

**COMBINED TECHNICAL SERVICES EXAMINATION
(INTERVIEW POST)**

COMPUTER BASED TEST

DATE OF EXAM: 22.07.2025 AN

**PAPER – II – ENGINEERING (UG DEGREE
STANDARD) AND BUSINESS ADMINISTRATION
(PG DEGREE STANDARD)-(PROJECT MANAGEMENT)
(CODE: 475)**

1. If a company has a net income of Rs. 2,00,000 and cash flow from operations of Rs. 2,50,000, what is the cash flow margin?

- (A) 70%
- (B) 60%
- ✓(C) 80%
- (D) 90%
- (E) Answer not known

2. ABC Ltd reports

Net Profit : Rs. 3,00,000

Increase in Current Assets : Rs. 50,000

Increase in Current Liabilities: Rs. 25,000

Depreciation : Rs. 20,000

Calculate the total fund flow.

- (A) Rs. 3,00,000
- ✓(B) Rs. 2,95,000
- (C) Rs. 2,55,000
- (D) Rs. 2,45,000
- (E) Answer not known

3. How does an increase in prepaid expenses impact the cash flow statement?

- (A) Increase cash flow from operations
- (B) Decrease cash flow from financing
- ✓(C) Reducing cash flow from operation activities
- (D) Increases cash flow from investing
- (E) Answer not known

4. The consequence of maintaining overly conservative inventory levels in a retail business
- (A) Increased carrying costs
 - ✓ (B) Higher likelihood of stockouts and lost sales
 - (C) Better cash flow management
 - (D) Lower operational costs
 - (E) Answer not known
5. If a firm has a high debt-to-equity ratio and experiences a downturn in sales, what is the likely impact on its working capital?
- (A) Improved working capital position
 - ✓ (B) Deteriorating working capital position
 - (C) No impact on working capital
 - (D) Increased cash reserves
 - (E) Answer not known
6. _____ is not a characteristic of inflation – adjusted capital budgeting.
- (A) Consideration of changes in purchasing power
 - (B) Integration of tax impacts
 - ✓ (C) Use of nominal cash flows
 - (D) Adjustment for inflation expectations
 - (E) Answer not known

7. Choose the correct relationship between nominal and real rates for small inflation rates :
- (A) Real rate = Nominal rate – Inflation rate
 - (B) Nominal rate = Real rate + Inflation rate
 - ✓ (C) Both (A) and (B) are correct
 - (D) Neither (A) nor (B) is correct
 - (E) Answer not known
8. When calculating the Net Present Value (NPV) in inflation – adjusted capital budgeting, which rate is used?
- (A) Nominal Discount Rate
 - ✓ (B) Real Discount Rate
 - (C) Average Cost of Capital
 - (D) Risk-Free Rate
 - (E) Answer not known
9. A company has cash flow from operations of Rs. 9,00,000 and a market capitalisation of Rs. 60,00,000. What is the cash flow yield?
- ✓ (A) 15%
 - (B) 10%
 - (C) 12%
 - (D) 8%
 - (E) Answer not known

10. Match the following capital budgeting methods to their primary focus :

Column A	Column B
(a) NPV	1. Time to recover investment
(b) IRR	2. Cash flow profitability relatives to costs
(c) Payback period	3. Value addition to the firm
(d) Profitability index	4. Rate of return on Investment

- | | (a) | (b) | (c) | (d) |
|-------|------------------|-----|-----|-----|
| ✓ (A) | 3 | 4 | 1 | 2 |
| (B) | 1 | 3 | 2 | 4 |
| (C) | 1 | 3 | 4 | 2 |
| (D) | 3 | 4 | 2 | 1 |
| (E) | Answer not known | | | |

11. A “high Return On Assets (ROA)” is an indicator that

- (A) The company is incurring losses on its investments
- (B) The company has high levels of debt
- (C) The company is not effectively utilizing its assets to generate profits
- ✓ (D) The company is generating significant profits from its assets
- (E) Answer not known

12. Assertion – Reason type questions :

Assertion [A] : A high debt-to-equity ratio indicates that a company is primarily financed through debt.

Reason [R] : A higher debt-to-equity ratio increases financial risk as more of the company's capital structure is made up of debt.

- ✓ (A) Both Assertion [A] and Reason [R] are true and Reason is the correct explanation for Assertion
- (B) Both Assertion [A] and Reason [R] are true but Reason is not the correct explanation for Assertion
- (C) Assertion is true, but Reason is false
- (D) Assertion is false but Reason is true
- (E) Answer not known

13. Match the Financial ratios to their respective interpretations :

Ratio	Interpretations
(a) Return On Equity (ROE)	1. Indicates profitability relative to shareholder equity
(b) Current ratio	2. Measures a company's ability to cover short-term liabilities
(c) Debt to equity ratio	3. Measures a company's financial leverage
(d) Gross profit margin	4. Measures how much profit a company makes for each dollar of sales

- ✓ (A) (a) (b) (c) (d)
 (B) 1 2 3 4
 (C) 4 1 3 2
 (D) 2 4 1 3
 (E) 3 2 4 1
 (F) Answer not known

14. _____ is ratios helps assess the short-term liquidity of a company.

- (A) Inventory Turnover Ratio
 (B) Debt to Equity Ratio
 ✓ (C) Quick Ratio
 (D) Return On Investment (ROI)
 (E) Answer not known

15. Assertion – Reason type question :

Assertion [A] : Economic Value Added (EVA) is a measure of financial Performance that reflects the value added to share holder.

Reason [R] : EVA considers the cost of capital in calculating net operating profit taxes.

- ✓ (A) Both Assertion [A] and Reason [R] are true, and Reason is the correct explanation for Assertion
- (B) Both Assertion [A] and Reason [R] are true, but Reason is not the correct explanation for Assertion
- (C) Assertion is true, but Reason is false
- (D) Assertion is false but Reason is true
- (E) Answer not known

16. Match the following costing techniques with their uses :

Costing techniques	Use
(a) Activity-Based Costing (ABC)	1. To determine breakeven point and analyse profitability
(b) Standard costing	2. To control costs and measures variances
(c) Marginal costing	3. To allocate overhead costs based on activities
(d) CVP Analysis	4. To analyse fixed and variable costs for decision-making

- | | | | | |
|-------|------------------|-----|-----|-----|
| | (a) | (b) | (c) | (d) |
| (A) | 1 | 3 | 4 | 2 |
| (B) | 2 | 4 | 1 | 3 |
| (C) | 4 | 1 | 3 | 2 |
| ✓ (D) | 3 | 2 | 4 | 1 |
| (E) | Answer not known | | | |

17. Identify which costing methods allocates overhead costs based on activities rather than on volume

- (A) Marginal costing
- (B) Standard costing
- (C) Absorption costing
- ✓ (D) Activity-Based Costing (ABC)
- (E) Answer not known

18. Match the following terms with their correct definitions:

A	B
(a) Contribution margin	1. The amount remaining from sales after variable costs are subtracted
(b) Break-Even Point	2. The point where total revenue equals total cost
(c) Marginal Costing	3. A costing method that only considers variable costs in decision-making

- ✓
- | | (a) | (b) | (c) |
|-----|------------------|-----|-----|
| (A) | 1 | 2 | 3 |
| (B) | 2 | 3 | 1 |
| (C) | 3 | 2 | 1 |
| (D) | 1 | 3 | 2 |
| (E) | Answer not known | | |

19. Which of the following best describes Activity Based Costing (ABC)?

- ✓
- (A) It is a similar approach than traditional costing method
 - (B) It does not require any cost driver to allocate overhead costs
 - (C) It assigns costs to products based on their activities rather than volume
 - (D) It assigns overhead costs based on a single cost driver
 - (E) Answer not known

20. _____ is the correct formula for calculating Gross Profit.

- (A) Sales – Operating Expenses
- (B) Net Income – Operating Income
- (C) Sales – Net Income
- ✓ (D) Sales – Cost of Goods sold
- (E) Answer not known

21. Absolute system of units is

- (A) C.G.S. System
- (B) F.P.S. System
- (C) M.K.S. System
- ✓ (D) SI Units System
- (E) Answer not known

22. (i) The axis about which moment of areas are taken, is known as axis of reference.
- (ii) The axis of reference of plane figures are generally taken as the lowest live of the figure.
- (iii) If a given section is symmetrical about X – X axis (or) Y – Y axis, then the C.G. of the section lie on the axis of symmetry.
- (A) (i) is true
- (B) (ii) and (i) is true
- ✓ (C) (i), (ii) and (iii) is true
- (D) (i), (ii) and (iii) is false
- (E) Answer not known

23. Moment of Inertia of Isoceles triangle along centroidal y – y axis, whose base of triangle is perpendicular to y – y axis is

- (A) $hb^3/24$
- ✓ (B) $hb^3/48$
- (C) $bh^3/36$
- (D) $hb^3/36$
- (E) Answer not known

24. The centroid of a semicircular arc is _____.

- ✓ (A) $\left(\frac{2R}{\pi}, 0\right)$
(B) $\left(\frac{2R}{\pi}, \frac{2R}{\pi}\right)$
(C) $\left(\frac{4R}{3\pi}, \frac{4R}{3\pi}\right)$
(D) $\left(\frac{4R}{3\pi}, 0\right)$
(E) Answer not known

25. Choose the right answer among the following :

- (i) The instantaneous centre is not a fixed point.
(ii) Instantaneous centre may lie on or outside the body.
(iii) Instantaneous centre is a point identified with the body, where velocity is zero
- (A) (i) only
(B) (i) and (ii) only
✓ (C) (i), (ii) and (iii) only
(D) (iii) only
(E) Answer not known

26. Two balls are projected from the same point in the direction inclined at 60° and 30° to the horizontal. Determine the ratio of velocity of projections, if they have same horizontal range

(A) $\sqrt{3}$

(B) $1/\sqrt{3}$

(C) $1/2$

✓ (D) 1

(E) Answer not known

27. The range of Projectile is given by

V_0 = initial velocity

α = angle of projectile

g = acceleration due to gravity

✓ (A) $R = \left(\frac{V_0^2}{g} \right) \sin 2\alpha$

(B) $R = \left(\frac{V_0^2}{2g} \right) \sin^2 \alpha$

(C) $R = \left(\frac{V_0}{g} \right) \sin \alpha$

(D) $R = \left(\frac{V_0^2}{g} \right) \sin \alpha$

(E) Answer not known

28. The negative slope in velocity-time curve is observed, it means acceleration is

(A) Positive

✓ (B) Negative

(C) Constant

(D) Zero

(E) Answer not known

29. The approximate values of coefficient of friction will be high for

- (A) Metal on metal
- (B) Wood on metal
- (C) Wood on wood
- ✓ (D) Rubber on pavement
- (E) Answer not known

30. For 'V' but, the ratio of tension in tight side to tension in slack side is

- (A) $\frac{T_1}{T_2} = e^{\mu B}$
- ✓ (B) $\frac{T_1}{T_2} = e^{(\mu \cos \alpha) \beta}$
- (C) $\frac{T_1}{T_2} = e^{\frac{\mu}{\beta}}$
- (D) $\frac{T_1}{T_2} = e^{(\beta \cos \alpha)}$
- (E) Answer not known

31. In open belt drives

- (A) Both pulley rotate in same direction and same angle of lap
- ✓ (B) Both pulley rotate in same direction and larger pulley has greater angles of lap
- (C) Both pulley rotate in opposite direction and same angle of lap
- (D) Both pulley rotate in same direction and smaller pulley has greater angle of lap
- (E) Answer not known

32. Ratio of tension on tight side (T_2) to slack side (T_1) of a belt drive is

✓ (A) $\frac{T_2}{T_1} = e^{\mu\theta}$

(B) $\frac{T_1}{T_2} = e^{\mu\theta}$

(C) $T_1 \times T_2 = e^{\mu\theta}$

(D) $T_1 \times T_2 = \frac{1}{e^{\mu\theta}}$

(E) Answer not known

33. Moment of Inertia of quadrant of circle about the base

✓ (A) $I_{XX} = 0.055 R^4$

(B) $I_{XX} = 0.055 R^3$

(C) $I_{XX} = 0.055 R^2$

(D) $I_{XX} = 0.055 R$

(E) Answer not known

34. The product of Inertia of rectangular area of width 'b' and depth 'h' about 'x' axis is

(A) $I_{xy} = \frac{bh^3}{12}$

(B) $I_{xy} = \frac{hb^3}{12}$

✓ (C) $I_{xy} = \frac{b^2h^2}{4}$

(D) $I_{xy} = \frac{b^2h^2}{8}$

(E) Answer not known

35. Radius of gyration with respect to y -axis is

(A) $K_y = \sqrt{\frac{I_{xx}}{A}}$

(B) $K_y = \sqrt{A \times I_{xx}}$

✓ (C) $K_y = \sqrt{\frac{I_{yy}}{A}}$

(D) $K_y = \sqrt{A \times I_{yy}}$

(E) Answer not known

36. Mass moment of inertia of a rod about the centroidal axis normal to the rod is

m = mass per unit length

M = Mass of rod

L = Length of rod

(A) $mL^3/8$

(B) $mL^3/3$

✓ (C) $mL^3/12$

(D) $ML^3/12$

(E) Answer not known

37. The angle of resultant force with horizontal x -axis is determined by

(A) $\tan \theta = \frac{F_x}{F_y}$

✓ (B) $\tan \theta = \frac{F_y}{F_x}$

(C) $\tan \theta = \frac{F}{F_x}$

(D) $\tan \theta = \frac{F}{F_y}$

(E) Answer not known

38. The dimensions for absolute viscosity in MLT system is

- (A) L^2T^{-1} (B) $ML^{-1}T^{-2}$
✓ (C) $ML^{-1}T^{-1}$ (D) MLT^{-2}
(E) Answer not known

39. The greatest and least resultant of two forces acting on a particle are 35 kN and 5 kN respectively. If 25 kN is the magnitude of the resultant for the given system of forces F_1 and F_2 , then the value of force F_1 =

- (A) 5 kN (B) 10 kN
✓ (C) 20 kN (D) 25 kN
(E) Answer not known

40. The moment of resultant of a concurrent force system about a point is equal to the algebraic sum of moments of individual forces of the system about the same point is statement of

- (A) D-Alembert Principle
(B) Principle of Transmissibility
✓ (C) Varignon's Theorem
(D) Lamé's Theorem
(E) Answer not known

41. In a perfect competitive market, firms are price takers because

- (A) There are few firms in the market
(B) Product are differentiated
✓ (C) There are many firms and homogeneous products
(D) Barriers to entry are high
(E) Answer not known

42. In a competitive market, what is the primary goal of strategic planning?

- (A) To increase operational costs
- ✓ (B) To create a unified organizational direction
- (C) To enhance customer complaints
- (D) To limit market reach
- (E) Answer not known

43. What of the following is considered a leading economic indicator?

- (A) Gross Domestic Product (GDP)
- (B) Unemployment Rate
- ✓ (C) Stock Market Returns
- (D) Consumer Price index
- (E) Answer not known

44. What is vertical integration?

- (A) Acquiring competitors
- ✓ (B) Controlling different stages of production
- (C) Merging with companies in unrelated fields
- (D) Expanding into international markets
- (E) Answer not known

45. Which of the following is NOT a component of Gross Domestic Product (GDP)?
- (A) Consumption (B) Investment
(C) Government spending ✓ (D) Taxation
(E) Answer not known
46. Which of the following is a criticism of using gross national product as an indicator of economic welfare?
- (i) It measures the total value of all goods and services produced globally
(ii) It accounts for income distribution
(iii) It includes income earned by foreigners within the country
(iv) It excludes non-market transactions
(A) (iii) only
✓ (B) (iv) only
(C) (i) and (ii) only
(D) (ii) and (iii) only
(E) Answer not known
47. If the Marginal Propensity to Consume (MPC) is 0.8, what is the value of spending multiplier?
- ✓ (A) 5 (B) 4
(C) 2 (D) 1
(E) Answer not known

48. Which of the following is the formula used to calculate the GDP deflator?

- (A) $(\text{Inflation Rate} / \text{Unemployment Rate}) \times 100$
- (B) $(\text{Consumer Price Index} / \text{Producer Price Index}) \times 100$
- (C) $(\text{Real GDP} / \text{Nominal GDP}) \times 100$
- ✓ (D) $(\text{Nominal GDP} / \text{Real GDP}) \times 100$
- (E) Answer not known

49. Which of the following represent Gross Domestic Product (GDP)?

- (A) The total income earned by a country's resident both domestically and abroad
- (B) The income earned by the government from taxes
- ✓ (C) The total value of goods and services produced within country borders
- (D) The total value of goods and services produced by foreign residents within a country
- (E) Answer not known

50. Which one of following is not an instrument of fiscal policy?

- (A) Taxation
- (B) Public Debt
- ✓ (C) Public Savings
- (D) Budgetary policy
- (E) Answer not known

51. Under third degree price discrimination, a firm can maximize its profit by charging a higher price to the group with
- (A) A more elastic demand curve
 - ✓ (B) Lower price elasticity of demand
 - (C) A higher income level
 - (D) A higher level of product differentiation
 - (E) Answer not known
52. In a scenario with high fixed costs and low valuable costs, which pricing strategy would allow a firm to leverage its cost structure while still competing effectively
- (A) Skimming pricing
 - ✓ (B) Penetration pricing
 - (C) Value based pricing
 - (D) Cost-plus pricing
 - (E) Answer not known
53. In a market with significant fixed costs and low marginal costs, which pricing strategy would be most suitable to maximize profit in the long run?
- (A) Penetration pricing
 - ✓ (B) Skimming pricing
 - (C) Dynamic pricing
 - (D) Cost-plus pricing
 - (E) Answer not known
54. When a firm experiences increasing marginal returns to the variable input, the marginal cost curve
- ✓ (A) Slopes decreases as output increases
 - (B) Slopes increases as output increases
 - (C) Is flat
 - (D) Is perfectly horizontal
 - (E) Answer not known

55. If the total product curve is increasing at a diminishing rate, this indicates that

- (A) Marginal product is constant
- (B) Marginal product is increasing
- ✓ (C) Marginal product is decreasing
- (D) Total product is decreasing
- (E) Answer not known

56. Arrange the following events in the correct chronological order to describe the impact of a price ceiling below the equilibrium price.

- (1) Quantity demanded exceeds quantity supplied
 - (2) A shortage occurs
 - (3) Government imposes a price ceiling below equilibrium
 - (4) Market reaches a new equilibrium at the ceiling
- (A) (3), (4), (1), (2) (B) (3), (2), (1), (4)
- ✓ (C) (3), (1), (2), (4) (D) (3), (1), (4), (2)
- (E) Answer not known

57. Assertion [A] : Econometric mode is are preferred when there is a need to quantify the impact of multiple variables on demand.

Reason [R] : Econometric models rely on statistical techniques to estimate relationships between variables.

- ✓ (A) Both [A] and [R] are true, and [R] is the correct explanation of [A]
- (B) Both [A] and [R] are false
- (C) [A] is true, but [R] is false
- (D) [A] is false, but [R] is true
- (E) Answer not known

58. Assertion [A] : A perfectly inelastic demand curve is vertical.
Reason [R] : Consumers do not respond to price changes when demand is perfectly inelastic.
- (A) Both [A] and [R] are true but [R] is not correct explanation of [A]
 - ✓ (B) Both [A] and [R] are true, and [R] is the correct explanation of [A]
 - (C) [A] is false, but [R] is true
 - (D) [A] is true, but [R] is false
 - (E) Answer not known
59. Arrange the following demand estimation techniques in chronological order of their development.
- (1) Econometric modeling
 - (2) Consumer surveys
 - (3) Delphi method
 - (4) Time-series analysis
- ✓ (A) (2), (4), (1), (3) (B) (2), (3), (4), (1)
 - (C) (4), (2), (1), (3) (D) (3), (2), (4), (1)
 - (E) Answer not known
60. Identify the incorrect statement regarding the scope of managerial economics
- (A) It involves demand analysis and forecasting
 - (B) It includes pricing decisions and policies
 - (C) It encompasses profit management
 - ✓ (D) It excludes pricing decisions and policies
 - (E) Answer not known

61. How many comparators are used in a 4 bit Hash Analog to Digital Converter (ADC)?
- (A) 4 (B) 5
✓ (C) 15 (D) 16
(E) Answer not known
62. In a radio receiver, noise is generally developed at
- (A) Input stage (B) Receiving antenna
(C) Audio stage ✓ (D) Rf stage
(E) Answer not known
63. Determine the bandwidth of the FM signal for 5 kHz audio signal modulated by a carrier of 50 MHz causing a frequency of 25 kHz.
- ✓ (A) 60 kHz (B) 90 kHz
(C) 30 kHz (D) 80 kHz
(E) Answer not known
64. The time period taken by the satellite to complete one orbit is called
- (A) Lapsed time (B) Time period
✓ (C) Sidereal period (D) Unit frequency
(E) Answer not known
65. The sampling rate of an Analog to Digital Converter is determined by
- (A) Fourier transform (B) Laplace transform
(C) Shannon's law ✓ (D) Nyquist theorem
(E) Answer not known

66. A register that holds the instruction currently being executed is called
- (A) Data register (B) Status register
(C) Address register (D) Instruction register ✓
(E) Answer not known
67. A full adder has how many inputs and outputs
- (A) 2 inputs, 2 outputs (B) 2 inputs, 3 outputs
✓ (C) 3 inputs, 2 outputs (D) 3 inputs, 3 outputs
(E) Answer not known
68. Ripple factor for full wave rectifier is
- (A) 1.11 (B) 1.21
(C) 1.5 ✓ (D) 0.48
(E) Answer not known
69. The minimum current required to keep an SCR conducting is called
- (A) Latching current ✓ (B) Holding current
(C) Trigger current (D) Leakage current
(E) Answer not known
70. The zener diode maintains a constant voltage across its terminals in
- (A) Forward bias ✓ (B) Breakdown region
(C) Saturation region (D) Active region
(E) Answer not known

71. The form factor of an AC waveform is defined as the ratio of
- ✓ (A) RMS value to the average value
 - (B) RMS value to the peak value
 - (C) Peak value to the RMS value
 - (D) Average value to the RMS value
 - (E) Answer not known
72. In three phase star connection, the phase current is
- (A) $\sqrt{3}$ times the line current
 - ✓ (C) Equal to line current
 - (B) Half the line current
 - (D) $1/3^{\text{rd}}$ of the line current
 - (E) Answer not known
73. The Kirchoff voltage law is applied to a circuit with
- (A) Non linear circuit
 - (B) Linear circuit
 - (C) Linear, non linear, active and passive elements
 - ✓ (D) Linear, non linear, active, passive time variant as well as time invariant elements
 - (E) Answer not known
74. The ratio of voltage and current in a closed circuit
- ✓ (A) Remains constant
 - (C) Increases
 - (B) Varies
 - (D) Decreases
 - (E) Answer not known

75. The two major coils in an induction type energy meter are
- ✓ (A) Pressure coil and current coil
 - (B) Moving coil and fixed coil
 - (C) Potential coil and resistance coil
 - (D) Series coil and capacitor coil
 - (E) Answer not known
76. Which of the following is NOT an advantage of moving iron instruments?
- (A) Can measure both AC and DC
 - (B) Simple construction
 - (C) Cheap and robust
 - ✓ (D) High accuracy for low currents
 - (E) Answer not known
77. A 10 mA meter with an internal resistance of $50\ \Omega$ is to be converted into (0 – 400) mA ammeter. Calculate the shunt resistance required
- (A) $1.25\ \Omega$
 - ✓ (B) $1.28\ \Omega$
 - (C) $2\ \text{K}\Omega$
 - (D) $1.95\ \text{K}\Omega$
 - (E) Answer not known
78. A transformer has an output power of 900w and an input power of 1000w calculate its efficiency.
- (A) 0.9%
 - (B) 9%
 - ✓ (C) 90%
 - (D) 1.12%
 - (E) Answer not known

79. The function of a commutator in a DC motor is to
- (A) Convert DC to AC
 - (B) Convert AC to DC
 - ✓(C) Reverse the direction of current flow in the armature winding
 - (D) Reduce the losses
 - (E) Answer not known
80. If a D.C. motor is connected across the A.C supply it will
- (A) Run at normal speed
 - (B) Not run
 - (C) Run at lower speed
 - ✓(D) Burn due to heat produced in the field winding by eddy current
 - (E) Answer not known
81. Which of the following space planning methodologies was introduced earliest?
- (A) Activity – based working
 - (B) Hot- desking
 - ✓(C) Open-plan offices
 - (D) Co-working spaces
 - (E) Answer not known

82. Identify the incorrect statement regarding space management in facilities.

- (A) Effective space management can lead to cost savings and improved productivity
- (B) Space management involves tracking, managing and optimizing the physical space within a facility
- ✓(C) Space management is solely concerned with the aesthetic aspects of interior design
- (D) Implementing space management software can enhance decision-making processes
- (E) Answer not known

83. _____ is not a primary component of facility security planning?

- (A) Threat analysis
- ✓(B) Budget allocation
- (C) Emergency response planning
- (D) Employee training
- (E) Answer not known

84. Arrange the following facility planning phases in chronological order

- (1) Design development
 - (2) Programming
 - (3) Schematic Design
 - (4) Construction Documents
- (A) (3), (2), (1), (4) (B) (2), (1), (3), (4)
- ✓(C) (2), (3), (1), (4) (D) (1), (2), (3), (4)
- (E) Answer not known

85. Match the following budgeting methodologies with their primary characteristics:

- | | |
|------------------------------|---|
| (a) Incremental budgeting | 1. Focuses on activities driving costs |
| (b) Zero based budgeting | 2. Continuously updates the budget |
| (c) Activity-based budgeting | 3. Builds upon the previous period's budget |
| (d) Rolling budgeting | 4. Starts from zero for each period |

- | | (a) | (b) | (c) | (d) |
|-------|------------------|-----|-----|-----|
| (A) | 4 | 3 | 1 | 2 |
| (B) | 4 | 1 | 2 | 3 |
| ✓ (C) | 3 | 4 | 1 | 2 |
| (D) | 3 | 1 | 4 | 2 |
| (E) | Answer not known | | | |

86. The term that refers to the systematic analysis of work processes to determine the time required for each task is

- | | |
|----------------------------|------------------------|
| (A) Job design | ✓ (B) Work measurement |
| (C) Performance management | (D) Quality control |
| (E) Answer not known | |

87. The "Supply chain agility" emphasizes

- | |
|--|
| (A) Cost reduction strategies |
| ✓ (B) Speed and flexibility in responding to market change |
| (C) Long term supplier contract |
| (D) Inventory minimization |
| (E) Answer not known |

88. In which scenario is "Third Party Logistics" (3PL) most advantageous?

- (A) When a company has excess warehouse space
- ✓ (B) When a company needs to focus units core competencies
- (C) When a company can manage logistics in house effectively
- (D) When a company wants to minimize supply chain risks
- (E) Answer not known

89. Match the following:

Column A

Column B

- | | |
|---------------------|----------------------------------|
| (a) Cost leadership | 1. High product variety |
| (b) Flexibility | 2. Focus on reducing costs |
| (c) Quality | 3. Ability to respond to changes |
| (d) Speed | 4. Consistency and reliability |

(a) (b) (c) (d)

- ✓ (A) 2 3 4 1
- (B) 1 3 4 2
- (C) 2 1 3 4
- (D) 4 3 1 2
- (E) Answer not known

90. The objective of "Economies of scale" in operations management is to
- (A) Reduce the number of production lines in the facility
 - ✓ (B) Lower the cost per unit as production volume increases
 - (C) Increase product variety and customization
 - (D) Minimize product output to focus on quality
 - (E) Answer not known
91. A company has 1,000 units material A in Stock. The usage rate is 100 units per week and the leadtime for the supplier is 3 weeks. What is the Re-order point?
- (A) 100 units
 - ✓ (B) 300 units
 - (C) 200 units
 - (D) 400 units
 - (E) Answer not known
92. Which of the following represents the correct chronological order in the supply chain process for handling orders?
- ✓ (A) Order Reception → Order Fulfillment → Order Dispatch → Payment collection
 - (B) Order Fulfillment → Order Reception → Order Dispatch → Payment Collection
 - (C) Order Reception → Order Dispatch → Order Fulfillment → Payment Collection
 - (D) Order Dispatch → Order Reception → Order Fulfillment → Payment Collection
 - (E) Answer not known

93. The ABC analysis technique is used for
- ✓ (A) Classifying materials based on their importance and value
 - (B) Determining reorder points
 - (C) Setting material handling policies
 - (D) Identifying defective materials
 - (E) Answer not known
94. The holding cost of an inventory is \$ 5 per unit per month. The annual demand is 12,000 units and the ordering cost is \$ 25 per order, what is the total annual cost of ordering and holding the inventory at EOQ?
- (A) \$ 600
 - ✓ (B) \$ 750
 - (C) \$ 850
 - (D) \$ 1000
 - (E) Answer not known
95. In Bath Tub curve, the flat portion indicates
- ✓ (A) Wear out of parts
 - (B) Design defect
 - (C) Installation defect
 - (D) Cause of failure to be external
 - (E) Answer not known
96. Which of the following is a major component of an effective quality management system?
- (A) Customer complaints
 - ✓ (B) Document control
 - (C) Marketing strategies
 - (D) Financial analysis
 - (E) Answer not known

97. Which is a common method for prioritizing problems based on their impact?

- (A) Control chart
- ✓ (B) Pareto analysis
- (C) Regression analysis
- (D) Time series analysis
- (E) Answer not known

98. What does the term 'Certification body' refer to?

- (A) A department within a company
- ✓ (B) An organization that assesses and certifies compliance with standards
- (C) A type of quality control tool
- (D) A set of guidelines for internal audits
- (E) Answer not known

99. Which of the following is a key principles of ISO 9001?

- ✓ (A) Continuous improvement
- (B) Marketing focus
- (C) Cost reduction
- (D) Limited customer interaction
- (E) Answer not known

100. Arrange the following facility management milestones in chronological order.

- (1) Introduction of computer – Aided Facility Management (CAFM) System
- (2) Establishment of the International Facility Management Association (IFMA)
- (3) Emergence of sustainable facility management practices
- (4) Development of the facility management standard ISO 41001

- ✓ (A) (2), (1), (3), (4)
- (B) (1), (2), (3), (4)
- (C) (2), (3), (1), (4)
- (D) (1), (4), (3), (2)
- (E) Answer not known

101. Which of the following conditions will accelerate the hardening of cement?

- (A) Lowering the water-to-cement ratio
- (B) Increasing the gypsum content beyond the normal limit
- (C) Using finely ground cement particles
- ✓ (D) Both (A) and (C)
- (E) Answer not known

102. Match correctly the type of lime with their corresponding molecular formula.

- | | |
|-----------------|--|
| (a) Quicklime | 1. Ca(OH)_2 |
| (b) Slaked lime | 2. CaO |
| (c) Lime stone | 3. $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$ |
| (d) Gypsum | 4. CaCO_3 |

- | | (a) | (b) | (c) | (d) |
|-------|------------------|-----|-----|-----|
| ✓ (A) | 2 | 1 | 4 | 3 |
| (B) | 3 | 2 | 1 | 4 |
| (C) | 1 | 2 | 3 | 4 |
| (D) | 4 | 3 | 2 | 1 |
| (E) | Answer not known | | | |

103. Match the following : (Abrasives with their Moh's scale of hardness)

- | | Column A
(Abrasive) | Column B
(Moh's Scale of hardness) |
|-----|------------------------|---------------------------------------|
| (a) | Gypsum | 1. 4 |
| (b) | Fluorite | 2. 7 |
| (c) | Quartz | 3. 9 |
| (d) | Corundum | 4. 2 |

- | | (a) | (b) | (c) | (d) |
|-------|------------------|-----|-----|-----|
| (A) | 1 | 3 | 2 | 4 |
| (B) | 3 | 4 | 1 | 2 |
| ✓ (C) | 4 | 1 | 2 | 3 |
| (D) | 1 | 2 | 3 | 4 |
| (E) | Answer not known | | | |

104. Select the non-oxide refractory from the following choices

- ✓ (A) Carbide (B) Dolomite
- (C) Magnesite (D) Zirconia
- (E) Answer not known

105. Both paint and oil varnish contain common constituent

- (A) Thinner (B) Pigment
- ✓ (C) Drying oil (D) Extender
- (E) Answer not known

106. When two dissimilar metals are electrically connected and exposed to an electrolyte, the metal higher in electrochemical series undergoes corrosion. This type of corrosion is called

- (A) Pitting corrosion (B) Intergranular corrosion
- (C) Electrochemical corrosion ✓ (D) Galvanic corrosion
- (E) Answer not known

107. In reverse Osmosis, the membrane is made up of

- ✓ (A) Cellulose acetate (B) Teflon
- (C) Poly vinyl chloride (D) Poly carbonate
- (E) Answer not known

108. Choose the right answer pertaining to de-mineralization process :

Statement I (S_1) : Resin containing acidic functional groups are capable of exchanging their H^+ ions with other cations which comes in their contact

Statement II (S_2) : Resin containing basic functional groups are capable of exchanging their anions with other anions, which comes in their contact

- ✓ (A) (S_1) and (S_2) are correct
(B) (S_1) is correct, (S_2) is incorrect
(C) (S_1) is incorrect; (S_2) is correct
(D) (S_1) and (S_2) are incorrect
(E) Answer not known

109. The most important chemical added to rubber on vulcanization

- ✓ (A) Sulphur (B) Chlorine
(C) Bromine (D) Iodine
(E) Answer not known

110. Which of the following is incorrectly paired?

- (1) PVC – Polyvinyl chloride
(2) PC – Polycarbonate
(3) PU – Polyurethane
(4) PP – Polyphenol
(A) (1) and (2) are correct
(B) (1) and (3) are correct
✓ (C) (4) only
(D) (3) only
(E) Answer not known

111. While conducting a photo electric effect experiment with light of a certain frequency, find that a reverse potential difference of 1.25 V is required to reduce the current to zero. Find the maximum kinetic energy

- (A) $0.20 \times 10^{-19} \text{ J}$ ✓ (B) $2.00 \times 10^{-19} \text{ J}$
(C) $-0.20 \times 10^{-19} \text{ J}$ (D) $-2.00 \times 10^{-19} \text{ J}$
(E) Answer not known

112. Millikan's experiment is based on

- (A) developing potential ✓ (B) stopping potential
(C) negative potential (D) limiting potential
(E) Answer not known

113. Find the wavelength of an electron accelerated through a potential difference of 182 volts.

- ✓ (A) $0.91 \text{ \AA}$ (B) $9.10 \text{ \AA}$
(C) $0.09 \text{ \AA}$ (D) $91.00 \text{ \AA}$
(E) Answer not known

114. The frequency range of ultrasound beam used for foetal heart movements is

- ✓ (A) 3 MHz (B) 30 MHz
(C) 30 kHz (D) 300 MHz
(E) Answer not known

115. Match correctly, the absorption co-efficient of some common materials :

- | | |
|------------------------------|-------------|
| (a) Brick wall (30 cm Thick) | 1. 0.30 OWU |
| (b) Wooden Floor | 2. 4.30 OWU |
| (c) Human body | 3. 0.03 OWU |
| (d) Carpets | 4. 0.06 OWU |

- | | (a) | (b) | (c) | (d) |
|------|------------------|-----|-----|-----|
| (A) | 1 | 3 | 4 | 2 |
| (B) | 3 | 1 | 4 | 2 |
| (C) | 2 | 3 | 1 | 4 |
| ✓(D) | 3 | 4 | 2 | 1 |
| (E) | Answer not known | | | |

116. Identify the right statements from the following with reference to musical sound.

- (i) It has regular wave form
 - (ii) It has lack of periodicity
 - (iii) There is sudden change in amplitude
- (A) (i) and (ii) only (B) (ii) and (iii) only
- (C) (i) and (iii) only ✓(D) (i) only
- (E) Answer not known

117. In elasticity, the twisting couple per unit twist is _____ for a hollow cylinder than for a solid one of the same material, mass and length.

- ✓(A) high (B) small
- (C) infinite (D) extremely small
- (E) Answer not known

118. A Block moving in air breaks in two parts and the parts separate. Consider the following statements and identify the correct answer from the given options

- (i) The total momentum must be conserved
- (ii) The total kinetic energy must be conserved
- (iii) The total momentum must change
- (iv) The total kinetic energy must be changed

(A) (i), (ii) and (iv) only

(B) (i) and (iii) only

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

✓ (D) (i) and (iv) only

(E) Answer not known

119. When the orbit of the satellite is elliptical the farthest point to the earth is referred as

(A) Perigee

✓ (B) Apogee

(C) Emogee

(D) Eccentricity

(E) Answer not known

120. The Tensile strength of metals and alloys _____ on cooling and _____ on heating

(A) Constant, increases

(B) Decreases, constant

(C) Remains the same, increases

✓ (D) Increases, decreases

(E) Answer not known

121. Statement I: Carbon markets are likely to be one of the most widespread tools in the fight against climate change

Statement II: Carbon markets transfer resources from the private sector to the state

(A) Both I and II statements are correct and II is the correct explanation for I

✓ (B) Both I and II are correct and II is not correct explanation for I

(C) Statement I is correct but II is incorrect

(D) Statement I is incorrect and II is correct

(E) Answer not known

122. Assertion [A]: The carbon footprint of an individual is the total amount of greenhouse gases emitted due to their activities measured in carbon dioxide equivalents (CO₂e).

Reason [R]: A person's carbon foot print includes emissions from activities such as driving a car, using electricity and the production of goods consumed.

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

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

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

(D) Both [A] and [R] are true, but [R] is not the correct explanation of [A]

(E) Answer not known

123. Which is/are the objectives of “Green India Mission”?

- (i) Forests act as carbon sinks by absorbing more CO₂, than they emit
- (ii) The Green India Mission aims to afforestation of 6 million hectares
- (iii) The Green India Mission is unrelated to Indian's National Action plan on climate change
- (A) (i) only
- (B) (i) and (ii) only
- (C) (i) and (iii) only
- (D) (ii) and (iii) only
- (E) Answer not known

124. Which of the following is the most significant human-induced cause of the current warming trend in global climate?

- (A) Increased volcanic activity releasing green house gases
- (B) Deforestation leading to changes in regional weather patterns
- (C) The burning of fossil fuels releasing green house gases
- (D) Changes in Earth's orbit and solar activity
- (E) Answer not known

125. Which of the following statements are correct regarding Article 48 A of the Indian constitution?

- (i) Article 48 A was added by the 42nd Amendment Act in 1976
 - (ii) It directs the state to protect and improve the environment and safeguard forest and wildlife
 - (iii) It deals with the promotion of education and literacy
- (A) (i) only
- ✓ (B) (i) and (ii) only
- (C) (i) and (iii) only
- (D) (ii) and (iii) only
- (E) Answer not known

126. Assertion [A]: Solar energy has the greatest potential of all the sources of renewable energy.

Reason [R]: Solar energy does not contribute to air pollution or greenhouse gas emission.

- (A) [A] is true but [R] is false
- (B) Both [A] and [R] are true and [R] is the correct explanation of [A]
- (C) [A] is false, [R] is true
- ✓ (D) Both [A] and [R] are true but [R] is not the correct explanation of [A]
- (E) Answer not known

127. Which of the following is not a phase in anerobic digestion in Biogas generation?

- ✓ (A) Pyrolysis
- (B) Methane formation
- (C) Enzymatic hydrolysis
- (D) Acid formation
- (E) Answer not known

128. Assertion [A]: Hydrogen fuel cells are considered a clean energy source because they only produce water vapors as a byproduct.

Reason [R]: Hydrogen fuel cells generate electricity by chemically combining hydrogen and oxygen, with water being the main byproduct of the reaction.

- (A) [A] is true but [R] is false
- ✓ (B) Both [A] and [R] are true and [R] is the correct explanation of [A]
- (C) [A] is false, [R] is true
- (D) Both [A] and [R] are true, but [R] is not the correct explanation of [A]
- (E) Answer not known

129. PURA of Former President Dr. Abdul Kalam refers to

- (A) A model for growth of the metrocities
- (B) Providing urban rural alignment
- ✓ (C) Providing urban amenities in rural areas
- (D) A plan for urban and rural areas
- (E) Answer not known

130. Which of the following statements is/are true about Super Critical Fluid (SCF)?

- (i) A large amount of organic solvents used in industries act as ozone depleting agents
- (ii) Liquid or supercritical CO₂ in presence of suitable surfactants can largely replace the hazardous organic solvents
- (iii) Supercritical fluid exists only in low temperature and low pressure

(A) (i) only

✓ (B) (i) and (ii) only

(C) (ii) and (iii) only

(D) (i) and (iii) only

(E) Answer not known

131. Assertion [A]: Green Engineering plays an important role in achieving sustainable urbanization.

Reason [R]: Green Engineering focuses on designing systems and technologies that reduce environmental harm and support sustainability on all stages of development.

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

✓ (B) Both [A] and [R] are true, and [R] is the correct explanation of [A]

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

(D) Both [A] and [R] are true, but [R] is not the correct explanation of [A]

(E) Answer not known

132. Assertion [A]: CO_2 has been chosen as the alternative blowing agent to replace the hazardous blowing agents like CFCs, HCFCs and UOCs.

Reason [R]: Global Warming Potential (GWP) of CO_2 is far less than that of CFCs and HCFCs.

- (A) [A] is true but [R] is false
- ✓ (B) Both [A] and [R] are true and [R] is the correct explanation of [A]
- (C) [A] is false, [R] is true
- (D) Both [A] and [R] are true, but [R] is not the correct explanation of [A]
- (E) Answer not known

133. The chronic exposure to radiation makes these health effects more likely to occur, but do not influence the type or severity is

- (A) Genetic effect
- (B) Radio active effect
- ✓ (C) Stochastic effect
- (D) Raman effect
- (E) Answer not known

134. The type and quantity of waste generated varies greatly through the factors like

- (a) Geographical Region
- (b) Seasonal Variation
- (c) Storage Practices
- (d) Collection Facilities

(A) (a) and (c)

(B) (a) and (d)

(C) (a), (b) and (c)

✓ (D) (a) and (b)

(E) Answer not known

135. The process of building up of contaminant in the body by consuming plant products grown on contaminated soil is

(A) Bio agumentation

✓ (B) Bio accumulation

(C) Bio stimulation

(D) Bio degradation

(E) Answer not known

136. The main source for the cause of water pollution is

(A) Industrial sludge

(B) Agricultural waste materials

✓ (C) Sewage and industrial effluents

(D) Building waste

(E) Answer not known

137. The maximum reproductive capacity of a species under ideal environmental conditions, assuming unlimited resources and no limiting factors is called

- ✓ (A) Biotic potential
- (B) Environmental Resistance
- (C) Population size
- (D) Carrying capacity
- (E) Answer not known

138. Which of the following is not a Sustainable Development Goals targeted to be achieved by 2030?

- (A) Gender Equality
- (B) Zero Hunger
- (C) Good health and Wellbeing
- ✓ (D) Space Research
- (E) Answer not known

139. Which of the following statements about the Agenda 2030 and the Sustainable Development Goals (SDGs) is/are true?

- (i) The Agenda 2030 includes 17 Sustainable Development Goals and 169 Targets.
 - (ii) The SDGs officially came into effect and implemented in 2016.
 - (iii) The SDGs were adopted by 150 UN Member States in 2015
- (A) (i) only
 - ✓ (B) (i) and (ii) only
 - (C) (i) and (iii) only
 - (D) (ii) and (iii) only
 - (E) Answer not known

140. Consider the following statements regarding the Sustainable Development Goals (SDGs) of the Indian Prime Minister Sh.Narendra Modi:

- (i) To check the on-going national policies, programmes and plans and work up on developmental challenges
- (ii) For effective monitoring Sophisticated IT tools are used
- (iii) To monitor SDGs only at the national level
- (A) (i) only
- (B) (i) and (iii) only
- (C) (ii) and (iii) only
- ✓ (D) (i) and (ii) only
- (E) Answer not known

141. From the given mail address, “mackenzie@pit.arc.nasa.gov”, identify the domain name

- (A) mackenzie
- ✓ (B) pit.arc.nasa.gov.
- (C) mackenzie@pit.arc.nasa.gov.
- (D) (A) and (B) only
- (E) Answer not known

142. Match the following :

- | | |
|------------|---|
| (a) NTP | 1. Shortest path for transmission |
| (b) Telnet | 2. Exchange Routing Information between autonomous system |
| (c) RIP | 3. Retrieve mails from mail server |
| (d) BGP | 4. Time synchronization for devices |
| (e) POP3 | 5. Remote login without encryption |

- | | (a) | (b) | (c) | (d) | (e) |
|-------|------------------|-----|-----|-----|-----|
| (A) | 1 | 2 | 3 | 4 | 5 |
| (B) | 3 | 1 | 5 | 2 | 4 |
| ✓ (C) | 4 | 5 | 1 | 2 | 3 |
| (D) | 5 | 4 | 2 | 1 | 3 |
| (E) | Answer not known | | | | |

143. A corporation fully connected mesh network consisting of eight (8) devices. Calculate the total number of cable links needed.

- | | |
|----------------------|--------|
| (A) 8 | (B) 64 |
| ✓ (C) 28 | (D) 16 |
| (E) Answer not known | |

144. Which is not a direct component of a Data Communication System?

- | | |
|----------------------|------------------|
| (A) Message | ✓ (B) Timeliness |
| (C) Protocol | (D) Medium |
| (E) Answer not known | |

145. main ()

```
{  
    extern int i ;  
    i = 20;  
    printf ("%d", size of (i));  
    return no;  
}
```

What is the output?

- (A) 0
- (B) 20
- (C) Vary from compiler to compiler
- ✓ (D) Error i undefined
- (E) Answer not known

146. What is recursion in programming?

- ✓ (A) A function that calls by itself
- (B) A function that call another unknown function
- (C) A function that returns a pointer
- (D) A function without parameters
- (E) Answer not known

147. What is the range of values that can be stored in unsigned int an "16 bit" system?

- (A) 0 to 32,767
- (B) - 32,768 to 32,767
- ✓ (C) 0 to 65,535
- (D) - 65,536 to 65,535
- (E) Answer not known

148. Find out the odd one of functions of operating system.

- ✓ (A) Object code generation (B) Memory management
(C) Process scheduling (D) File system management
(E) Answer not known

149. Match the following :

- | | |
|----------------------|--|
| (a) Physical memory | 1. Logical address to physical address |
| (b) Logical memory | 2. Mapping logical pages to physical forms |
| (c) Address mapping | 3. Actual ROM installed in the system |
| (d) Page table | 4. Actual location in RAM where data is stored |
| (e) Physical Address | 5. Memory address used by a process |

- | | (a) | (b) | (c) | (d) | (e) |
|-------|------------------|-----|-----|-----|-----|
| (A) | 2 | 1 | 4 | 3 | 5 |
| ✓ (B) | 3 | 5 | 1 | 2 | 4 |
| (C) | 1 | 2 | 3 | 4 | 5 |
| (D) | 2 | 1 | 4 | 5 | 3 |
| (E) | Answer not known | | | | |

150. Which of the following is responsible for resolving external references between object files?

- (A) Loader ✓ (B) Linker
(C) Assembler (D) Interpreter
(E) Answer not known

151. MICR stands for

- (A) Magnetic Ink Code Reader
- ✓ (B) Magnetic Ink Character Reader
- (C) Microphone Ink Code Reader
- (D) Microphone Ink Card Reader
- (E) Answer not known

152. What is the primary purpose of RAID (Redundant Array of Independent Disks) configurations?

- (A) To read and write data to optical Discs
- (B) To store data permanently
- ✓ (C) To improve storage reliability and performance
- (D) To perform mathematical calculations
- (E) Answer not known

153. Convert the following binary number 11011 to equivalent decimal member

- ✓ (A) 27
- (B) 26
- (C) 13
- (D) 0.6875
- (E) Answer not known

154. A function is used to allocates space for an array of elements and initializes them to zero the function is

- (A) free ()
- (B) malloc ()
- ✓ (C) calloc ()
- (D) realloc ()
- (E) Answer not known

155. Choose the shortcut key to insert page breaks in MS Word?

- (A) Tab + Enter
- (B) Alt + Enter
- (C) Shift + Enter
- ✓ (D) Ctrl + Enter
- (E) Answer not known

156. Which data management language component allows the DBA to define the schema components?

- (A) Schema DLL
- (B) Subschema DLL
- (C) DML (Data Manipulation Language)
- ✓ (D) DDL (Data Definition Language)
- (E) Answer not known

157. What are the anomalies, which can be present due to un-normalized relations?

- ✓ (A) Insert, update, delete
- (B) Select, insert, delete
- (C) Delete, select, update
- (D) Update, select, alter
- (E) Answer not known

158. I. If the _____ clause is omitted in a delete statement, then all rows in the table will be deleted.

II. _____ statement is used to add record.

- (A) from, create
- ✓ (B) where, insert into
- (C) from, append
- (D) where, add
- (E) Answer not known

159. List the odd one out of a set operator

- ✓ (A) LIKE
- (B) UNION
- (C) INTERSECT
- (D) MINUS
- (E) Answer not known

160. Write the statement to create a table called CATALOG with the same structure as Book?

- (A) CREATE TABLE BOOK LIKE CATALOG
- (B) CREATE TABLE BOOK FROM CATALOG
- ✓ (C) CREATE TABLE CATALOG LIKE BOOK
- (D) CREATE TABLE CATALOG SAMEAS BOOK
- (E) Answer not known

161. What is a common method used for quality assurance?

- (A) Cost tracking
- ✓ (B) Process mapping
- (C) Resource leveling
- (D) Daily status reports
- (E) Answer not known

162. Arranging the following steps in the cost control process in chronological order :

- (1) Monitor actual costs
- (2) Establish a budget
- (3) Perform variance analysis
- (4) Implement corrective actions
- ✓ (A) (2), (1), (3), (4)
- (B) (1), (2), (3), (4)
- (C) (3), (2), (1), (4)
- (D) (2), (3), (1), (4)
- (E) Answer not known

163. Which of the following techniques is used to create a CPM diagram?

- (A) Gantt Chart
- ✓ (B) Network Diagram
- (C) Resource Histogram
- (D) PERT Chart
- (E) Answer not known

164. In PERT analysis, what is the formula to calculate the expected time (TE) for an activity?

- (A) $TE = (\text{Optimistic} + \text{Pessimistic})/2$
- ✓ (B) $TE = (\text{Optimistic} + \text{Most Likely} + \text{Pessimistic})/6$
- (C) $TE = (\text{Most Likely} + (\text{Pessimistic} + \text{Optimistic})/2)$
- (D) $TE = (\text{Most Likely} + \text{Pessimistic})/2$
- (E) Answer not known

165. Choose the correct statement regarding the concept of “float”

- (A) Float is the same as lead time
- ✓ (B) Float indicates how much a task can be delayed without affecting the project dead line
- (C) Float is used to measure project costs
- (D) Float refers to the time taken to complete a task
- (E) Answer not known

166. Scope creep is

- (A) Defined project scope
- ✓ (B) Uncontrolled expansion in project's scope without adjustments to time, cost or resources
- (C) Reduced project costs
- (D) Completed project deliverables
- (E) Answer not known

167. The profit management methodology that focuses on reducing variability and improving quality through statistical methods

- (A) dwan
- (B) six sigma ✓
- (C) waterfall
- (D) scrum
- (E) Answer not known

168. Assertion [A] : In a fixed price contract the contractor assumes the risk for cost over runs.

Reason [R] : The price in a fixed price contract is set upfront and remains unchanged.

- ✓ (A) Both [A] and [R] are true and [R] is the correct explanation of [A]
- (B) Both [A] and [R] are true but the [R] is not the correct explanation
- (C) [A] is true but the [R] is false
- (D) [A] is false but the [R] is true
- (E) Answer not known

169. In a fixed price contract _____ the contractor assumes.

- (A) No financial risk
- (B) Some cost risk, but not all
- ✓ (C) All cost risk
- (D) No risk related to scope changes
- (E) Answer not known

170. Updating may result in

- (1) Change of critical path
- (2) Decrease of project completion time
- (3) Increase of project completion time
- (4) Change of non critical activities
- (A) (1) and (3) only
- (B) (2) and (3) only
- (C) (3) and (4) only
- (D) (1), (3) and (4) only
- (E) Answer not known

171. A project has 100 tasks the probability of completing each task on time is 0.8. What is the probability that all tasks will be completed on time?

- (A) 0.8
- (B) 0.2
- (C) 0.1
- (D) 0.8^{100}
- (E) Answer not known

172. If you crash a project and increase the cost by \$ 10,000 but save 2 weeks how would you determine whether this is a good decision?

- (A) Compare the cost of crashing with the potential profit from the early completion
- (B) Use the Earned Value Management (EVM) technique
- (C) Compare the new cost to the baseline cost of the project
- (D) Use a risk analysis tool to measure the impact of early completion
- (E) Answer not known

173. A project has 2 tasks with the following Resource Requirements.

Task A : 3 Resources for 5 days

Task B : 2 Resources for 4 days

How can you allocate resources efficiently without exceeding the available resources assuming only 4 resources are available?

- (A) Do both tasks in parallel
- ✓ (B) Do Task A first, then Task B
- (C) Start Task B immediately after Task A ends
- (D) Start both Tasks with 2 resources for Task A and Task B
- (E) Answer not known

174. Match the following :

Risk Management Process

- | | |
|-------------------------------------|--|
| (a) Risk Identification | 1. Analyzing the Likelihood and impact of risks |
| (b) Risk Analysis | 2. Defining actions to mitigate or exploit risks |
| (c) Risk Response Planning | 3. Determining potential risks that could impact the project |
| (d) Risk Monitoring and Controlling | 4. Tracking Identified risks, monitoring residual tasks |

- | | (a) | (b) | (c) | (d) |
|-------|------------------|-----|-----|-----|
| ✓ (A) | 3 | 1 | 2 | 4 |
| (B) | 1 | 2 | 3 | 4 |
| (C) | 4 | 2 | 3 | 1 |
| (D) | 2 | 1 | 3 | 4 |
| (E) | Answer not known | | | |

175. In a Gantt Chart, what does the length of the Bar represent?

- (A) The total duration of the project
- (B) The number of team members working on a task
- ✓ (C) The start and end time of a task
- (D) The completion percentage of a task
- (E) Answer not known

176. The tools used for Risk Identification

- ✓ (A) SWOT Analysis
- (B) Monte Carlo Simulation
- (C) Risk Register
- (D) Earned Value Management
- (E) Answer not known

177. Assertion [A] : A well, defined project proposal includes a detailed risk assessment.

Reason [R] : Identifying risks early allows for proactive mitigation strategies.

- (A) [A] is true but [R] is false
- ✓ (B) Both [A] and [R] are true, and [R] is the correct explanation of [A]
- (C) [A] is false, but [R] is true
- (D) Both [A] and [R] are true but [R] is not the correct explanation of [A]
- (E) Answer not known

178. Choose the incorrect statement regarding the Critical Design Review (CDR)

- (A) It marks the transition from preliminary to detailed design
- (B) It ensures that technical and performance requirements are met before production
- ✓ (C) It occurs after the Test Readiness Review (TRR)
- (D) It is a necessary milestone before manufacturing begins
- (E) Answer not known

179. _____ Project Management methodology was developed by Toyota to improve manufacturing efficiency and is now applied in various industries?

- (A) Agile
- (B) Waterfall
- ✓ (C) Kanban
- (D) Scrum
- (E) Answer not known

180. Assertion [A] : Resource leveling is used to address resource over allocation in project schedules.

Reason [R] : It adjusts task start and end dates to maintain resource usage within available limits.

- ✓ (A) Both [A] and [R] are true and [R] is the correct explanation of [A]
- (B) Both [A] and [R] are true but [R] is not the correct explanation of [A]
- (C) [A] is true, but [R] is false
- (D) [A] is false, but [R] is true
- (E) Answer not known

181. Match the following :

Information requirement regarding internal and external environment

Column A

Column B

- | | |
|--|--|
| (a) Government policies | 1. Capacity utilization pattern |
| (b) Economic Trends | 2. Availability of resources in the organisation |
| (c) Technological changes | 3. Financial resources and plans |
| (d) Availability and cost of various resources | 4. Sales Forecasts |

- | | (a) | (b) | (c) | (d) |
|-------|------------------|-----|-----|-----|
| (A) | 1 | 4 | 2 | 3 |
| ✓ (B) | 4 | 3 | 2 | 1 |
| (C) | 1 | 2 | 3 | 4 |
| (D) | 4 | 3 | 1 | 2 |
| (E) | Answer not known | | | |

182. E-Tendering and E-Procurement Integration primary benefits is

- (A) It reduces the complexity of tax filings
- ✓ (B) It enables real-time tracking of procurement and bidding activities
- (C) It provides offline procurement processing
- (D) It eliminates the need for supplies negotiation
- (E) Answer not known

183. The Tamilnadu transparency in tender Rules, 1998, Mandates which of following to ensure compliance throughout the tendering process?

- (A) A detailed audit of the final contract price post-ward
- ✓ (B) Continuous monitoring of project progress through public reporting mechanisms
- (C) Non-disclosure of changes made to the original bid after the tender opening
- (D) Financial Penalties only for contractors found guilty of corruption
- (E) Answer not known

184. Which of the following is a key feature of E-Tendering in project information system?

- (A) Limiting the number of bids that can be submitted
- ✓ (B) Electronic submission and opening of bids
- (C) Automatically accepting the lowest bid without evaluation
- (D) Bidding for projects through Manual submission of paper
- (E) Answer not known

185. Which of the following is primary role of MIS in decision making?

- (A) Ensuring data security in the organisation
- (B) Managing inventory efficiency
- ✓ (C) Providing accurate, timely and relevant information to decision – maker's
- (D) Automating business processes
- (E) Answer not known

186. Which of the following ERP system features is most beneficial in Project Management?

- (A) Supply chain optimization
- (B) Cost-cutting on overheads
- (C) Document digitization only
- ✓ (D) Work Flow automation
- (E) Answer not known

187. Under GDPR, how long must organisations retain personal data?

- (A) Data must be kept for as long as the organization desires
- (B) Data must be kept indefinitely for potential future use
- ✓ (C) Data must be kept longer than necessary for the purposes for which it was collected
- (D) Data must be kept for at least 10 years for record-keeping purposes
- (E) Answer not known

188. _____ is the main objective of data “encryption” in the context of data privacy.

- (A) To limit data access to authorized users only
- (B) To ensure that data is stored on secure servers
- (C) To prevent data from being used to analytics
- ✓ (D) To render data unreadable to unauthorized persons
- (E) Answer not known

189. _____ is NOT a type of network security measure.

- (A) VPN (Virtual Private Network)
- (B) IDS (Intrusion Detection System)
- (C) DDrs Protection
- ✓ (D) DNS (Domain Name System)
- (E) Answer not known

190. Arrange the following steps involves in performing a cyber security risk assessment in the correct order :

- (1) Identify assets and evaluate the risk
 - (2) Identify vulnerabilities in the system
 - (3) Implement security measures and controls
 - (4) Assess the impact of security risks
 - (5) Continuously monitor and review security
- (A) (1), (4) (2), (3), (5) (B) (1), (2) (3), (4), (5)
- (C) (2), (1) (4), (3), (5) ✓ (D) (1), (2) (4), (3), (5)
- (E) Answer not known

191. Arrange the following steps involved in a B2B e-commerce process in chronological order :

- (1) Negotiate Contracts
 - (2) Receive and Process orders
 - (3) Establish relationship with suppliers
 - (4) Review and approve transactions
 - (5) Ship goods to the business customer
- (A) (1), (3) (4), (5), (2) (B) (2), (3) (4), (1), (5)
(C) (3), (1) (4), (2), (5) ✓ (D) (3), (1) (2), (4), (5)
(E) Answer not known

192. _____ best defines B2B e-commerce.

- ✓ (A) Selling products to individual consumers
✓ (B) Selling products between businesses
(C) Selling products from consumers to businesses
(D) Peer-to-Peer transactions
(E) Answer not known

193. Choose the wrong match :

Which of the following is the incorrect match?

- (A) C2C – eBay
(B) B2C – Amazon
(C) C2B – Shutter stock
✓ (D) B2B – Uber
(E) Answer not known

194. Integrating e-auditing into project management software provides the key benefit of

- (A) Faster data entry
- (B) Higher cost for audits
- ✓(C) Better control over project documentation and progress
- (D) Less need for project management tools
- (E) Answer not known

195. A major risk associated with cloud base audit tools is

- (A) Increased audit accuracy
- ✓(B) Data security and privacy concerns
- (C) Enhanced data analytics capabilities
- (D) Improved collaboration among audit teams
- (E) Answer not known

196. Assertion [A] : Continuous auditing allows for real-time monitoring of transactions.

Reason [R] : It eliminates the need for traditional periodic audits.

- (A) Both [A] and [R] are true and [R] is the correct explanation of [A]
- (B) Both [A] and [R] are true, but [R] is not the correct explanation of [A]
- ✓(C) [A] is true, but [R] is false
- (D) [A] is false, but [R] is true
- (E) Answer not known

197. Identify which of the following is not considered a Project Information Systems (PIS)?

- (A) Facilitating communication among stakeholders
- (B) Tracking project performance metrics
- ✓ (C) Managing corporate finances unrelated to projects
- (D) Providing real-time updates on project progress
- (E) Answer not known

198. In project management, which document formally authorizes a project and provides the project manager with the authority to apply organizational resources?

- ✓ (A) Project charter
- (B) Project plan
- (C) Statement of work
- (D) Business case
- (E) Answer not known

199. The following statement about patent is incorrect

- (A) A patent grants the inventor exclusive right to use and sell the invention
- ✓ (B) Patents are valid indefinitely as long as maintenance fee are paid
- (C) Patents must be novel, non-obvious and useful
- (D) Patents applications are published 18 months after filing
- (E) Answer not known

200. Identify which of the following is not a type of Intellectual Property Protection

- (A) Patent
- (B) Trademark
- (C) Copyright
- ✓ (D) Trade secret
- (E) Answer not known

