CEBE/2024

Register Number

2024
Paper – I
BASICS OF ENGINEERING
(Degree Standard)

Duration : Three Hours] [Total Marks : 300

Read the following instructions carefully before you begin to answer the questions.

IMPORTANT INSTRUCTIONS

1. You will be supplied with this question booklet 15 minutes prior to the commencement of the examination.

2. This question booklet contains **200** questions. Before answering the questions, you shall check whether all the questions are printed serially and ensure that there are no blank pages in the question booklet. **If any defect is noticed in the question booklet, it shall be reported to the invigilator within the first 10 minutes and get it replaced with a complete question booklet. If the defect is reported after the commencement of the examination, it will not be replaced.**

3. Answer **all** the questions. All the questions carry equal marks.

4. You must write your register number in the space provided on the top right side of this page. Do not write anything else on the question booklet.

5. An answer sheet will be supplied to you separately by the room invigilator to shade the answers. Instructions regarding filling of answers etc., which are to be followed mandatorily, are provided in the answer sheet and in the memorandum of admission (Hall Ticket).

6. You shall write and shade your question booklet number in the space provided on page one of the answer sheet with **BLACK INK BALL POINT PEN.** If you do not shade correctly or fail to shade the question booklet number, your answer sheet will be invalidated.

7. Each question comprises of five responses (answers) : i.e. (A), (B), (C), (D) and (E). You have to select ONLY ONE correct answer from (A) or (B) or (C) or (D) and shade the same in your answer sheet. If you feel that there are more than one correct answer, shade the one which you consider the best. **If you do not know the answer, you have to mandatorily shade (E).** In any case, choose ONLY ONE answer for each question. If you shade more than one answer for a question, it will be treated as a wrong answer even if one of the given answers happens to be correct.

8. You should not remove or tear off any sheet from this question booklet. You are not allowed to take this question booklet and the answer sheet out of the examination room during the time of the examination. After the examination, you must hand over your answer sheet to the invigilator. You are allowed to take the question booklet with you only after the examination is over.

9. **You should not make any marking in the question booklet except in the sheets before the last page of the question booklet, which can be used for rough work. This should be strictly adhered to.**

10. Failure to comply with any of the above instructions will render you liable for such action as the Commission may decide at their discretion.

[Turn over

SPACE FOR ROUGH WORK

1. Action for change comprise three stages as developed by Lenin. They are,

    (A) Freezing – Changing – Refreezing

    (B) Freezing – Changing – Unfreezing

    (C) Unfreezing – Changing – Refreezing

    (D) Unfreezing – Changeing – Freezing

    (E) Answer not known

2. Managerial grid developed by Blake and Mouton has two dimensions in defining leadership styles. They are

    (A) Concern for people, concern for Production

    (B) Concern for people, concern for Organisation

    (C) Concern for leader, concern for Production

    (D) Concern for leader, concern for Organization

    (E) Answer not known

3. One of the important motivating factor of Herzberg Theory is,

    (A) Job Security

    (B) Recognition

    (C) Interpersonal Relations

    (D) Company Policy

    (E) Answer not known

4. It implies expert overseeing of people at work in order to ensure compliance with established plans and procedures

    (A) Leadership   (B) Supervision

    (C) Controlling   (D) Commanding

    (E) Answer not known

5. Any person is granted authority to perform various functions of the division or department is,

    (A) Specific Delegation   (B) General Delegation

    (C) Formal Delegation   (D) Informal Delegation

    (E) Answer not known

6. Specialist advisors assist line managers in the performance of duties, but does not have direct control of subordinates in

    (A) Line Authority   (B) Staff Authority

    (C) Line and Staff Authority   (D) Functional Authority

    (E) Answer not known

7. One of the oldest, forms of departmentation, generally used in lower levels of the Organization is,

    (A) Departmentation by Numbers

    (B) Departmentation by Name

    (C) Departmentation by Time

    (D) Departmentation by Function

    (E) Answer not known

8. The pattern of relationship between people and work within which the Organizational Activities are performed to achieve organizational objectives.

    (A) Organizational Planning

    (B) Organizational Culture

    (C) Organizational Structure

    (D) Organizational Chart

    (E) Answer not known

9. The thickness of Ozone is measured in

   (A) Farman unit
   (B) Gardiner unit
   (C) Shanklin unit
   (D) Dobson unit
   (E) Answer not known

10. The gas which is obtained by partial combustion of wood or any cellulose organic material of plant origin is called

    (A) Biogas
    (B) Synthetic gas
    (C) Flue gas
    (D) Producer gas
    (E) Answer not known

11. Sustainable design is not known as

    (A) Design for acceptance
    (B) Green design
    (C) Eco design
    (D) Design for environment
    (E) Answer not known

12. Identify the major component of Biogas

    (A) H_2S
    (B) O_2
    (C) CO_2
    (D) CH_4
    (E) Answer not known

13. The system which is formed by utilizing the waste produced by human activities is called

    (A) Supporting capacity
    (B) Production capacity
    (C) Assimilative capacity
    (D) Treatment capacity
    (E) Answer not known

14. Bio diesel is known as
   (A) Purified form of Petroleum
   (B) Naturally obtained oil from ground
   (C) Commercial form of diesel
   (D) Mono alkyl esters of vegetable oil
   (E) Answer not known

15. The maximum permissible limit of fluoride, in the absence of alternate source of water, is
   (A) 1.5 mg/L
   (B) 0.5 mg/L
   (C) 5.0 mg/L
   (D) 7.5 mg/L
   (E) Answer not known

16. The process by which the volume of solid waste is reduced through grinding or smashing for easy handling and disposal is called
   (A) Pyrolysis
   (B) Pulverisation
   (C) Incineration
   (D) Composting
   (E) Answer not known

17. As per the World Health Organisation (WHO), the recommended safe noise level in a city is
   (A) 85 – 95 dB
   (B) 110 – 120 dB
   (C) 75 – 85 dB
   (D) 45 – 55 dB
   (E) Answer not known

18. Which one of the following is not true to control air pollution.
   (A) Use unleaded petrol
   (B) Use petroleum with low sulphur
   (C) Plant trees in busy streets
   (D) Play area of children located in busy street
   (E) Answer not known

19. Estuaries are transitional ecosystems form between
    (A) Lake and pond
    (B) Sea and island
    (C) Forest and hills
    (D) Ocean and freshwater
    (E) Answer not known

20. On the basis of temperature tropical zone is/has
    (A) Very hot round the year
    (B) Very cold round the year
    (C) Less humid and more cold
    (D) Short summer
    (E) Answer not known

21. The maximum electric field which can be applied across a dielectric without causing an electrical conduction in it is called
    (A) Dielectric Electrostriction
    (B) Dielectric Breakdown
    (C) Dielectric Strength
    (D) Dielectric Loss
    (E) Answer not known

22. The Clausius – Mosotti relation which relates the macroscopic dielectric constant ε_r and microscopic atomic polarizability α.

    (A) $\dfrac{\varepsilon_r - 1}{\varepsilon_r + 2} = \dfrac{N\alpha}{3\varepsilon_o}$

    (B) $\dfrac{\varepsilon_r + 1}{\varepsilon_r - 2} = \dfrac{N\alpha}{3\varepsilon_o}$

    (C) $\dfrac{\varepsilon_r + 1}{\varepsilon_r - 2} = \dfrac{3\varepsilon_o}{N\alpha}$

    (D) $\dfrac{\varepsilon_r - 1}{\varepsilon_r + 2} = \dfrac{3\varepsilon_o}{N\alpha}$

    (E) Answer not known

23. The dipole moment per unit volume of a dielectric is known as
    (A) Dielectric Strength
    (B) Dielectric Polarization
    (C) Dielectric Breakdown
    (D) Dielectric Loss
    (E) Answer not known

24. Photoelectric cell is a device which converts

(A) Light energy into electric energy

(B) Chemical energy into electrical energy

(C) Electric energy into light energy

(D) Magnetic energy into electrical energy

(E) Answer not known

25. The schrödinger time-independent wave equation is

(A) $\dfrac{d^2\psi}{dx^2} + \dfrac{8\pi^2 m}{h^2} V\psi = 0$

(B) $\dfrac{d^2\psi}{dx^2} + \dfrac{8\pi^2 m}{h^2} E\psi = 0$

(C) $\dfrac{d^2\psi}{dx^2} + \dfrac{8\pi^2 m}{h^2} (V + E)\psi = 0$

(D) $\dfrac{d^2\psi}{dx^2} + \dfrac{8\pi^2 m}{h^2} (V - E)\psi = 0$

(E) Answer not known

26. Heisenberg uncertainty principle hold for

(A) Microscopic and macroscopic particles

(B) Only microscopic particles

(C) Only macroscopic particles

(D) All of these

(E) Answer not known

27. When a material surface is illuminated it emits electron. This phenomenon is known as

(A) Photoresistive effect

(B) Zeeman effect

(C) Photoelectric effect

(D) De broglie's concept

(E) Answer not known

28. The ends of a metal rod are kept at temperatures θ_1 and θ_2 with $\theta_2 > \theta_1$. The rate of flow of heat along the rod is directly proportional to

    (i)   The length of the rod

    (ii) The diameter of the rod

    (iii) The cross sectional area of the rod

    (iv) The temperature difference $(\theta_2 - \theta_1)$ between the ends of the rod

    (A)   (i) and (ii) only

    (B)   (i) only

    (C)   (iii) and (iv) only

    (D)   (ii) only

    (E)   Answer not known

29. What will be the effect on stress due to temperature change?

    (A)   Body elongates if temperature rises

    (B)   Body elongates if temperature decreases

    (C)   Body shortens if temperature rises

    (D)   There is no change

    (E)   Answer not known

30. Detecting the presence of cracks, flaws, holes etc. using ultrasonic, without causing any damage is called

    (A)   Destructive testing   (B) Non destructive testing

    (C)   Constructive testing   (D) Non-constructive testing

    (E)   Answer not known

31. Sound waves having frequencies above 20 KHz are called

    (A)   Ultrasonic waves   (B) Infrasonic waves

    (C)   Audible waves   (D) All the above

    (E)   Answer not known

32. Match the following for the synthesis of nano materials.

   (a) Physical method   1. micro emulsion

   (b) Chemical method   2. using biomembranes

   (c) Biological method 3. sol gel

   (d) Hybrid method   4. lithography

	(a)	(b)	(c)	(d)
(A)	4	3	2	1
(B)	1	2	3	4
(C)	3	4	2	1
(D)	4	3	1	2

   (E)   Answer not known

33. Give one example for Top-down approach for synthesis of nanostructured materials

   (A) Self assembly   (B) Chemical precipitation

   (C) Lithography   (D) Gas-phase

   (E) Answer not known

34. The formation of unique micro and nano-structures usually results from rapid crystallization under high

   (A) Super saturation   (B) Pressure

   (C) Temperature   (D) Composition

   (E) Answer not known

35. Which of the following is not correct for characteristics of Explosives

    (A)   Power of Explosives   (B) Sensitivity of Explosives
    (C)   Rate of detonation   (D) Mass of Explosives
    (E)   Answer not known

36. TNT is prepared by the nitration of

    (A)   Hexa methylene and nitrating mixture
    (B)   Benzene and nitrating mixture
    (C)   Toluene and nitrating mixture
    (D)   Glycerol and nitrating mixture
    (E)   Answer not known

37. Choose the dynamite, which has 40% nitroglycerine, 44% Sodium nitrate, 15% Woodpulp and 1% Calcium Carbonate

    (A)   Guhr dynamite   (B) Straight dynamite
    (C)   Gelatin dynamite   (D) Military dynamite
    (E)   Answer not known

38. In ships waterline corrosion is restricted by using

    (A)   Coating of Chromium   (B) Antifouling paints
    (C)   Coating of Zinc   (D) Coating of Tin
    (E)   Answer not known

39. Rusting of iron is quicker in saline than in ordinary water. Why?

    (A)   This is due to decreased conductivity
    (B)   No change in conductivity
    (C)   This is due to increased conductivity
    (D)   None of the above
    (E)   Answer not known

40. GR–S rubber is a example of
    (A) Addition polymerisation
    (B) Condensation polymerisation
    (C) Step polymerisation
    (D) Co-polymerisation
    (E) Answer not known

41. Which of the following statements are true for Buna–S
    (i) Copolymerisation of Butadiene and Styrene
    (ii) Condensation of Butadiene and Styrene
    (iii) Addition polymerisation of Butadiene and Styrene
    (A) (i)
    (B) (i), (ii)
    (C) (ii), (iii)
    (D) (i), (iii)
    (E) Answer not known

42. Which pressure is applied in semipermiable membrane in RO process?
    (A) Osmotic pressure
    (B) Hydrostatic pressure
    (C) Hydrolytic pressure
    (D) High pressure
    (E) Answer not known

43. Among the following which is powerful germicide by the addition of bleaching powder in Municipal water
    (A) $CaOCl_2$
    (B) Cl_2
    (C) HOCl
    (D) All the above
    (E) Answer not known

44. Higher calorific value is found in the following fuel is
    (A) Peat
    (B) Anthracite
    (C) Bituminous
    (D) Lignite
    (E) Answer not known

45. The velocity of a 4 ton car is 30 m/s, if a truck of 10 ton has to have the same momentum as a car. Find the velocity of truck.

(A) 19 m/s

(B) 12 m/s

(C) 15 m/s

(D) 18 m/s

(E) Answer not known

46. A particle moving with a acceleration of 10 m/s² travel a distance 100 m during its 5ᵗʰ second of its travel. Find its initial velocity.

(A) 45 m/s

(B) 55 m/s

(C) 65 m/s

(D) 100 m/s

(E) Answer not known

47. In impact analysis, ratio between relative velocity of separation to relative velocity of approach is termed as

(A) Coefficient of approach

(B) Coefficient of separation

(C) Coefficient of restitution

(D) Coefficient of impulse

(E) Answer not known

48. Moment of momentum is also known as

(A) Couple

(B) Moment of inertia

(C) Angular acceleration

(D) Angular momentum

(E) Answer not known

49. A body is rotating with an angular velocity of 5 rad/s. After 4 seconds, the angular velocity increases by 8 rad/sec. Determine the angular acceleration.

(A) 2 rad/sec²

(B) −2 rad/sec²

(C) 1.4 rad/sec²

(D) −1.4 rad/sec²

(E) Answer not known

50. Moment of inertia of plane area about x–axis is given by

   (A) $I_{xx} = \int y(dA)$

   (B) $I_{xx} = \int y^2(dA)$

   (C) $I_{xx} = \int x^2(dA)$

   (D) $I_{xx} = \int x(dA)$

   (E) Answer not known

51. A square threaded bolt of root diameter 22.5 mm and pitch 5mm is tightend by screwing a nut whose mean diameter is 50 mm. Find the slope of thread if coeff. of friction is 0.1.

   (A) $5 / \pi$

   (B) $\dfrac{1}{5\pi}$

   (C) 5π

   (D) $\dfrac{\pi}{5}$

   (E) Answer not known

52. Which one of the following parameter <u>does not</u> affect the magnitude of coeff. of rolling resistance?

   (A) Roller radius

   (B) Density of roller

   (C) Weight of the roller

   (D) Strength of roller

   (E) Answer not known

53. The mean diameter of a screw Jack, having a pitch of 12.5 mm is 50 mm. Find the efficiency of screw jack of the coefficient of friction for the screw is 0.05.

(A) 32

(B) 36

(C) 38

(D) 41

(E) Answer not known

54. A ladder is resting on a smooth ground and leaning against the vertical wall. Using free body diagram determine the point at which force of friction is acting.

(A) Upper end

(B) Lower end

(C) Middle of ladder

(D) Cannot be determined

(E) Answer not known

55. A rigid body has ———— degree (s) of freedom.

(A) Six

(B) Five

(C) One

(D) Three

(E) Answer not known

56. Condition of Equilibrium for coplanar concurrent forces is

(A) $\sum F_x = 0$; and $\sum F_y = 0$

(B) $\sum F_x = max$; $\sum F_y = Min$

(C) $\sum F_x = 1$; $\sum F_y = 0$

(D) $\sum F_x = 0$; $\sum F_y = 1$

(E) Answer not known

57. The rotational effect of a force which measured by a Physical Quantity is known as

(A) moment of a force

(B) moment of a couple

(C) moment of a rigid body

(D) moment of a particle

(E) Answer not known

58. The value of Laplace transform of $\dfrac{1}{\sqrt{t}}$ is

(A) π/s (B) s/π

(C) $\sqrt{\dfrac{s}{\pi}}$ (D) $\sqrt{\dfrac{\pi}{s}}$ ✓

(E) Answer not known

59. The Residue of $f(z) = \dfrac{z^2 + 4}{z^3 + 2z^2 + 2z}$ at the pole $z = 0$ is

(A) 0   (B) 1

(C) 2 ✓   (D) does not exists

(E) Answer not known

60. The value of $\displaystyle\int_c \dfrac{\sin^2 z}{\left(z - \frac{\pi}{6}\right)^3}\, dz$, where c is the unit circle, is

(A) 0   (B) πi ✓

(C) $\pi i/2$ (D) $2\pi i$

(E) Answer not known

61. The mapping $w = f(z)$, preserves the magnitude of the angle between every two curves and also it preserves the sense of orientation of the angle, is called a

(A) Isogonal mapping   (B) Conformal mapping ✓

(C) Critical mapping   (D) Stationary mapping

(E) Answer not known

62. The value of m such that $2x - x^2 + my^2$ may be harmonic is

(A) 1 ✓   (B) 2

(C) 3   (D) 4

(E) Answer not known

63. The value of the volume integral $\int\limits_{0}^{2}\int\limits_{0}^{1}\int\limits_{0}^{1-y} dz\, dy\, dx$ is

(A) 2   (B) 3

(C) 4   (D) 1

(E) Answer not known

64. The value of the integral $\iint\limits_{R}\dfrac{\sin x}{x}\, dA$, where R is the triangle in the xy-plane bounded by the x-axis, the line $y = x$ and the line $x = 1$, is

(A) $1 - \cos(1)$ (B) $1 + \cos(1)$

(C) $-1 - \cos(1)$ (D) $-1 + \cos(1)$

(E) Answer not known

65. The value of the integral $\int \sqrt{2x + 1}\, dx$ is

(A) $\dfrac{1}{2}(2x + 1)^{3/2} + C$ (B) $(2x + 1)^{-1/2} + C$

(C) $\dfrac{1}{3}(2x + 1)^{1/2} + C$ (D) $\dfrac{1}{3}(2x + 1)^{3/2} + C$

(E) Answer not known

66. If $u = x^2 - y^2$, $v = 2xy$ and $x = r\cos\theta$, $y = r\sin\theta$, then $\dfrac{\partial(u, v)}{\partial(r, \theta)}$ is

(A) r^2 (B) $4r^3$

(C) r^3 (D) $4r^2$

(E) Answer not known

67. By eliminating the arbitrary constants A and B, obtain the differential equation for which $y = Ae^{2x} + Be^{-2x}$ is a solution.

(A) $y'' = 2y' + 3y$

(B) $y'' = 4y'$

(C) $y'' + 4y = 2$

(D) $y'' = 4y$

(E) Answer not known

68. The nature of the quadratic form $2x^2 + 3y^2 + 2z^2 + 2xy$ is

(A) positive definite

(B) negative definite

(C) positive semi-definite

(D) indefinite

(E) Answer not known

69. The characteristic equation of $A = \begin{bmatrix} 2 & -1 & 1 \\ -1 & 2 & -1 \\ 1 & -1 & 2 \end{bmatrix}$ is

(A) $\lambda^3 + 6\lambda^2 + 9\lambda + 4 = 0$

(B) $\lambda^3 + 6\lambda^2 + 9\lambda - 4 = 0$

(C) $\lambda^3 - 6\lambda^2 + 9\lambda - 4 = 0$

(D) $\lambda^3 + 6\lambda^2 - 9\lambda - 4 = 0$

(E) Answer not known

70. If all the eigenvalues $\lambda_1, \lambda_2, \dots \lambda_n$ of a matrix A are distinct, then the corresponding eigenvectors $x_1, x_2, \dots x_n$ are all —————

(A) orthogonal

(B) linearly dependent

(C) parallel

(D) linearly independent

(E) Answer not known

71. Bridges and switches are working in ———— Layer of a TCP model.

   (A) Data Link Layer   (B) Network Layer

   (C) Transport Layer   (D) Application Layers

   (E) Answer not known

72. ———— is a very widely used bus topology LAN

   (A) Network Inter phase card   (B) Ethernet

   (C) Repeater   (D) Gateway

   (E) Answer not known

73. Identify the odd term among the following group.

   (A) Coaxial cable   (B) Optical fibre

   (C) Twisted-pair cable   (D) Microwaves

   (E) Answer not known

74. Find the following are not service primitives for implementing a simple connection oriented services in a computer network.

   1. Listen 2. Send 3. Quit 4. Disconnect 5. System call 6. Start

   (A) 1,2,4   (B) 2,3,4

   (C) 1,4,5   (D) 3,5,6

   (E) Answer not known

75. Find the meaning of the following in C language.

   Strcpy (city, "CHENNAI");

   (A) Assign the string city to the "CHENNAI"

   (B) Assign the string "CHENNAI" to the string variable city.

   (C) Assign either the string city to "CHENNAI" or string "CHENNAI" to the string city.

   (D) Concatenate the strings city and "CHENNAI"

   (E) Answer not known

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76.   ——— provides hardware-independent access to the physical devices of a personal computer.

   (A)   BIOS stored in ROM   (B)   POST program
   (C)   Operating system   (D)   Kernel
   (E)   Answer not known

77.   ——— loads the memory resident portion of operating system into the main memory immediately after the computer is switched on.

   (A)   POST program   (B)   BIOS
   (C)   Bootstrap loader   (D)   Direct linking loaders
   (E)   Answer not known

78.   Name a graph which is describing the deadlocks

   (A)   Resource – Linking graph

   (B)   Resource – Acyclic graph

   (C)   Deadlock – Allocation graph

   (D)   Resource – Allocation graph

   (E)   Answer not known

79.   The Loader does not perform the following function.

   (A)   Allocation and relocation

   (B)   Linking

   (C)   Loading

   (D)   Scheduling

   (E)   Answer not known

80. Identify the correct statements of the following about bus interconnection:

(i) Data lines provide a path for moving data among system modules.

(ii) Only one device connect to the bus.

(iii) Address lines are used to designate the source or destination of the data on the data bus.

(iv) Control lines are used to control the access to and the use of the data and address lines.

(A) (i), (ii), (iii) are correct

(B) (ii), (iii) and (iv) are correct

(C) (i) and (ii) are correct

(D) (i), (iii) and (iv) are correct

(E) Answer not known

81. In an AM, the amplitude of the message signal is varied in accordance with the instantaneous value of the

(A) frequency of the carrier signal

(B) phase of the carrier signal

(C) amplitude of the carrier signal

(D) time duration of the carrier signal

(E) Answer not known

82. The quadrature amplitude modulation (QAM) is similar to DSB-SC but

(A) sends two carrier signals over the same spectrum

(B) sends two message signals over the same spectrum

(C) sends one carrier and one message signals over the spectrum

(D) sends no carrier signals over the spectrum

(E) Answer not known

83. Binary 111111 represents:

   (A) Decimal 99   (B) Decimal 85

   (C) Decimal 63   (D) Decimal 67

   (E) Answer not known

84. The Binary mixed number is 101.110 the decimal equivalent is

   (A) 6.75_{10} (B) 5.75_{10}

   (C) 4.75_{10} (D) 3.75_{10}

   (E) Answer not known

85. The voltage gain of an open circuit ideal OP-AMP is

   (A) Infinity

   (B) Around 10,000

   (C) Around 1,00,000

   (D) Unity

   (E) Answer not known

86. Simplify the Boolean expression to a minimum no of literals.

   $$y = A(\overline{A} + B)$$

   (A) $y = \overline{A}B$ (B) $y = AB$

   (C) $y = A\overline{B}$ (D) $y = \overline{AB}$

   (E) Answer not known

87. When a transformer winding suffers a short circuit, the adjoining turns of the same wind experience?

   (A) No effect

   (B) An attractive force

   (C) A repulsive force

   (D) May be attractive or repulsive force depending upon the current directions

   (E) Answer not known

88. The conventional current in a PN Junction Diode Flows.

   (A) From negative to positive

   (B) In the direction opposite to electron flow

   (C) One from Top to Bottom

   (D) Middle of Diode

   (E) Answer not known

89. The voltage gain of a common base amplifier is

   (A) Greater than unity   (B) Zero

   (C) Less than unity   (D) Unity

   (E) Answer not known

90. When A SCR is conducting, It has

   (A) Infinite Resistance

   (B) Resistance in few mega ohms

   (C) Low resistance

   (D) Resistance in kilo ohms

   (E) Answer not known

91. How many 200 W / 220 V incandescent lamps connected is series would consume the same total power as a single 100 W / 220 V incandescent lamp?

(A) Not possible

(B) 4

(C) 3

~~(D)~~ 2

(E) Answer not known

92. The Periodical inspection and service activities is to maintain an equipment. This is called as

~~(A)~~ Preventive maintenance

(B) Breakdown maintenance

(C) Individual maintenance

(D) Corrective maintenance

(E) Answer not known

93. "Zero Accident" "Zero Defect" and "Zero Breakdowns" are main objectives of

(A) Continuous Process Improvement (CPI)

~~(B)~~ Total Productive Maintenance (TPM)

(C) Quality Function Deployment (QFD)

(D) Business Process Reengineering (BPR)

(E) Answer not known

94. Overall Equipment Efficiency (O.E.E.) in total productive maintenance can be found by

(A) Down Time % × Speed % × Quality %

(B) Speed % × Quality %

(C) Down Time % × Speed %

~~(D)~~ Uptime % × Speed % × Quality %

(E) Answer not known

95. From the following, which diagram allows the team to creatively generate a large number of issues / ideas and then logically group them for problem understanding and possible break through solution?

(A) Affinity diagram

(B) Tree diagram

(C) Matrix diagram

(D) Activity Network diagram

(E) Answer not known

96. State true or false

(1) Benchmarking provides a systematic approach.

(2) Benchmarking can not be Adapted to any business.

(3) Benchmarking is not a substitute for innovation.

(A) (1) – True, (2) – True, (3) – False

(B) (1) – True, (2) – False, (3) – False

(C) (1) – True, (2) – False, (3) – True

(D) (1) – False, (2) – False, (3) – True

(E) Answer not known

97. One of the best technical tools for improving product and service quality is

(A) Total productive maintenance

(B) Statistical process control

(C) Business process reengineering

(D) Quality function deployment

(E) Answer not known

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98. PDCA – Stands for

   (A) Process, Develop, Control, Analyse

   (B) Plan, Do, Check, Act

   (C) Plan, Design, Check, Adjust

   (D) Product, Deliver, Control, Adjust

   (E) Answer not known

99. Quality cost is measuring of the efficiency of

   (A) Associated with planning

   (B) An organisation's work related to quality

   (C) Actual Cost of selling products

   (D) Associated with plant capacity

   (E) Answer not known

100. The cost associated with materials and products used in destructive tests is called as

   (A) Product inspection and test

   (B) Material and services consumed

   (C) Manufacturing Accuracy of test equipment

   (D) Inspection and test of incoming material

   (E) Answer not known

101. Feigenbaum argues that _____ is necessary to achieve productivity, market penetration and competitive advantage.

   (A) Quality management

   (B) Quality control

   (C) Quality perception

   (D) Quality framework

   (E) Answer not known

102. From the following dimensions of quality, find the odd one

   (A) Performance

   (B) Divergence

   (C) Conformance

   (D) Response

   (E) Answer not known

103. Juran Trilogy consists of:

   (i) Quality planning

   (ii) Quality control

   (iii) Quality improvement

   (A) (i), (ii) and (iii)

   (B) (iii) only

   (C) (ii) only

   (D) (i) only

   (E) Answer not known

104. Control that monitors inputs into process to determine whether the inputs are as planned

(A) Feed Backward Control   (B) Feed Forward Control

(C) Concurrent Control   (D) Operational Control

(E) Answer not known

105. The advanced and quantitative technique used for managerial control is

(A) Budget   (B) PERT

(C) Operational Audit   (D) Break even analysis

(E) Answer not known

106. ————— enables organisations to have a more detailed understanding of their budgets when expenses and profit margins fluctuate.

(A) Alternative Budget   (B) Supplementary Budget

(C) Product Budget   (D) Variable Budget

(E) Answer not known

107. The term "Management by walking around" is related with a non budgetary control device called

(A) Statistical Data

(B) Special Reports and Analysis

(C) Personal Observation

(D) Operational Audit

(E) Answer not known

108. The performance is measured by the numerical difference between revenues and expenditures in

(A) Profit Centers   (B) Expense Centers

(C) Revenue Centers   (D) Responsibility Centers

(E) Answer not known

109. The formula used in the paired comparison method under performance appraisal is ——————

   (A)   N (N–1)   (B) N (A–1)

   (C)   N (N–2)   (D) N (A–2)

   (E)   Answer not known

110. A training module that includes multiple delivery methods, such as manuals, in-class lectures and web based seminars to learn is

   (A)   Blended Learning   (B) Learning Management System

   (C)   Cross Training   (D) Virtual Classroom

   (E)   Answer not known

111. Following are the simulated tasks under management assessment centers except

   (A)   In-basket method   (B) Leaderless Group Discussion

   (C)   Management Games   (D) Work Samples

   (E)   Answer not known

112. A college recruiting process that can give win-win situations for both the parties is

   (A)   Campus Recruitment   (B) Pooled Campus Hiring

   (C)   Internships   (D) Off Shoring

   (E)   Answer not known

113. Measurement, Projection, Selection, Observation, Comparison and Decision making are the basic elements of

   (A)   Management by Objective (MBO)

   (B)   Management by Exception (MBE)

   (C)   Management by Controlling (MBC)

   (D)   Management by Delegation (MBD)

   (E)   Answer not known

114. Due to fear of resistance from the subordinates. If a superior not like to modify the setted goals then it is ———————— in MBO.

(A) Participation Problem

(B) Inflexibility

(C) Pressure – Oriented Behaviour

(D) Time Consuming

(E) Answer not known

115. Pick the single-use plans out of the following

(A) Policies
(B) Strategies
(C) Objectives
(D) Schedules
(E) Answer not known

116. "Low cost digital watch has tremendously impact and changed the Wristwatch Industry" is an example of

(A) Economic Environment
(B) Socio-Cultural Environment
(C) Legal Environment
(D) Technological Environment
(E) Answer not known

117. F.W. Taylor broke each job down in to its components and designed the quickest and best methods of performing each component based on ——————

(A) Work Study
(B) Time Study
(C) Method Study
(D) Motion Study
(E) Answer not known

118. UV-radiation absorbed by cornea and lens in the eye leads to

(A) Photokeratitia
(B) Melanoma
(C) Sarcoma
(D) Lymphoma
(E) Answer not known

119. Identify the activity which does not practice sustainable development.

(A) Car pooling

(B) Using rechargeable batteries

(C) Running washing machines half empty

(D) Using appliances with higher energy star rating

(E) Answer not known

120. The waste water after washing cloth is called as

(A) Blue water   (B) Green water

(C) Grey water   (D) Black water

(E) Answer not known

121. Among the following, identify the incorrect Geothermal resource.

(A) Hydrothermal   (B) Geopressured

(C) Hot dry rock   (D) Cryopressured

(E) Answer not known

122. The largest tidal range is called, the

(A) neap tide   (B) longitudinal tide

(C) spring tide   (D) axial tide

(E) Answer not known

123. OTEC produces energy based on

(A) Pressure differences in Ocean layers

(B) Temperature differences in Ocean layers

(C) Water movement differences in Ocean layer

(D) Sun light radiation on Ocean layers

(E) Answer not known

124. Accidental ingestion of Mercury (Hg) from industrial waste causes

   (A) DNA damage

   (B) Muscle weakness

   (C) Damage to liver

   (D) Damage to central nervous system

   (E) Answer not known

125. The suitable time to water the plant to save water is (in the given list)

   (A) 10 am to 11 am   (B) 1 pm to 2 pm

   (C) 5 pm to 6 pm   (D) 9 am to 10 am

   (E) Answer not known

126. The study of interaction between abiotic and biotic components of an ecosystem is called

   (A) Ecology   (B) Biology

   (C) Ornithology   (D) Geology

   (E) Answer not known

127. The rate of production of organic matter through photosynthesis gives the measure of

   (A) Net primary productivity   (B) Net secondary productivity

   (C) Gross primary productivity (D) Organic productivity

   (E) Answer not known

128. The communities which are short – lived and quick in developments are known as

   (A) Climax communities   (B) Seral communities

   (C) Pioneer communities   (D) Terminal communities

   (E) Answer not known

129. Select the correct answer to these questions from the options given below

Assertion [A] : The electrical conductivity of semi conductors increases on doping.

Reason [R] : Doping always increases the number of electrons in the semiconductor

(A) Both [A] and [R] are true and [R] is the correct explanation of [A].

(B) Both [A] and [R] are true and [R] is not the correct explanation of [A].

(C) [A] is true but [R] is false

(D) [A] is false and [R] is also false

(E) Answer not known

130. The atomic radius for body centered cubic along with lattice points are given by

(A) $a = \dfrac{4r}{\sqrt{2}}$

(B) $a = \dfrac{4r}{\sqrt{3}}$

(C) $a = 2r$

(D) $a = \dfrac{\sqrt{3}}{4r}$

(E) Answer not known

131. If the material is transformed into a super conducting state from a normal state, its entropy.

(A) decreases

(B) increases

(C) remains same

(D) shows abrupt change

(E) Answer not known

132. The photodetector in fibre optic communication system converts the _____ into _____.

(A) electrical signals into light waves

(B) light waves into electrical signals

(C) electrical signals into optical signals

(D) optical signals into video form

(E) Answer not known

133. In graded index fibre the refractive index of the cladding is

(A) small 　　　　　　　　　　(B) larger

(C) lower 　　　　　　　　　　(D) constant

(E) Answer not known

134. The maximum wavelength (λ) of CO_2 laser is

(A) 10.6 μm 　　　　　　　　(B) 9.6 μm

(C) 0.76 μm 　　　　　　　　(D) 0.80 μm

(E) Answer not known

135. Most of the metals are good thermal conductors because of

(A) Transport of energy

(B) Free electrons and frequent collision of atoms

(C) Lattice defects

(D) Capacity to absorb energy

(E) Answer not known

136. Audible range of human ear is

    (A) Below 20 Hz

    (B) Between 20 Hz and 20 KHz

    (C) Above 20 KHz

    (D) Between 200 Hz and 200 KHz

    (E) Answer not known

137. Rate of work done by unit time is known as

    (A) Power   (B) Energy

    (C) Efficiency   (D) Momentum

    (E) Answer not known

138. If F is the force operated on the particle and v_1 the velocity acquired by the particle then power (P) is

    (A) Power $(P) = \dfrac{v}{F}$ (B) Power $(P) = v \cdot t$

    (C) Power $(P) = F \cdot v$ (D) Power $(P) = \dfrac{F}{v}$

    (E) Answer not known

139. The unit of force is called Newton, one Newton is equal to

    (A) $1 \, Kg - m/s^2$ (B) $1 \, Kg - ms^2$

    (C) $1 \, g - m/s^2$ (D) $1 \, g - ms^2$

    (E) Answer not known

140. Choose the correct Nernsts equation

(A) $E = \dfrac{E^0 + 0.0592V}{2n} \log\left[M^{n+}\right]$

(B) $E = \dfrac{E^0 + 0.0592V}{n} \log\left[M^{n+}\right]$

(C) $E = \dfrac{E^0 + 0.05900V}{n} \log\left[M^{n+}\right]$

(D) $E = \dfrac{E^0 + 0.05903V}{n} \log\left[M^{n+}\right]$

(E) Answer not known

141. Brass is an alloy of

(A) Copper and Tin   (B) Copper and Zinc

(C) Lead and Chromium   (D) Zinc and Lead

(E) Answer not known

142. At infinite dilution, each ion makes a definite contribution towards the equivalent conductivity of an electrolyte, irrespective of nature of the co-ion with which it is associated in the solution.

(A) Ohm's Law

(B) Oswald's Dilution Law

(C) Arrhenius Ionic Law

(D) Kohlrausch's Law

(E) Answer not known

143. High temperature load bearing characteristics of a refractory material is determined by

(A) Thermal Spalling Test

(B) Thermal Load Spalling Test

(C) Refractoriness under Load Test

(D) Pyrometric Cone Equivalent Test

(E) Answer not known

144. The fusion point of the finely ground refractory material is determined by

(A) RUL Test   (B) PCE Test

(C) Thermal Spalling Test   (D) All the above

(E) Answer not known

145. The most important example of hard Abrasive is

(A) Emery   (B) Diatomite

(C) Fe_2O_3 (D) Cr_2O_3

(E) Answer not known

146. PVC is processed by _____ method.

(A) Calendering

(B) Rotational casting

(C) Thermoforming

(D) Blow moulding

(E) Answer not known

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147. Choose the correct answer

Ultimate Analysis is used to determination of coal is

(i) Ash

(ii) Fixed Carbon

(iii) C, H, O

(iv) Volatile matter

(A) (i), (ii)   (B) (i), (iii)

(C) (i), (ii), (iv)   (D) (i), (ii), (iii), (iv)

(E) Answer not known

148. Producer gas is a mixture of (major amount)

(A) CO and H_2 (B) CO and N_2

(C) CO and O_2 (D) CO_2 and H_2

(E) Answer not known

149. An object thrown horizontally with a velocity v_0 from the point A which is at a height h from the horizontal plane. The object hit the horizontal plane at B after a time 't' as shown. The range of the object is given by
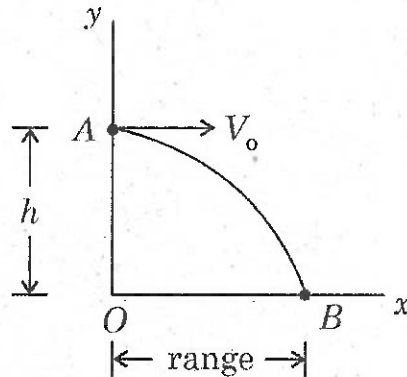
(A) $U\sqrt{\dfrac{2h}{g}}$ (B) $\sqrt{\dfrac{2U}{g}}$

(C) $\sqrt{\dfrac{2h}{g}}$ (D) $h\sqrt{\dfrac{2U}{g}}$

(E) Answer not known

150. The product of Inertia of a right angled triangle of base '*b*' and height '*h*' about its centroidal axes is

(A) $-b^2h^2/72$

(B) $-bh/72$

(C) $-bh^2/72$

(D) $-b^2h/72$

(E) Answer not known

151. Moment of inertia about xx of a symmetrical I-section is given as Assume flange depth as 'D'; flange width as 'B' flange and web thickness as 'b'

(A) $I_{xx} = BD/12 - (B-b)d^3/12$

(B) $I_{xx} = BD^2/12 - (B-b)d^2/12$

(C) $I_{xx} = \dfrac{BD^3}{12} - \dfrac{(B-b)d^3}{12}$

(D) $I_{xx} = B^2D/12 - \dfrac{(B-b)d^3}{12}$

(E) Answer not known

152. A follow rectangular section of outer width and depth as 'B' and 'D' and inner width and Depth as 'b' and 'd' respectively. The moment of Inertia of the follow rectangular section is

(A) $I_{xx} = \dfrac{DB^3 - db^3}{12}; I_{yy} = \dfrac{BD^3 - bd^3}{12}$

(B) $I_{xx} = \dfrac{1}{12}(BD^3 - bd^3); I_{yy} = \dfrac{1}{12}(DB^3 - db^3)$

(C) $I_{xx} = \dfrac{1}{12}(BD^2 - bd^2); I_{yy} = \dfrac{1}{12}(DB^2 - db^2)$

(D) $I_{xx} = \dfrac{1}{12}(DB^2 - db^2); I_{yy} = \left(\dfrac{BD^2 - bd^2}{12}\right)$

(E) Answer not known

153. Location of the centroid of a triangle of height '*h*' and base '*b*' is
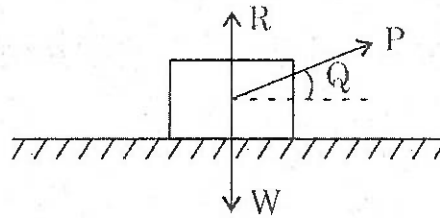
(A) $\bar{y} = \dfrac{h}{4}$

(B) $\bar{y} = \dfrac{h}{3}$

(C) $\bar{y} = \dfrac{h^2}{3}$
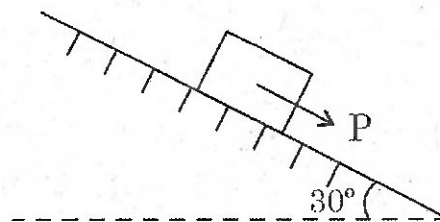
(D) $\bar{y} = \dfrac{h}{2}$

(E) Answer not known

154. For the given solid body on Horizontal surface, which one of the following represents the direction of force of friction (F)?

(A)

(B)

(C)

(D)

(E) Answer not known

155. Find the force 'p' required to move the block down the plane. The force 'p' is applied parallel to the plane. Take weigh of the block $h = 1000\,N$ and coefficient of friction as $\mu = 0.5$, $\theta = 30°$.

(A) 67 N   (B) 250 N

(C) 500 N   (D) 134 N

(E) Answer not known

156. Universal Gravitational constant 'G' is

(A) $6.673 \times 10^{-11} \ N.m^2$ (B) $6.673 \times 10^{11} \ Nm^2 / kg$

(C) $6.673 \times 10^{-11} \ N.m^2 / kg^2$ (D) $6.673 \times 10^{-11} \ Nm / kg^2$

(E) Answer not known

157. The load transferred by the truck wheel on the rail may be treated as a
—————— load.

(A) Distributed load   (B) Sustained load

(C) Dead load   (D) Point load

(E) Answer not known

158. Use the Laplace transform, to transform the initial value problem
$\frac{dy}{dt} + 3y = 13 \sin 2t$, $y(0) = 6$ into an algebraic equation in $Y(s)$ is

(A) $(s+3)Y(s) = 6 + \dfrac{26}{s^2 + 4}$ (B) $(s+3)Y(s) = 6 + \dfrac{13}{s^2 + 4}$

(C) $(s-3)Y(s) = 6 + \dfrac{26}{s^2 + 4}$ (D) $(s-3)Y(s) = 6 + \dfrac{13}{s^2 + 4}$

(E) Answer not known

159. $L^{-1}\left(\dfrac{s+2}{s^2 - 4s + 13}\right)$ is

(A) $e^{2t}\left(\cos 3t + \dfrac{4}{3}\sin 3t\right)$ (B) $e^{-2t}\left(\cos 3t + \dfrac{4}{3}\sin 3t\right)$

(C) $e^{2t}\left(\cos 3t - \dfrac{4}{3}\sin 3t\right)$ (D) $e^{-2t}\left(\cos 3t - \dfrac{4}{3}\sin 3t\right)$

(E) Answer not known

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160. The Cauchy Riemann equations in polar co-ordinates are

(A) $\dfrac{\partial u}{\partial r} = \dfrac{1}{r}\dfrac{\partial v}{\partial \theta}$ and $\dfrac{\partial u}{\partial \theta} = -r\dfrac{\partial v}{\partial r}$ (B) $\dfrac{\partial u}{\partial r} = \dfrac{-1}{r}\dfrac{\partial v}{\partial \theta}$ and $\dfrac{\partial u}{\partial \theta} = r\dfrac{\partial v}{\partial r}$

(C) $\dfrac{\partial u}{\partial r} = r\dfrac{\partial v}{\partial \theta}$ and $\dfrac{\partial u}{\partial \theta} = \dfrac{1}{r}\dfrac{\partial v}{\partial r}$ (D) $\dfrac{\partial u}{\partial r} = -r\dfrac{\partial v}{\partial \theta}$ and $\dfrac{\partial u}{\partial \theta} = \dfrac{-1}{r}\dfrac{\partial v}{\partial r}$

(E) Answer not known

161. Let S be the surface of the cube bounded by the planes $x = 0$, $x = 1$, $y = 0$, $y = 1$, $z = 0$ and $z = 1$. The value of the integral, $\iint\limits_{S} (x^3 dy\,dz + x^2 y\,dz\,dx + x^2 z\,dx\,dy)$ is

(A) 0   (B) 1

(C) 4/3   (D) 5/3

(E) Answer not known

162. If S is any closed surface enclosing a volume V, then $\iint\limits_{S} \bar{r}.ds$ is

(A) V   (B) 2V

(C) 3V   (D) 0

(E) Answer not known

163. Using Green's theorem, the area enclosed by a plane curve is

(A) $\dfrac{1}{2}\int_{c} x\,dy + y\,dx$ (B) $\dfrac{1}{2}\int_{c} x\,dy - y\,dx$

(C) $\dfrac{1}{2}\int_{c} x\,dx + y\,dy$ (D) $\dfrac{1}{2}\int_{c} x\,dx - y\,dy$

(E) Answer not known

164. The domain and range of the function $f(x,y) = \sqrt{y - x^2}$ is

(A) $y \le x^2$ and $z \ge 0$ (B) $y \ge x^2$ and $z \le 0$

(C) $y \ge x^2$ and $z \ge 0$ (D) $y > x^2$ and $z > 0$

(E) Answer not known

165. The Jacobian of the polar co-ordinates $x = r\cos\theta$, $y = r\sin\theta$ is

(A) $r^2 dr$ (B) $rd\theta$

(C) r (D) r^3

(E) Answer not known

166. The general solution of the second order differential equation is

$x^2 \dfrac{d^2y}{dx^2} - 2x\dfrac{dy}{dx} - 4y = 0$ is

(A) $y = c_1 x + c_2 x^4$ (B) $y = c_1 x^{-1} + c_2 x^4$

(C) $y = c_1 x + c_2 x^{-4}$ (D) $y = c_1 x^{-1} + c_2 x^{-4}$

(E) Answer not known

167. The general solution of the higher order differential equation $y''' + 3y'' - 4y = 0$ is

(A) $y = c_1 e^x + c_2 e^{2x} + c_3 e^{3x}$ (B) $y = c_1 e^{-x} + c_2 e^{-2x} + c_3 e^{3x}$

(C) $y = c_1 e^x + c_2 e^{-2x} + c_3 x e^{-2x}$ (D) $y = c_1 e^{-x} + c_2 e^{2x} + c_3 x e^{2x}$

(E) Answer not known

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168. In MS word application, a ———— moves to the next line without creating a new paragraph.

(A) hard return

(B) page break

(C) line break

(D) press on Enter key

(E) Answer not known

169. ———— e-commerce mode focuses on consumers dealing with one another.

(A) Business to Business

(B) Business to Consumer

(C) Consumer to Business

(D) Consumer to Consumer

(E) Answer not known

170. To apply the same animation effect to all of the titles and/or bulleted lists in a presentation, apply the effect using ————

(A) Notes master

(B) Handout master

(C) Slide master

(D) Notes page

(E) Answer not known

171. The values for an attribute or a column are drawn from a set of values known as ————

(A) data

(B) data dictionary

(C) domain

(D) attribute values

(E) Answer not known

172. Instructions for execution by a computer are given in which language?

(A) Machine

(B) Symbolic

(C) Basic

(D) Highlevel

(E) Answer not known

173. Preprocessor directives are examined ————

(A) before the compilation process begin for the source program.

(B) during the compilation process of the source program.

(C) after the compilation before execution of the program

(D) during the loading and linking modules.

(E) Answer not known

174. Identify the form of main function that is different from all others.

(A) main ( )

(B) void main ( )

(C) int main ( )

(D) int main (void)

(E) Answer not known

175. A ———— accepts a program written in a higher level language as input and produces its machine language equivalent as output.

(A) Assembler

(B) Compiler

(C) Macros

(D) Loader

(E) Answer not known

176. A bus that connects major computer components (processor, memory, I/O) is called

(A) Data Bus   (B) Address Bus

(C) ~~System Bus~~   (D) Control Bus

(E) Answer not known

177. The Central Processing Unit (CPU) consists of

(A) Input and Output

(B) Control Unit, Primary Storage, Secondary Storage

(C) Control Unit, Processing, Primary Storage

(D) Control Unit, Arithmetic, Logic Unit, Primary Storage

(E) Answer not known

178. Identify the fastest operations from the following.

(A) RAM   (B) ROM

(C) Magnetic Core Memory   (D) Registers

(E) Answer not known

179. In virtual memory, the page table's structure is called _____ because it indexes page table entries by frame number rather than by virtual page number.

(A) replicated   (B) inverted

(C) segmented   (D) copied

(E) Answer not known

180. The channel capacity of a white band limited Gaussian channel

(A) $C = B \log_2(1 + S/N) \, bits/s$ (B) $C = B \log_{10}(1 + S/N) \, bits/s$

(C) $C = B \log_2(1 + N/S) \, bits/s$ (D) $C = B \log_2(1 - S/N) \, bits/s$

(E) Answer not known

181. LASER stands for

(A) Light Amplification by stimulated Emission of Radiation

(B) Light Amplification by sccattered Emission of Radiation

(C) Light Attenuated by stimulated Emission of Radiation

(D) Light Amplification by stimulated Emission of Refraction

(E) Answer not known

182. A 3-bit A/D converter needs _____ comparators.

(A) 3   (B) 7

(C) 15   (D) 31

(E) Answer not known

183. If the inputs are P, Q and R in the full adder. Find out the expression for sum.

(A) P OR Q OR R

(B) P X OR Q X OR R

(C) P OR Q AND R

(D) P AND Q AND R

(E) Answer not known

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184. For an inverting amplifier shown in figure with $R_f = 100\ k\Omega$ and $R_1 = 2\ K\Omega$, find the closed loop voltage gain.

(A) 50

(B) −50

(C) −51

(D) 51

(E) Answer not known

185. The gain equation for non-inverting (op-amp based) amplifier is given by

(A) $A_V = \left(1 + \dfrac{R_f}{R}\right)$

(B) $A_V = -\left(1 + \dfrac{R_f}{R}\right)$

(C) $A_V = -\dfrac{R_f}{R}$

(D) $A_V = \dfrac{R_f}{R}$

(E) Answer not known

186. In which of the following part of a DC motor the flux will be maximum?

(A) under the interpole

(B) under the leading pole tip

(C) Pole core

(D) under the trailing pole tip

(E) Answer not known

187. A Zener diode is _____ device.

(A) A non-linear   (B) A linear

(C) An amplifying   (D) An oscillating

(E) Answer not known

188. The minimum current required to trigger the SCR from its OFF state to ON state is named as

(A) Cathode current   (B) Gate current

(C) Holding current   (D) Latching current

(E) Answer not known

189. Multimeter is an instrument which is a combination of

(A) Battery and shunt resistance

(B) Battery, shunt resistance and series resistance

(C) Ammeter, battery, switches, series and shunt resistances

(D) Ammeter, battery, series and shunt resistances

(E) Answer not known

190. A balanced load is one in which the phase impedances are

(A) Equal is magnitude and is phase

(B) Unequal is magnitude and is phase

(C) Equal is magnitude and out of phase

(D) Unequal is magnitude and out of phase

(E) Answer not known

191. Match the following:

(a) ISO 9001   (i) It has 12 elements

(b) ISO 9002   (ii) It has 20 elements

(c) ISO 9003   (iii) It has 18 elements

(A) (a) – (ii), (b) – (iii), (c) – (i)

(B) (a) – (ii), (b) – (i), (c) – (iii)

(C) (a) – (i), (b) – (ii), (c) – (iii)

(D) (a) – (iii), (b) – (ii), (c) – (i)

(E) Answer not known

192. _____ is an integrated part of business process reengineering.

(A) Scheduling   (B) Work Study

(C) Product Design   (D) Information Technology

(E) Answer not known

193. _____ is not a step of BPR.

(A) Development of process vision and determination of process objectives

(B) Definition of processes to be reengineered

(C) Measurement of existing processes

(D) Employees think from business perspective

(E) Answer not known

194. Cause-and-effect diagram, otherwise called as

(A) Ogives   (B) Grouped data

(C) Quality Characteristic   (D) Fish Bone diagram

(E) Answer not known

195. Validate the following:

Statement 1   –   Six sigma is quantitative methodology.

Statement 2   –   Customer is the foundation of six sigma.

Statement 3   –   Six sigma is a dynamic process.

(A)   Statement 1 correct and statement 2 and 3 are incorrect.

(B)   Statement 1 and 2 are correct and statement 3 incorrect.

(C)   Statement 1, 2 and 3 are correct.

(D)   Statement 1, 2 and 3 are incorrect.

(E)   Answer not known

196. _____ is not a objective of 5S.

(A)   Create a neat and clean work place

(B)   Problem solving

(C)   Systemize day to day working

(D)   Improve work discipline

(E)   Answer not known

197. Kaizen originated in _____ motor company.

(A)   Toyota

(B)   General

(C)   Ford

(D)   Maruthi Suzuki

(E)   Answer not known

198. Continuous process cycle include

(A) Identify the opportunity

(B) Adapt the programme

(C) Ranking

(D) Forced Choise

(E) Answer not known

199. Quality can be quantified as follows

(A) Performance / Expectations

(B) Performance × Expectations

(C) Performance – Expectations

(D) Performance + Expectations

(E) Answer not known

200. From the following, which of the habits refer to the mission statement?

(A) Think Win-Win

(B) Begin with the end in mind

(C) Put first things first

(D) Be proactive

(E) Answer not known

SPACE FOR ROUGH WORK

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