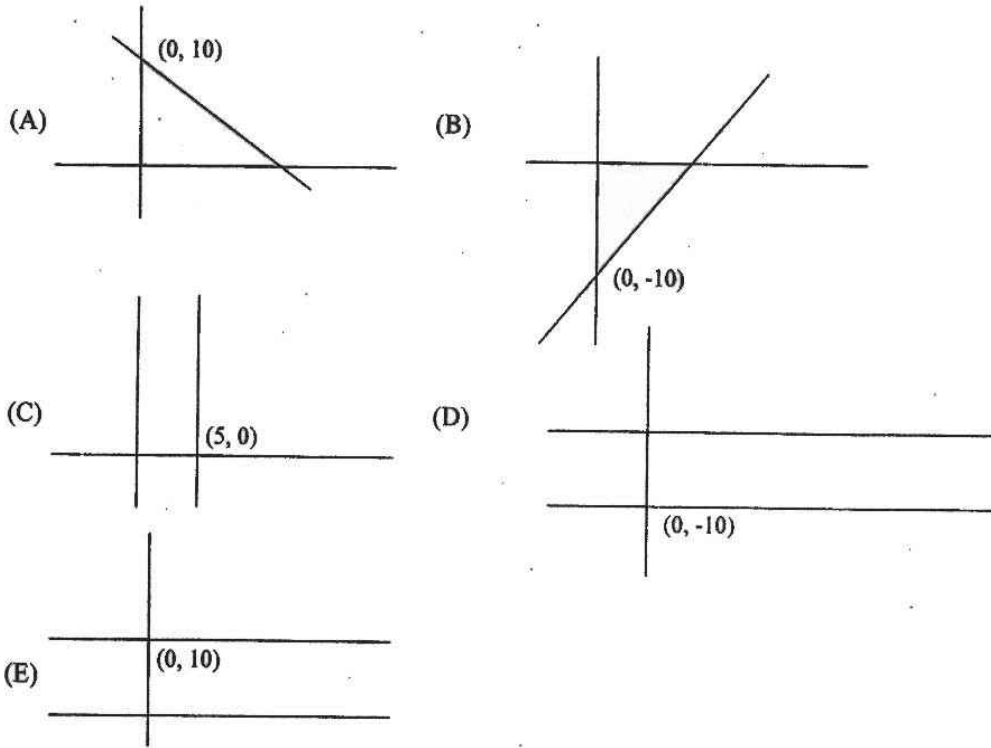


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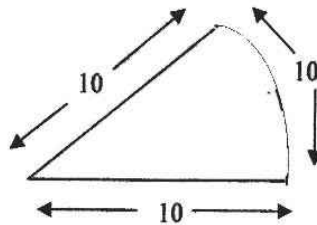
Q.9. The graph of the line $y = mx - 10$ (where $m > 0$ and finite) is



Q.10. Given that $\tan\theta = 3/4$ and $180^\circ < \theta < 270^\circ$, the value of $\sin\theta$ is

- (A) $3/5$ (B) $-3/5$ (C) $4/5$
 (D) $-4/5$ (E) None of these

Q.11. A piece of wire 30cm long is bent to form the shape of a sector. If the arc has length 10cm, then the area enclosed by this sector is



- (A) 200 cm^2 (B) 150 cm^2 (C) 50 cm^2
 (D) 100 cm^2 (E) None of these

Q.12. The third term of the binomial expression $\left(1 + \frac{1}{2}\right)^n$ is twice the fourth term. The value of n is

- (A) 3 (B) 4 (C) 5
 (D) 6 (E) 7

Q.13. The tangent to the curve $y = \frac{a}{x} - bx$ at $(1, 2)$ is parallel to the line $y = x$. The values of the constants a and b are respectively

- (A) $1/2, 2/5$ (B) $1/2, -3/2$ (C) 1, 2
 (D) 2, 1 (E) None of these

Q.14. It is given that the tangents to the curve $3y = x^2 + kx + 15$ at the points with x -coordinates 2 and -1 respectively are perpendicular to each other. The value of k is

- (A) 2 (B) -1 (C) 0
 (D) 5 (E) None of these

Q.15. The curve $y = x^3 + x^2 + ax + b$ has a maximum point at $(-1, 1)$. The values of a and b are respectively

(A) $-1, 1$
(D) $1, 1$

(B) $-1, 0$
(E) None of these

(C) $1, 2$

Q.16. Given that $y = e^{-2x}$, then $\frac{d^{10}y}{dx^{10}}$ is

(A) y^{10}
(D) $-1024y$

(B) $512y$
(E) None of these

(C) $1024y$

Q.17. The value of $\int_0^1 \frac{1}{(1+x)^2} dx$ is

(A) $1/2$
(D) 0

(B) $7/4$
(E) None of these

(C) $3/4$

Q.18. The value of $\int_2^4 (\ln x) dx$ is

(A) $2 \ln x$
(D) $\ln 16 - \ln 4$

(B) $\ln 4 - \ln 2$
(E) None of these

(C) $6 \ln 2 - 2$

Q.19. A possible value of $\int \sin x \cos x dx$ is

(A) $\sin x \int \cos x dx$

(B) $\cos x \int \sin x dx$

(C) $\frac{1}{2} \sin^2 x$

(D) $\frac{1}{2} \cos^2 x$

(E) None of these

Q.20. Given that $x^2 - 3x + a$ has a remainder 1 when divided by $x - 1$. The value of a is

(A) 1
(D) 4

(B) 2
(E) 5

(C) 3

Q.21. Suppose $\log_2 k = -2 + 2 \log_2 5 + \log_2 10$. Then the value of k is

(A) $181/8$
(D) Impossible to find

(B) $141/4$
(E) None of these

(C) $125/2$

Q.22. If $-2 \leq x \leq 7$ and $2 \leq y \leq 8$, then the greatest and least possible values of $x - y$ are respectively

(A) $-1, -4$
(D) $8, 2$

(B) $15, 0$
(E) $5, -10$

(C) $7, -2$

Q.23. A cuboid has a square base of side x cm and its height is $(2x + 1)$ cm. The approximate increase in its volume when x increases from 3 cm to 3.01 cm is

(A) $0.6 \sqrt{1} \text{ cm}^3$
(D) 0.06 cm^3

(B) 0.6 cm^2
(E) 0.6 cm^3

(C) 0.6 cm

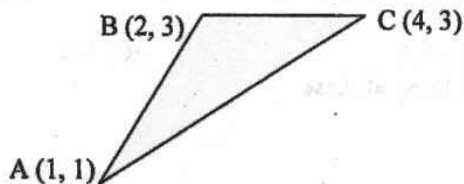
Q.24. Given that $A = \begin{bmatrix} 2 & 2 \\ -1 & -1 \end{bmatrix}$ and $A^2 = KA$, the value of K is

(A) 3
(D) 4

(B) 2
(E) 5

(C) 1

Q.25. The area of the triangle A(1, 1), B(2, 3) and C(4, 3) is



- (A) 8
(D) 2
- (B) 6
(E) None of these
- (C) 4
- Q.26. The momentum of a bullet having a mass of 100gm and a velocity of 100m/s will be
- (A) 1000Kg-m/s
(D) 1Kg-m/s
- (B) 10Kg-m/s
(E) 50Kg-m/s
- (C) 100Kg-m/s
- Q.27. The product of force and force arm is a measure of
- (A) Momentum
(D) K.E.
- (B) Torque
(E) P.E.
- (C) Weight
- Q.28. The energy of photo-electron does not depend on
- (A) Nature of metal
(D) Intensity of light
- (B) Frequency of light
(E) Wave length
- (C) Work function
- Q.29. Two resistance of 1 and 1 ohm are connected in parallel will have a net resistance of the value
- (A) 1.5 ohm
(D) 1.0 ohm
- (B) 2 ohm
(E) 3 ohm
- (C) 0.5 ohm
- Q.30. If two identical sources of light passing through two separate pin holes meet a point in space. The phenomenon is known as
- (A) Polarization
(D) Interference
- (B) Scattering
(E) Refraction
- (C) Diffraction
- Q.31. Basically electron in the atom of metal is the
- (A) Charge particle
(D) Energy particle
- (B) Material particle
(E) Negative particle
- (C) Ionic particle
- Q.32. Balmer series of hydrogen atom spectrum lies in the range
- (A) 1000–2000Å
(D) 7000–11000Å
- (B) 2000–4000Å
(E) 11000–13000Å
- (C) 4000–7000Å
- Q.33. If " λ " is the wavelength of light, which is incident on a single slit of width " a " then diffraction will become most pronounced, when
- (A) $\lambda/3 = a$
(D) $a = \lambda$
- (B) $2\lambda = a$
(E) $\lambda/5 = a$
- (C) $a/\lambda \rightarrow 0$
- Q.34. A solenoid has an inductance of 0.32 Henry. Its reactance is measured in
- (A) mH
(D) Ohm
- (B) μ H
(E) Volt
- (C) Amp
- Q.35. Normally the magnetic field, B is measured in
- (A) Torr
(D) mTesla
- (B) mbar
(E) mvolt
- (C) Henry

- Q.36. An ideal gas is allowed to expand freely against a vacuum in a rigid insulated container. After this expansion, the gas has undergone a/an
- (A) change in phase (B) increase in pressure (C) change in temperature
(D) change in entropy (E) change in enthalpy
- Q.37. The reading distance of the eye = 2.5 cm and 1 inch = 2.54 cm. The magnifying power of a magnifying glass, whose focal length is 2 inches is equal to
- (A) 5 (B) 10 (C) 15 (D) 20 (E) 50
- Q.38. The electron rest mass is of the order of
- (A) 10^{-24} gm (B) 10^{-26} gm (C) 10^{-31} gm
(D) 10^{-35} gm (E) 10^{-28} gm
- Q.39. What molecular property of a gas remains same for all gases at a particular temperature
- (A) Momentum (B) Velocity (C) Angular momentum
(D) Kinetic energy (E) Potential energy
- Q.40. If white light is incident on a diffraction grating, the light that will be deviated farthest from the central image will be
- (A) Yellow (B) Violet (C) Green (D) Red (E) Blue
- Q.41. The first walk of man on the surface of moon was made on:
- (A) 21st July, 1969 (B) 21st September, 1959 (C) 26th September, 1975
(D) 26th October, 1981 (E) 5th July, 1948
- Q.42. The first submarine operated using atomic energy was:
- (A) Agfa (B) Rhombus (C) Nautilus
(D) ANEROS (E) ATCHK
- Q.43. Currency of Bangladesh is:
- (A) Bangladesh Rupee (B) Piso (C) Mishty
(D) Taka (E) Rogla
- Q.44. SAVE is the abbreviation of:
- (A) Software Anti Viral Establishment (B) SAARC Audio Visual Exchange
(C) South African Vigilance Estate (D) Silicon Auro Verile Entropy
(E) Self Arterio Veinal Endoscopy
- Q.45. DNA, the building block of living organisms, is the symbol of:
- (A) Deoxyribo Nucleic Acid (B) Di-Nitro Amines (C) Dioxy Neural Activation
(D) Decypher Neuro Albumines (E) Dehydro Nitride Arimes
- Q.46. The story, reported to be cinematized for the highest number of times is:
- (A) Titanic (B) Ryan's Daughter (C) Dracula
(D) Bruce Lee (E) Tarzan
- Q.47. Pick the odd one out:
- (A) Potato (B) Tomato (C) Ginger
(D) Carrot (E) Reddish
- Q.48. Nocturnal animal is the one with the property:
- (A) It has no legs (B) It can not see in night-time
(C) It comes out in night-time only (D) It back can not be turned inwards
(E) It has usually large nasal opening

Q.49. The material used to make Nishan-e-Haider is:

- (A) Metal retrieved from guns of famous war heroes (B) Gold
(C) Metal retrieved from guns of enemies during war
(D) Metal made of silver, gold and platinum (E) None of these

Q.50. Calcium carbonate is commonly known as:

- (A) Common salt (B) Soda ash (C) Baking soda
(D) Ajino moto (E) Chalk

Q.51. Number of persons who refused to accept the Nobel prize is:

- (A) None (B) 1 (C) 2 (D) 3 (E) 4

Q.52. If your watch is telling you the Greenwich Mean Time on the day of Christmas, this means you are in which country:

- (A) France (B) Germany (C) Hungary
(D) Sweden (E) Great Britain

Q.53. Pick the odd one out:

- (A) Copper (B) Silicate (C) Iron (D) Silver (E) Aluminum

Q.54. Hakeem Saeed was assassinated on:

- (A) 22nd February, 1999 (B) 22nd February, 2000 (C) 19th March, 2002
(D) 14th September, 1999 (E) None of these

Q.55. Capital of Switzerland is:

- (A) Vienna (B) Zurich (C) Basil (D) Stein (E) Switzerland city

Q.56. I have come here of my own free _____.

- (A) desire (B) choice (C) will (D) intention (E) option

Q.57. The flowers have begun to _____.

- (A) fade (B) droop (C) sag (D) weaken (E) wilt

Q.58. The grumpy old man _____ about everything during the entire trip.

- (A) complained (B) moaned (C) talked
(D) whimpered (E) mumbled

Q.59. "What _____ are you?" the immigration officer asked the refugee.

- (A) citizenship (B) expatriate (C) nationality
(D) native (E) person

Q.60. "How do you expect me to hear you if you _____?" the teacher asked impatiently.

- (A) mutter (B) mumble (C) murmur (D) whisper (E) burble

Q.61. There is a _____ in that company for an accounts clerk.

- (A) job (B) prospect (C) post (D) chance (E) vacancy

Q.62. "The agreement has been _____; you are no longer responsible for the consequences," he said.

- (A) annulled (B) completed (C) dropped (D) stopped (E) closed

Q.63. The money that Rehan had found turned out to be _____.

- (A) false (B) counterfeit (C) fake (D) imitation (E) forged

- Q.64. Most of the people of the community signed the _____ to prevent the cutting down of the trees along the streets.
 (A) petition (B) entreaty (C) appeal (D) application (E) request
- Q.65. The _____ young men vandalized the city.
 (A) illegal (B) illicit (C) unlawful (D) lawless (E) criminal
- Q.66. He was _____ to me for saving his life.
 (A) appreciative (B) indebted (C) thankful (D) obliged (E) gratified
- Q.67. The citizens of the country were given _____ to have more children because the population rate was declining.
 (A) inducement (B) encouragement (C) support (D) rewards (E) incentives
- Q.68. Putting on make-up cleverly will _____ your features.
 (A) beautify (B) camouflage (C) enhance (D) disguise (E) distort
- Q.69. Our expenditure is _____ by a tight budget this year.
 (A) ruled (B) controlled (C) restricted (D) bound (E) stopped
- Q.70. Mahmood seemed to be in great _____ when I bumped into him.
 (A) speed (B) haste (C) gear (D) hurry (E) urgency
- Q.71. Electronic documents and other files are stored on a Hard disk surface in the form of _____.
 (A) Word documents (B) Alphabets (C) Electronic Signals
 (D) Tiny Magnetized areas (E) Light signals
- Q.72. Cache is a temporary storage area that holds data/instructions _____.
 (A) to be sent to some other computer (B) to be received (C) to be processed
 (D) received from other computers (E) to be stored on a secondary storage device
- Q.73. Dot Net technology is developed by _____.
 (A) Cisco (B) Open Source (C) Microsoft
 (D) World Wide Web Consortium (E) An International Authority that assigns IP addresses
- Q.74. If somebody says that he/she is using XP, he is most probably talking about _____.
 (A) latest computer system (B) Web browsers (C) Operating system
 (D) Predecessor of PC/XTs (E) Printers, capable to print multiple documents at a time
- Q.75. Which of the following is not a computer network?
 (A) MAN (B) VPN (C) WAN (D) LAN (E) All are computer networks
- Q.76. The process of conversion of digital data to analog form and vice-versa is carried out by a device called _____.
 (A) Scanner (B) Converter (C) Modem (D) B and C are correct (E) None of these
- Q.77. Microscopic view of a recorded CD will reveal a surface with _____.
 (A) tiny illuminated spots (B) Light and dark colored spots (C) tiny magnetic crystals
 (D) tiny mirror like crystal that reflect laser light (E) none of these
- Q.78. Which of the following is not a softcopy output device?
 (A) CRT and LCD Monitors (B) Speech synthesizers (C) Voice-Over-IP
 (D) Speakers (E) All of these are softcopy devices

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- Q.79. On a Hard disk data is recorded in a circle like area called ____.
- (A) Sector (B) Track/Cylinder (C) Files
(D) Circular linked lists (E) None of these
- Q.80. Cyber Surf is ____.
- (A) software that makes web surfing for new users more easier
(B) category of search engines that do not lists the web sites that may be objectionable for children
(C) software that protects users from hacker attacks
(D) software that keeps tracks of the visited web sites for future reference
(E) software that blocks the web sites that may be objectionable for people, specially the children
- Q.81. A software module/layer that interfaces between kernel and user is called ____.
- (A) Interrupt (B) Icon (C) Shell
(D) COM (Component Object Model) (E) B and C are correct
- Q.82. $111011_2 + 1011_8 = \underline{\hspace{2cm}}?$
- (A) 1000110_2 (B) 1104_8 (C) 112022_{10}
(D) Can't be added (E) None of these
- Q.83. WAP is an acronym for ____.
- (A) Wireless Application Protocol (B) Wireless Access Protocol (C) Web Access Protocol
(D) Web Application Protocol (E) Wireless Access Point
- Q.84. Which of the following is/are not programming language(s)?
- (A) Machine Language (B) Natural Language (C) HTML
(D) B and C are correct answers (E) None of these
- Q.85. A 3 bit binary number is to be stored in excess-4 code. In this format numbers can be stored ranging from - 4 to +3. To store a number, 4 is added to it and resulting number is converted to binary form. So the bit pattern to store zero is
- (A) 000_2 (B) 001_2 (C) 100_2
(D) Can't be converted since it is neither positive nor negative (E) None of these
- Q.86. Which of the following printers were the first that were used with PCs in early 1980s?
- (A) Thermal (B) Laser (C) Inkjet (D) Dot-matrix (E) None of these
- Q.87. Bits are used to represent data inside a computer circuitry. These bits are in fact logical representation of ____.
- (A) True and False logical values (B) high and low voltages (C) Zeros and Ones
(D) high and low frequency signals (E) All of these
- Q.88. To disable the cursor movement keys on the keypad, ____ key is to be ____.
- (A) Scroll Lock, turned on (B) Shift, pressed (C) NumLock, turned on
(D) NumLock, turned off (E) none of these, since these can't be enabled or disabled
- Q.89. If addition of a new hardware does not needs manual reconfiguration of Hardware/Software of a computer system, this may be due to the ____.
- (A) software support personnel (B) Remote Admin utility (C) Control Panel of Windows
(D) Windows Registry (E) PnP (Plug and Play) technology
- Q.90. Convert 21405_8 to Hexadecimal number.
- (A) 8965_{10} (B) 2305_{16} (C) 10001100000101_2
(D) All are correct (E) None of these