Post of Forest Apprentice in Tamil Nadu Forest Subordinate Service (Group-VI Services)

1. The technique involves microbial help to turn municipal wastes into fertilizers or oil-rein forcing products is
   (A) Biomass production
   (B) Microbial technique
   (C) Biodiversity
   (D) Bioremediation
   (E) Answer not known

2. Screens are used to control noise level range of
   (A) 10 dB to 15 dB
   (B) 15 dB to 20 dB
   (C) 20 dB to 25 dB
   (D) 25 dB to 30 dB
   (E) Answer not known

3. Noise pollution can be measured by the formula
   (A) $db = 10 \log_{10} \dfrac{10}{I}$
   (B) $db = 10 \log_{25} \dfrac{10}{1}$
   (C) $db = 10 \log_{50} \dfrac{50}{100}$
   (D) $db = 5 \log_{20} \dfrac{50}{50}$
   (E) Answer not known

Engineering
[Turn over

4. Match the following :

    (a) Earth quake   1.   mg of O_2/litre of water
    (b) Noise   2.   Aerosol
    (c) BOD   3.   Decibles
    (d) Particulate matter   4.   Richter scale

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

    (E) Answer not known

5. What is the permissible limit of Hg in public water supply?
    (A) 50 $\mu g/l$ (B) 2 $\mu g/l$
    (C) 500 $\mu g/l$ (D) 10 $\mu g/l$
    (E) Answer not known

6. Name the disease caused by consuming mercury contaminated fish
    (A) Bright's disease   (B) Hiroshima episode
    (C) Mina-mata disease   (D) Oesteosclerosis
    (E) Answer not known

7. The normal chloride content of sewage (domestic) is
    (A) 120 mg/l   (B) 130 mg/l
    (C) 140 mg/l   (D) 150 mg/l
    (E) Answer not known

8. Disposal of sewage causes formation of sludge bank in

   (A) river water   (B) lake water

   (C) sea water   (D) pond water

   (E) Answer not known

9. The anaerobic method of mechanical, composting, as practised in India, is called the

   (A) Indore method   (B) Mangalore method

   (C) Bangalore method   (D) Mysore method

   (E) Answer not known

10. The appropriate percentage of water in municipal sewage is

    (A) 90%   (B) 99%

    (C) 99.9%   (D) 98.9%

    (E) Answer not known

11. BOD5 represents 5 days biochemical oxygen demand at a temperature of

    (A) 0°C   (B) 20°C

    (C) 30°C   (D) Room temperature

    (E) Answer not known

12. The natural process, under which the following river water gets cleaned, is known as

    (A) Oxidation   (B) Self-purification

    (C) Photosynthesis   (D) Eutrophication

    (E) Answer not known

13. What are the two major green house gases in the environment?
    (A) CO and CO_2
    (B) NO_2 and SO_2
    (C) CO_2 and SO_2
    (D) CO_2 and CH_4 ✓
    (E) Answer not known

14. What are the two major gaseous constituents of air in the troposphere?
    (A) Methane and hydrogen
    (B) Carbon monoxide and ozone
    (C) Nitrogen and oxygen ✓
    (D) Sulfur dioxide and nitrogen dioxide
    (E) Answer not known

15. NAAQM stands for
    (A) National Atmospheric Air Quality Monitoring
    (B) National Ambient Air Quality Monitoring ✓
    (C) National Assessment of Air Quality Modelling
    (D) National Ambient Air Quality Modelling
    (E) Answer not known

16. Ozone is formed in the upper atmosphere by a photo chemical reaction with
    (A) Ultraviolet solar radiation ✓
    (B) Infra red radiation
    (C) Visible light
    (D) X-rays
    (E) Answer not known

17. Match the following :

(a) Photochemical smog	1.	Particulate matter
(b) London smog	2.	CF_2Cl_2
(c) Pseumo coniosis	3.	Reducing smog
(d) Ozone depletion	4.	NO_x

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

18. Choose the wrong answer.

(A) Rain water tends to be acidic with a pH of about 5.7 due to dissolution of CO_2

(B) Acidic oxides present in air dissolve and further reduce the pH of rain water

(C) Acid rain decreases the alkalinities of water bodies

(D) Higher amounts of acidic gases dissolving in rain water increase its pH above 5.7

(E) Answer not known

19. Match the following :
    (a) WHO   1. Paris
    (b) IAEA   2. Vienna
    (c) UNESCO   3. Geneva
    (d) NEERI   4. Nagpur

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

20. A major disaster, known as "London Smog", occurred in the British city of London in the year
    (A) 1942   (B) 1952
    (C) 1962   (D) 1972
    (E) Answer not known

21. BPR approach includes all measures of performance except
    (A) Cost   (B) Quality
    (C) Speed   (D) Satisfaction
    (E) Answer not known

22. What does OEE refers to?
    (A) Original Equipment Efficiency
    (B) Overall Environmental Efficiency
    (C) Overall Equipment Efficiency
    (D) Original Efficiency Enhancement
    (E) Answer not known

23. —————— refers, to a device or a mechanism which either prevents a mistake from being made or alters the worker about the error before it becomes a defect.

   (A) Poka yoke

   (B) Deployment of lean production

   (C) JIT development

   (D) Information management task

   (E) Answer not known

24. —————— is using methods or automatic devices to avoid human errors.

   (A) Kobetsu Kaizen   (B) Poka-Yoke

   (C) Tero Technology   (D) 5S

   (E) Answer not known

25. What is the permissible defects per million opportunities allowed under six sigma?

   (A) .34   (B) 3.4

   (C) 2.7   (D) 1.4

   (E) Answer not known

26. ETX model is a —————— approach.

   (A) Process   (B) Product

   (C) Design   (D) Customer

   (E) Answer not known

27. A team has performed QFD. They have found that one of the relationship matrix is blank. The team should
    (A) Consider that the corresponding technical feature is used in advertising aggressively
    (B) Take note of this but need not take any action
    (C) Interview the customers again to verify correctness of the CTQs
    (D) Consider that the corresponding technical feature can be omitted
    (E) Answer not known

28. In quality function deployment, technical descriptors are captured in the
    (A) top row   (B) left column
    (C) bottom row   (D) right column
    (E) Answer not known

29. Double sampling is a variable procedure that aims at
    (A) Maintaining quality at a target
    (B) Assume average outgoing quality level
    (C) Reduce inspection after good quality history
    (D) Assume quality levels
    (E) Answer not known

30. Quality can quantified as be
    $Q = P / E$, where
    (A) 'Q' is quantity; 'P' is price and 'E' is expectations
    (B) 'Q' is quality; 'P' is performance and 'E' expenditures
    (C) 'Q' is quality; 'P' is performance and 'E' is expectations
    (D) 'Q' is quantity; 'P' is performance and 'E' is performance
    (E) Answer not known

31. What is the tool that is used by an operator of a process, manufacturing engineer for evaluating a process?

(A) Benchmarking

(B) 6 sigma

(C) Statistical process control

(D) Quality function deployment

(E) Answer not known

32. What is the quality management approach that combines opportunities to use knowledge, judgement and creativity with the freedom to decide how to contribute?

(A) Quality deployment function

(B) House of quality

(C) Quality circles

(D) Kanban

(E) Answer not known

33. Which of this is Not included in Japanese 5 - S practice?

(A) Structure

(B) Sanitise

(C) Self-discipline

(D) Socialize

(E) Answer not known

34. Which of the following one important for front line people?

I. Develop the best employees into professionals

II. Recruit freshers as they have an open mind

III. Hire the best

IV. Motivate the professionals to stay and excel

(A) I and II only

(B) I, III and IV only

(C) I, II, III and IV

(D) III and IV only

(E) Answer not known

35. Which of the following is correct sequence in change management?

(A) Forming - norming - storming - performing - adjourning

(B) Forming - storming - performing - norming - adjourning

(C) Forming - norming - storming - adjourning - performing

(D) Forming - storming - norming - performing - adjourning

(E) Answer not known

36. Which of the following is correct?

(A) Satisfiers become dissatisfiers over time

(B) Satisfiers become delighters over time

(C) Dissatisfiers become satisfiers over time

(D) Dissatisfiers become delighters over time

(E) Answer not known

37. In Economic models for quality costs a zone, where the failure cost is usually about half the quality costs while the prevention cost is 10% is termed as

(A) Zone of improvement   (B) Zone of indifference

(C) Zone of High appraisal   (D) Zone of decline

(E) Answer not known

38. Which of the following quality, improvement strategies is prepared?

(A) Minimize all quality costs

(B) Minimize external and internal failure costs and improve productivity

(C) Reduce failure costs, implement right prevention activities reduce appraisal costs where justified

(D) Maximize appraisal and prevention costs to minimize external and internal failure costs

(E) Answer not known

39. Match the following :

Quality

(a) Internal costs failure cost
(b) External failure cost
(c) Appraisal costs
(d) Prevention costs

Examples

1. Reto fit and recall costs
2. Software testing
3. Premium freight due to late delivery
4. Product quality planning

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

(E) Answer not known

40. Match the following pairs :

(a) Juran
(b) Crosby
(c) Ishikawa
(d) Feigenbaum
(e) Deming

1. Company wide quality circle
2. Quality circle
3. 14 points of management
4. Triology
5. Zero defect

	(a)	(b)	(c)	(d)	(e)
(A)	4	5	2	1	3
(B)	4	5	3	2	1
(C)	1	2	3	4	5
(D)	5	4	1	2	3

(E) Answer not known

41. The Malcoln Baldrige National quality award recognizes organisations for
    (A) Quality management   (B) Process capabilities
    (C) Performance excellence   (D) Capacity efficiency
    (E) Answer not known

42. To find out dissatisfiers, the best starting point is
    (A) Market research   (B) Bench marking
    (C) Brain storming   (D) Customer complaints
    (E) Answer not known

43. Arrange in the sequential order for the development and execution of action plan :
    1.   Specify tasks
    2.   Determine resource needs
    3.   Establish task schedules
    4.   Sequence tasks
    5.   Assign responsibility for each task
    6.   Specify methods for monitoring results
    7.   Describe expected results
    (A) 1, 4, 2, 3, 5, 7, 6   (B) 1, 2, 3, 5, 7, 6, 4
    (C) 2,1, 4, 3, 5, 6, 7   (D) 4, 2, 5, 3, 7, 6, 1
    (E) Answer not known

44. What is the fundamental attribute of TQM?
    (A) Drawing control charts
    (B) Top management involvement
    (C) Meeting ISO 9000 requirements
    (D) Quality circle meeting
    (E) Answer not known

45. A 6 kg ball dropped from a height of 3m above the floor, on a horizontal glass slab, breaks it and finally strikes the floor at a velocity of 5 m/s. The work done by the ball in breaking the glass slab is

(A) 75.58 J   (B) 100.58 J

(C) 101.58 J   (D) 150.58 J

(E) Answer not known

46. A bullet of mass 30 g leaves the barrel of a gun with a velocity of 500 m/s. If the impulse of the force lasted for 0.05 s, then the impulsive force is

(A) 222.48 N   (B) 300 N

(C) 523.27 N   (D) 833.33 N

(E) Answer not known

47. Consider the following statements.

1. The magnitude of velocity, without considering direction is called speed of an object.

2. If the path is a straight live, the curvature is zero and the normal component of acceleration vanishes.

3. If the speed of an object along a curved path is constant, the tangential acceleration vanishes and the normal acceleration is directed towards the centre of curvature out of the above statements.

(A) Only 1 is true   (B) Only 1 and 2 are true

(C) Only 1 and 3 are true   (D) 1, 2 and 3 are true

(E) Answer not known

48. The linear momentum of a particle at a given instant is "MV" where m is the mass of the particle and V its velocity. If "r" is the radius of rotation, then the angular momentum is proportional to ————— and the ————— co-ordinate system is adopted to find the sense of the angular momentum.

(A) $\dfrac{mV^2}{r}$ right hand ✓

(B) $\dfrac{mV^2}{r}$ left hand

(C) mV right hand

(D) mV left hand

(E) Answer not known

49. Which of the following is used to analyse the equilibrium of planar objects under the action of dynamic forces and moments?

(A) Kennedy's principle

(B) D Alembert's principle ✓

(C) Rayleigh's principle

(D) Groshoff's law

(E) Answer not known

50. A motorist travelling on a curved section of a highway of radius 750 m at the speed of 90 km/hr, suddenly applies brake. The speed reduces to 72 km/hr after 8 S. The normal acceleration of the vehicle immediately after the brake is applied is

(A) 0.953

(B) 1.53

(C) 0.833 ✓

(D) 1.833

(E) Answer not known

51. A projectile will reach the greatest height if the vertical component of its velocity equals

(A) $\sqrt{u^2 - 2gh}$

(B) $\sqrt{u^2 + 2gh}$

(C) $\sqrt{2gh}$ ✓

(D) 0

(E) Answer not known

52. The power of a locomotive, drawing a train whose weight including that of engine is 400 kN up an incline 1 in 100 at a steady speed of 36 kmph and the frictional resistance being 5N/kN will be

(Note : Assume $\sin\theta \simeq \tan\theta$, for small values of θ)

(A) 200 kW   (B) 100 kW

(C) 60 kW   (D) 400 kW

(E) Answer not known

53. A ladder is resting on a rough ground and leaning against a smooth vertical wall, the force of friction acts

(A) away from the wall and parallel to the ground

(B) vertically downwards at the upper end of the ladder

(C) vertically upwards at the upper end of the ladder

(D) towards the wall and parallel to the ground

(E) Answer not known

54. The mass of a body of weight 9.81 N is

(A) 0.1 kg   (B) 1.0 kg

(C) 9.81 kg   (D) 10.0 kg

(E) Answer not known

55. A force of 500 N forms angles of 60°, 45° and 120° respectively, with the x, y and z axes. The components F_x, F_y and F_z of the force are respectively

(A) +250 N, –250 N and+ 354 N   (B) +354 N, +250 N and –250 N

(C) +250 N, +354 N and –250 N   (D) –250 N, +354 N and +250 N

(E) Answer not known

56. If the maximum and minimum resultant of two forces acting on a particle are 40 kN and 10 kN respectively, then the two forces would be

(A) 25 kN and 15 kN   (B) 20 kN and 20 kN

(C) 20 kN and 10 kN   (D) 20 kN and 5 kN

(E) Answer not known

57. Two forces are acting at an angle of 120°. The bigger force is 20N and the resultant is perpendicular to the smaller one. The smaller force is

(A) 10 N   (B) 20 N

(C) 40 N   (D) 80 N

·(E) Answer not known

58. Four forces of magnitude 10 N, 20 N, 40 N and 60N are respectively are acting along the four sides of a square ABCD taken in order. The magnitude of resultant force is

(A) 28.28 N   (B) 25 N

(C) 30 N   (D) 50 N

(E) Answer not known

59. Two like parallel forces are acting at a distance of 24 mm apart and their resultant is 40N. If the line of action of the resultant is 6 mm from any given force, the two forces are

(A) 30 N and 10 N   (B) 24 N and 16 N

(C) 28 N and 12 N   (D) 20 N and 20 N

(E) Answer not known

60. Which of the following statements are true?

1. In amplitude modulation frequency of the modulated wave is different from that of carrier frequency.

2. In amplitude modulation, when the carrier is over modulated, the AM wave will be clipped off.

3. Amplitude modulation transmits signal at poor efficiency

4. The amplitude modulated message wave can be transmitted to longer distances

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

61. If modulation frequency is doubled, modulation index is halved keeping the modulating voltage constant the modulation system is

(A) AM ✓
(B) PM
(C) FM
(D) not possible
(E) Answer not known

62. For satellite communicating the frequency should be ———— the critical frequency of the ionosphere.

(A) less than
(B) more than ✓
(C) equal to
(D) independent of
(E) Answer not known

63. Digital circuit can be made by the repeated use of

(A) OR gates
(B) NOT gates
(C) AND gates
(D) NAND gates ✓
(E) Answer not known

64. Flip-flop is a
    (A) Memory element   (B) Sequential circuit
    (C) Register   (D) Adder
    (E) Answer not known

65. In a digital counter, the number of flip-flops is
    (A) always 2
    (B) always even
    (C) always odd
    (D) equal to the number of bits required in the final binary count
    (E) Answer not known

66. Which gate corresponds to the action of parallel switches?
    (A) AND gate   (B) OR gate
    (C) NOR gate   (D) NAND gate
    (E) Answer not known

67. At a PN junction the potential barrier is due to the charges on either side of the junction. These charges are
    (A) Majority carriers
    (B) Minority carriers
    (C) Both majority as well as minority carriers
    (D) Fixed do nor and acceptor ions
    (E) Answer not known

68. The distortion introduced in the amplifiers, when the signal harmonics fed to the amplifier combine with each other to produce new frequencies that are not harmonics of the fundamental is called

(A) Amplitude distortion
(B) Frequency distortion
(C) Delay distortion
(D) Inter modulation distortion
(E) Answer not known

69. A transistor is said to be in a quiscent state when

(A) it is unbiased
(B) no current flows through it
(C) no signal is applied to the input
(D) emitter junction is just biased equal to collector junction
(E) Answer not known

70. The no-load input power to a transformer is practically equal to ——————— loss in the transformer.

(A) Copper
(B) Eddy current
(C) Iron
(D) Windage
(E) Answer not known

71. The armature of a dc machine has a resistance of 0.1 Ω and is connected to 230 V supply, calculate the back emf, when it is running as a motor by taking 80 A is

(A) 230 V
(B) 238 V
(C) 222 V
(D) 150 V
(E) Answer not known

72. The examples of continuous energy conversion devices are
(A) Motors and generators ✓ (B) Relays
(C) Solenoids (D) Transformers
(E) Answer not known

73. A 4-pole DC generator has 6600 AT of armature ampere turns and cross-magnetising ampere turns is 6160. The additional current required to over come the demagnetization effect for the field winding with 1100 turns pole is
(A) 0.167 A (B) 0.178 A
(C) 0.212 A . (D) 0.40 A ✓ .
(E) Answer not known

74. To operate a DC machine in motoring mode, the back emf (E_b) of the machine should be
(A) less than the terminal voltage always ✓
(B) equal to terminal voltage at the time of start
(C) greater than the terminal voltage always
(D) slightly less at the time of starting and slightly more at rated load
(E) Answer not known

75. Which energy meters are universally accepted to measure AC energy?
(A) Dynamometer type (B) Electrostatic type
(C) Induction type ✓ (D) Moving iron type
(E) Answer not known

76. Assuming steady state operation, if $I_0 = 5A$, find the current, voltage and power associated with 10 Ω resistor of figure.
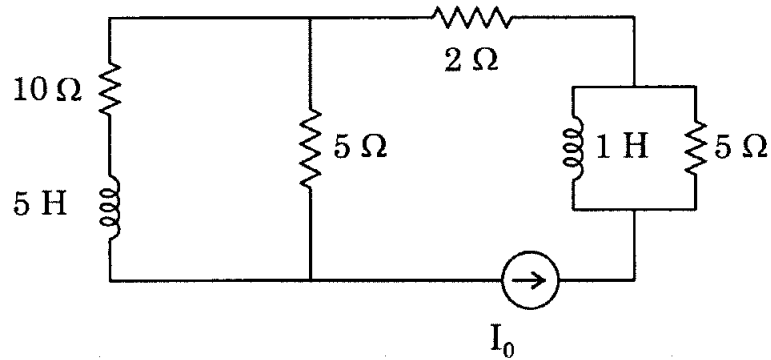

Answers range based on numerical accuracy in calculations

(A) current = 4.5 to 4.7 A, voltage = 20 to 25 V, power = 80 to 83 W

(B) current = j 6.5 to j 6.8 A, voltage = 30 to 35 V, power = 180 W to 190 W

(C) current = 1.65 to 1.67 A, voltage = 16.5 to 16.7 V, power = 27.22 to 27.78 W

(D) current = j 7.33 A to j 8.5 A, voltage = 35 to 36 V, power = 210 W to 220 W.

(E) Answer not known

77. Obtain the numerical value of the voltage dependent current source in figure
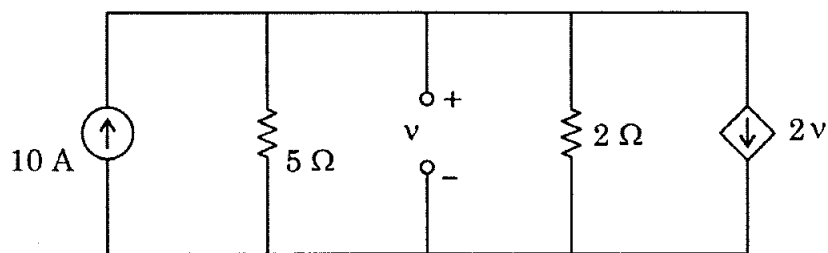
(A) 7.4 A   (B) 3.7 A

(C) 10 A   (D) 5 A

(E) Answer not known

78. Find the resistance R across x-y in the network in figure

    (A) 15.5 Ω.

    (C) 1 Ω

    (E) Answer not known

    (B) 2 Ω

    (D) 3 Ω
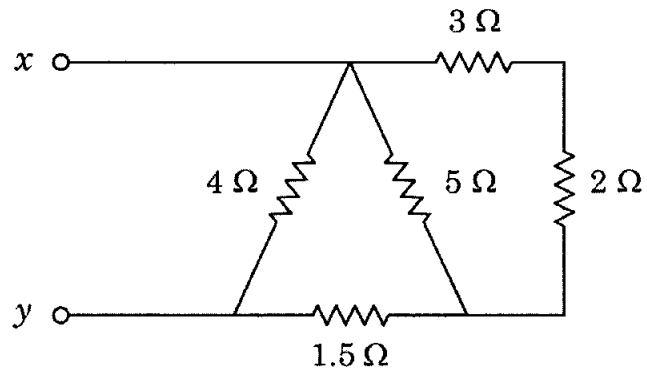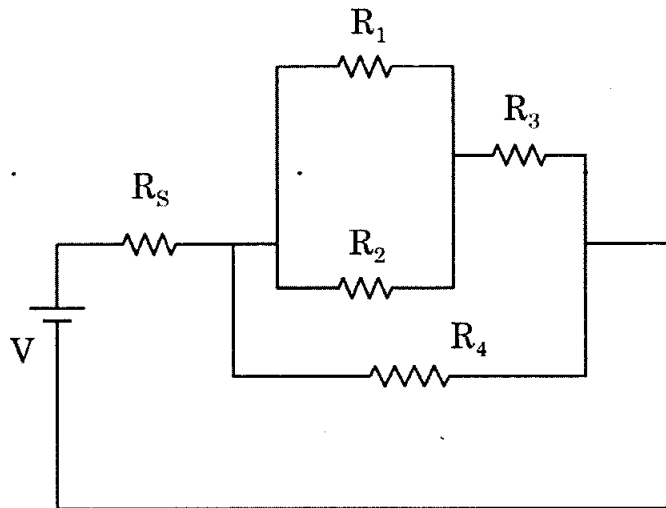
79. Given :

$R_s = 6 \ \Omega$

$R_1 = R_2 = 6 \ \Omega$

$R_3 = 5 \ \Omega$

$R_4 = 8 \ \Omega$

V = 20 volts

Find the current thro' R_3 resistance.

(A) 0.1 A   (B) 0.5 A

(C) 1.0 A   (D) 2 A

(E) Answer not known

80. ———— budget contains detailed estimates of the funds required to acquire capital assets to carry out production, sales and administrative plans of the organisation.

(A) Production   (B) Sales

(C) Capital expenditure   (D) Master

(E) Answer not known

81. "Grapevine" is a term and in relation to
    (A) formal communication
    (B) informal communication ✓
    (C) both formal and informal communication
    (D) upward communication
    (E) Answer not known

82. What does rational decision imply?
    (A) rational means subjective decision
    (B) rational means purely logical and objective decision ✓
    (C) rational means personal need-based decision
    (D) rational means outside decisions
    (E) Answer not known

83. Which of the following is not included in Henry Mintzberg's managerial roles?
    (A) interpersonal roles   (B) informational roles
    (C) professional roles ✓   (D) decisional roles
    (E) Answer not known

84. According to this approach, successful leadership is correlated with the leader and his characteristics
    (A) traits ✓   (B) behavioural
    (C) contingency   (D) situational
    (E) Answer not known

85. Aptitude tests are designed to ———— and predict an individual's potential for performing a job.

(A) Measure
(B) Reasoning
(C) General
(D) Abstract
(E) Answer not known

86. Which of the following off the job training method helps in increasing the mental ability of the trainees to deal with actual organisations problem?

(A) Role playing
(B) Case study
(C) Vestibule training
(D) Sensitivity training
(E) Answer not known

87. Which staffing function involves estimating the needs of human resource for the organisation?

(A) Recruitment
(B) Selection
(C) Manpower planning
(D) Training and Development
(E) Answer not known

88. Many government agencies such as postal services and railways adopt this kind of organisation

(A) Departmentalization by function
(B) Departmentalization by product
(C) Departmentalization by process
(D) Departmentalization by geographical location
(E) Answer not known

89. ————— is the process of obtaining the participation of workers in simplifying their work.
    (A) Value engineering
    (B) Work simplification ✓
    (C) Quality circles
    (D) Outsourcing
    (E) Answer not known

90. Which of the following can be delegated?
    (A) Power
    (B) Responsibility
    (C) Accountability
    (D) Authority ✓
    (E) Answer not known

91. In Functional Organisation
    (A) The Organisation is divided according to the type of work involved ✓
    (B) The Authority flows from the man at the top to the lowest man vertically
    (C) Each worker serves only one superior
    (D) The Organisation is divided according to the skill required to perform a work
    (E) Answer not known

92. ————— is a system of identification and communication that signals to the manager when his attention is needed.
    (A) Management by objectives
    (B) Management by exception ✓
    (C) Directing
    (D) Supervising
    (E) Answer not known

93. Under which control system only extra ordinary or exceptional deviations are reported to management for remedial action.

(A) MBE

(B) MBO

(C) MBS

(D) MBP

(E) Answer not known

94. Which one is not a forecasting technique?

(A) Linear programming

(B) Index number

(C) Delphi method

(D) Input – Output Analysis

(E) Answer not known

95. Which of the following is provided the basis for control?

(A) planning

(B) forecasting

(C) directing

(D) communication

(E) Answer not known

96. ——————— is a problem-solving technique which consists of evaluation of ideas put forward by a group of people who are convened especially for this purpose.

(A) Role playing

(B) Brain storming

(C) Case study

(D) Transactional analysis

(E) Answer not known

97. Specifying the manner of executing policy is known as

(A) Objectives

(B) Schedules

(C) Procedure

(D) Budgets

(E) Answer not known

98. Management should find "one best way" to perform a task. Which technique of scientific management is defined in this sentence?

(A) Time study
(B) Motion study
(C) Fatigue study
(D) Method study
(E) Answer not known

99. Peter Drucker wrote the book

(A) The Concept of the Corporation
(B) In Search of Excellence
(C) The Practice of Management
(D) Both (A) and (C)
(E) Answer not known

100. Who is known as the founder of Human Relations Movement?

(A) Elton Mayo
(B) Henry Fayol
(C) Peter Drucker
(D) F.W. Taylor
(E) Answer not known

101. One of the fundamental principles of scientific management is

(A) Scientific administration
(B) Technical management
(C) Organised management
(D) The development of a true science for each element of an Employee's work
(E) Answer not known

102. —————— is concerned with truth and justice and has a variety of aspects such as expectations of society, fair competition, advertising, public relations, social responsibilities, consumer autonomy and corporate behaviour in the home country as well as abroad

(A) Personal ethics   (B) Accounting ethics

(C) Business ethics   (D) Social audit

(E) Answer not known

103. —————— are plans that establish a required method of handling future activities

(A) Procedures   (B) Rules

(C) Policies   (D) Strategies

(E) Answer not known

104. The convolution between $f(t)=t$ and $g(t)=e^t$ is

(A) t (B) $e^t - t - 1$

(C) $\sin ht - t$ (D) $\frac{1}{2} t \sin t - 2t$

(E) Answer not known

105. The expression of $f(t) = \begin{cases} 2, & 0 < t < \pi \\ 0, & \pi < t < 2\pi \\ \sin t, & t > 2\pi \end{cases}$

in terms of unit step function is

(A) $2u(t-\pi) + \sin t\, u(t-2\pi)$

(B) $2t + u(t-\pi) + \sin t\, u(t)$

(C) $2 + \sin t\, u(t+2\pi)$

(D) $2u(t) - 2u(t-\pi) + u(t-2\pi)\sin t$

(E) Answer not known

106. Which of the following function is/are not an exponential order?

(i) $\sin 5t. \cos 2t$

(ii) e^{-2t}

(iii) t^3

(iv) e^{t^2}

(v) $e^{-t} \sin t$

(A) (i), (iii) and (v) only

(B) (iv) only

(C) (ii), (iv) and (v) only

(D) (v) only

(E) Answer not known

107. Consider the transformation $w = \tau(z) = \dfrac{z+2}{z+3}$ find inverse transformation $T^{-1}(w)$

(A) $\dfrac{2-3w}{w-1}$

(B) $\dfrac{2+3w}{w+1}$

(C) $\dfrac{1-3w}{w+2}$

(D) $\dfrac{1+3w}{w-2}$

(E) Answer not known

108. A point at which $f'(z)=0$ of an analytic function $f(z)$ is called as

(A) A saddle point

(B) A critical point

(C) A stationary point

(D) An invariant point

(E) Answer not known

109. The transformation effected by an analytic function $w=f(z)$ at every point of the Z-plane where $f'(z)\neq 0$, is

(A) Critical

(B) Not critical

(C) Conformal

(D) Non conformal

(E) Answer not known

110.
The derivative of $f(z)=e^{\frac{1}{z}}$ at $z=i$ is

(A) e^i

(B) e^{-i}

(C) i

(D) 0

(E) Answer not known

111. For what value of a, the vector $\overline{F}=\left(2xy+z^3\right)\overline{i}+x^2\overline{j}+axz^2\overline{k}$ is a conservative force

(A) 3

(B) 0

(C) −2

(D) 5

(E) Answer not known

112. $div\left(\overline{u}\times\overline{v}\right) =$

(A) $\overline{v}.curl\ \overline{u}-\overline{u}.curl\ \overline{v}$

(B) $\overline{v}.curl\ \ddot{u}+\ddot{u}.curl\ \overline{v}$

(C) $curl\ \ddot{u}-\ddot{u}.curl\ \ddot{v}$

(D) $curl\ \ddot{u}\times curl\ \ddot{v}$

(E) Answer not known

113. $\int_0^a \int_0^{\sqrt{a^2-x^2}} dy \, dx$ is

(A) $4/3 \, \pi \, a^2$

(B) $4\pi a^2$

(C) $\dfrac{\pi a^2}{4}$ ✓

(D) $\dfrac{1}{3}\pi a^3$

(E) Answer not known

114. Evaluate $\iiint_V dv$, where V is the volume bounded by the planes $x=0; x=a$, $y=0, y=2b, z=0$ and $z=3c$ ·

(A) abc

(B) 2bca

(C) 4abc

(D) 6abc ✓

(E) Answer not known

115. The saddle points of $f(x, y)=x^3 +3xy^2 -15x^2 -15y^2 +72x$ are

(A) $(6, 0), (4, 0)$

(B) $(6, 0),(5, 0)$

(C) $(5, 0) (6,-1)$

(D) $(5,1), (5, -1)$ ✓

(E) Answer not known

116. If $x+y+z=u, y+z=vu, z=uvw$, then $J\left(\dfrac{x, y,z}{(u, v, w)}\right)$ is

(A) $v(1-w)$

(B) uv^2

(C) $u^2 v^2$

(D) $u^2 v$ ✓

(E) Answer not known

117. Let $f(x, y) = 2x + 3y - 4$. The slope of the line tangent to this surface at the point $(2, -1)$ and lying in the plane $y = -1$ is

(A) 2   (B) −1

(C) −2   (D) 1

(E) Answer not known

118. The general solution of the differential equation $\left(D^2 + a^2\right)^2 y = 0$ is where $D \equiv \dfrac{d}{dx}$

(A) $y = (Ax + B)e^{ax} + (cx + D)e^{-ax}$

(B) $y = (Ax + B)\cos ax + (cx + D)e^{-ax}$

(C) $y = (Ax + B)\cos ax + (cx + D)\sin ax$

(D) $y = (Ax + B)e^{ax} + (cx + D)\sin ax$

(E) Answer not known

119. The order and degree of the differential equation $\dfrac{d^2 y}{dx^2} + \sqrt{1 + \left(\dfrac{dy}{dx}\right)^3} = 0$ is

(A) 2 and 1   (B) 2 and 2

(C) 3 and 2   (D) 3 and 1

(E) Answer not known

120. The particular integral to the DDE $\left(D^2 + 4\right) y = \sin h\, 2x, D = \dfrac{dy}{dx}$ is

(A) $\dfrac{1}{16} \sin h\, 2x$ (B) $\dfrac{1}{8} \sin h\, 2x$

(C) $\dfrac{-1}{8} \sin h\, 2x$ (D) $\dfrac{-1}{16} \sin h\, 2x$

(E) Answer not known

121. The characteristic equation to the matrix

$$A = \begin{bmatrix} 3 & -4 & 4 \\ 1 & -2 & 4 \\ 1 & -1 & 3 \end{bmatrix} \text{ is}$$

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

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

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

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

(E) Answer not known

122. The eigen vector of $A = \begin{pmatrix} 4 & 1 \\ 3 & 2 \end{pmatrix}$ corresponding to the eigen value $\lambda = 1$ is .

(A) $\begin{pmatrix} 4 \\ 2 \end{pmatrix}$

(B) $\begin{pmatrix} 1 \\ 2 \end{pmatrix}$

(C) $\begin{pmatrix} 1 \\ 3 \end{pmatrix}$

(D) $\begin{pmatrix} 1 \\ -3 \end{pmatrix}$ ✓

(E) Answer not known

123. If $A = \begin{bmatrix} 5 & 3 \\ 1 & 3 \end{bmatrix}$, then the recurrence relation representing A^n is

(A) $\dfrac{6^n + 2^n}{4} [A] + \dfrac{3.2^n + 6^n}{2} [I]$

(B) $\dfrac{6^n - 2^n}{4} [A] + \dfrac{3.2^n - 6^n}{2} [I]$ ✓

(C) $\dfrac{6^n + 2^n}{4} [A] - \dfrac{3.2^n + 6^n}{2} [I]$

(D) $\dfrac{6^n + 2^n}{4} [A] - \dfrac{3.2^n - 6^n}{2} [I]$

(E) Answer not known

124. The position of fermi level in an extrinsic semiconductor changes with
   (A) Temperature alone
   (B) Concentration of impurity alone
   (C) Both temperature and concentration of impurity
   (D) Temperature nor concentration of impurity
   (E) Answer not known

125. Magnetic susceptibility of a magnetic material is given by
   (A) $\chi = \dfrac{H}{M}$ (B) $\chi = \dfrac{M}{H}$
   (C) $\chi = H + M$ (D) $\chi = M - H$
   (E) Answer not known

126. A type-I superconductor behaves like a ———— below its transition temperature
   (A) Perfect diamagnetic material
   (B) Perfect ferromagnetic material
   (C) Perfect paramagnetic material
   (D) Non-magnetic material
   (E) Answer not known

127. Which of the following statements is/are true for the diamond structure
   1. Coordination number is 4
   2. Packing fraction is 0.34
   3. Copper crystallizes in to diamond structure
   4. Lattices is FCC
   (A) Only 1   (B) 1, 2 and 4
   (C) 2 and 3 only   (D) 2, 3 and 4
   (E) Answer not known

128. In the nuclear process $_6C^{11} \rightarrow {}_5B^{11} + e^+ + X$, 'X' stands for

   (A) Neutron   (B) Neutrino
   (C) Antineutrino   (D) Photon
   (E) Answer not known

129. Which of the following statement is incorrect about the shell model
   (A) The magic numbers are 2, 8, 20, 50, 82 and 126
   (B) The inert gases with closed electron shells exhibit a low degree of chemical stability
   (C) The shell model is able to predict the total angular mementa of nuclei
   (D) According to shell model, even-even nuclei are, in general more stable than odd-odd nuclei
   (E) Answer not known

130. What will be the ratio of de-Broglie wavelengths of proton and α-particle of same energy
   (A) $2 : 1$ (B) $1 : 2$
   (C) $4 : 1$ (D) $1 : 4$
   (E) Answer not known

131. In Bohr's atom model, if the atomic radius of the first orbit is r_0, then the radius of the fourth orbit is
   (A) r_0 (B) $4 r_0$
   (C) $r_0 / 16$ (D) $16 r_0$
   (E) Answer not known

132. The work function of a photo electric material is 3.3 eV. The threshold frequency will be equal to

(A) 8×10^{14} Hz

(B) 8×10^{10} Hz

(C) 5×10^{20} Hz

(D) 4×10^{14} Hz

(E) Answer not known

133. The light rays having photons of energy 1.8 ev are falling on a metal surface having a work function 1.2 ev what is the stopping potential to be applied to stop the emitting electrons

(A) 3 ev

(B) 1.2 ev

(C) 0.6 ev

(D) 1.4 ev

(E) Answer not known

134. Which one of the following is true if n_1 is the refractive index of core glass and n_2 is the refractive index of cladding glass?

(A) $n_1 < n_2$

(B) $n_1 = n_2$

(C) $n_1 > n_2$

(D) $n_1 \approx n_2$

(E) Answer not known

135. Periodic self-focusing of the optical rays occurs with the

(A) Graded-index optical fiber

(B) Step-index optical fiber

(C) Single-mode optical fiber

(D) Multi-mode optical fiber

(E) Answer not known

Engineering
[Turn over

136. In stimulated emission, a photon of

(A) Same frequency, phase and polarization and direction of propagation is generated

(B) Differing frequency, phase, and polarization and direction of propagation is generated

(C) Same frequency and differing phase, polarization and direction of propagation is generated

(D) Same frequency and phase, and differing polarization and direction of propagation is generated

(E) Answer not known

137. Which of the following sources gives best monochromatic light?

(A) A candle

(B) A bulb

(C) Mercury tube

(D) Laser

(E) Answer not known

138. Calculate the least thickness of a calcite Plato which would convert plane polarized light into circularly polarized light. Given $\mu_0 = 1.658$, $\mu_e = 1.486$ and wavelength of light is $5890 \times 10^{-10} \, m$

(A) $8567 \, \mu m$

(B) $8.567 \, \mu m$

(C) $0.856 \, \mu m$

(D) $85.67 \, \mu m$

(E) Answer not known

139. In a Michelson interferometer 200 fringes cross the field of view when the movable mirror is moved through 0.0589 mm. Calculate the wavelength of light used

(A) $5880 \times 10^{-10} \, m$

(B) $5880 \times 10^{-9} \, m$

(C) $5890 \times 10^{-10} \, m$

(D) $5890 \times 10^{-9} \, m$

(E) Answer not known

140. A neat engine operates between a cold reservoir $T_2 = 300$ k and a hot reservoir at temperature T_1. It takes 200 J of heat from the hot reservoir and delivers 120 J of heat to the cold reservior in cycle. The efficiency is

(A) 0.25   (B) 0.60
(C) 0.90   (D) 0.40
(E) Answer not known

141. Match the following in connection with first law of thermodynamics

(a) Adiabatic process   1. $Q = W = \Delta U_{int} = 0$

(b) · Constant-volume processes   2. $\Delta E_{int} = 0,\ Q = W$

(c) Cyclical processes   3. $W = 0,\ \Delta U_{int} = Q$

(d) Free expansions   4. $Q = 0,\ \Delta U = -W$

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

(E) Answer not known

142. A sound wave of wavelength 0.60 cm is produced in air and it travels at a speed of 300 ms^{-1}, what will be the frequency of sound?

(A) 1000 Hz   (B) 20000 Hz
(C) 50000 Hz   (D) 10000 Hz
(E) Answer not known

143. The formula for standard time of reverberation is

(A) $t = \dfrac{0.21 \Sigma a S}{V}$

(B) $t = \dfrac{0.165 V}{\Sigma a S}$

(C) $t = \dfrac{0.165 \Sigma a S}{2}$

(D) $t = \dfrac{V}{\Sigma a S}$

(E) Answer not known

144. If the diameter of the suspension wire is doubled without changing the length in case of a torsional pendulum, the time period

(A) Will increase

(B) Will not be affected

(C) Will decrease

(D) Will double

(E) Answer not known

145. Which one of the following is relation between three types of elastic modulus?

(A) $\dfrac{1}{k} = \dfrac{1}{3n} + \dfrac{1}{9y}$

(B) $\dfrac{1}{n} = \dfrac{1}{3y} + \dfrac{1}{9k}$

(C) $\dfrac{y}{3} = \dfrac{1}{n} + \dfrac{1}{9k}$

(D) $\dfrac{1}{y} = \dfrac{1}{3n} + \dfrac{1}{9k}$

(E) Answer not known

146. A light and a heavy body have equal kinetic energy, then which one has a greater momentum?

(A) The light body

(B) The heavy body

(C) Both have equal momentum

(D) Its not possible to say anything without additional information

(E) Answer not known

147. Every particle attracts any other particle with a gravitational force whose magnitude is

(A) $F = G\dfrac{m_1 m_2}{r}$

(B) $F = G\dfrac{m_1}{m_2}r^2$

(C) $F = G\dfrac{m_1 m_2}{r^2}$

(D) $F = G\dfrac{r^2}{m_1 m_2}$

(E) Answer not known

148. Inertia of a body directly depends on

(A) Velocity

(B) Mass

(C) Area

(D) Volume

(E) Answer not known

149. The transport number of ions are related to their molar conductance at infinite dilution as

(A) $t_{\pm}^0 = \wedge_m^0 / \lambda_{\pm}^0$

(B) $t_{\pm}^0 = \lambda_{\pm}^0 / \wedge_m^0$

(C) $t_{\pm}^0 = \lambda_{\pm}^0 \cdot \wedge_m^0$

(D) $t_{\pm}^0 = \wedge_m^0 \left(\lambda_{+}^0 / \lambda_{-}^0 \right)$

(E) Answer not known

150. The components of carboloy are

(A) Carbon and iron

(B) Cobalt, chromium and tungsten

(C) Tungsten carbide and cobalt

(D) Carbon, Nickel and Iron

(E) Answer not known

151. Amatol-a binary high explosive, is a mixture of
    (A) 50% TNT and 50% ammonium nitrate ✓
    (B) 60% TNT and 40% ammonium nitrate
    (C) 50% TNT and 50% nitroglycerine
    (D) 50% nitroglycerine and 50% Ammonium nitrate
    (E) Answer not known

152. The molecular formula for TNT is
    (A) $C_7 H_5 N_2 O_6$
    (B) $C_7 H_5 N_3 O_5$
    (C) $C_7 H_5 N_3 O_6$ ✓
    (D) $C_7 H_4 N_3 O_6$
    (E) Answer not known

153. The processes of hydration and setting - hardening of cement are
    (A) Both endothermic
    (B) Exothermic and endothermic respectively
    (C) Endothermic and exothermic respectively
    (D) Both exothermic ✓
    (E) Answer not known

154. The process by which a dense, homogeneous layer of coating metal is bonded firmly and permanently to the base metal on one or both sides is called
    (A) Hot dipping
    (B) Galvanizing
    (C) Tinning
    (D) Metal cladding ✓
    (E) Answer not known

155. Reduction in over voltage of the corroding metal / alloy

(A) Accelerates the corrosion rate

(B) Retards the corrosion rate

(C) Does not affect the corrosion rate

(D) Leads to passivation of the metal/alloy

(E) Answer not known

156. In which among the following medium, stainless steel does not corrode?

(A) 1M HCl

(B) Concentrated HCl

(C) $1 M HNO_3$

(D) Concentrated HNO_3

(E) Answer not known

157. The neutral refractory material among the following is

(A) Dolomite

(B) Magnesia

(C) Silica

(D) Chromite

(E) Answer not known

158. The stiffening of rubber during vulcanization process is due to the formation of —————— between adjacent chains

(A) Carbon bridges

(B) Hydrogen bridges

(C) Sulphur bridges

(D) Oxygen bridges

(E) Answer not known

159. In phosphate conditioning of boiler feed water, the phosphate suitable for acidic waters is

(A) $Na H_2 PO_4$

(B) $Na_2 HPO_4$

(C) $Na_3 PO_4$

(D) $Na_4 P_6 O_{18}$

(E) Answer not known

160. The membrane used in reverse osmosis process is made of
   (A) Nitroglycerine   (B) Cellulose nitrate
   (C) Cellulose acetate   (D) Acrylonitrile
   (E) Answer not known

161. In the reverse osmosis, the solvent naturally moves from
   (A) More concentrated side to less concentrated side
   (B) Less concentrated side to more concentrated side
   (C) Less contaminated side to more contaminated side
   (D) Low pressure side to high pressure side
   (E) Answer not known

162. Petrol and diesel fractions obtained during fractional distillation of crude oil respectively have average hydrocarbon chains in the range
   (A) 16 and 8 carbon lengths   (B) 8 and 16 carbon lengths
   (C) 8 and 12 carbon lengths   (D) 6 and 8 carbon lengths
   (E) Answer not known

163. Which of the following is used as electrolyte in coal-fired fuel cells?
   (A) Molten alkali nitrate   (B) Molten alkali carbonate
   (C) Molten alkali sulphate   (D) Molten alkali phosphate
   (E) Answer not known

164. Transformer oils must have
   (A) More oiliness   (B) More viscosity
   (C) High dielectric strength   (D) Low dielectric strength
   (E) Answer not known

165. She drives a car (into Passive Voice)

    (A) A car drives her   (B) A car has driven her

    (C) A car is driven by her   (D) A car is being driven by her

    (E) Answer not known

166. Select the correct question tag:

    Well, you chose the wine, ———— ?

    (A) Don't you?   (B) Didn't you?

    (C) Will you?   (D) Did you?

    (E) Answer not known

167. Select the correct question tag.

    I'm right ————?

    (A) am I?   (B) aren't I?

    (C) am not I?   (D) don't I?

    (E) Answer not known

168. Choose the correct answer :

    ———————— doctor must have a lot of compression

    (A) A   (B) An

    (C) The   (D) No error

    (E) Answer not known

169. Rewrite the following in the passive voice :

They have solved the mystery at long last

(A) The mystery was solved by them at long last

(B) The mystery has been solved at long last

(C) The mystery has been being solved at long last

(D) The mystery had been solved at long last

(E) Answer not known

170. Fill in the blank with suitable conjunction

A book is a book, —————— there is nothing in it

(A) although   (B) but

(C) so   (D) ere

(E) Answer not known

171. Select the correct voice to fill in the blank

I —————— by your behaviour

(A) was vexed   (B) am vexed

(C) will be vexed   (D) shall be vexed

(E) Answer not known

172. Identify the correct indirect speech

1. He reminded me that he often told me not to play with fire

2. He reminded me that he had often told me not to play with fire

3. He reminded that he has often told me not to play with fire

4. He reminded me that he had been often told not to play with fire

(A) 1   (B) 2

(C) 3   (D) 4

(E) Answer not known

173. Choose the correct modal verb to fill up the blank
    There was no one else at the box office.
    I ——————— in a queue
    (A) ✓ didn't need to wait   (B) mustn't wait
    (C) needn't have waited   (D) needn't wait
    (E) Answer not known

174. Find out the verb :
    The Prime Minister ——————— our village next month
    (A) visit   (B) ✓ visits
    (C) going to visit   (D) will visit
    (E) Answer not known

175. Choose the correct from the given options
    I am busy at the moment ——————— on the computer.
    (A) I work   (B) I'm work
    (C) ✓ I'm working   (D) I was working
    (E) Answer not known

176. Choose the pair that completes the meaning of the sentence most
    appropriately
    ——————— a new savings scheme, the President today said that
    stability and trust are the corner stones of ——————— relationships.
    (A) Declaring, stable   (B) Detailing, systematic
    (C) ✓ Launching, enduring   (D) Announcing, recalcitrant
    (E) Answer not known

177. Select the correct word for the suffix given : suffix - nym

He wrote poetry under the ──────── nym

(A) Acro

(B) Syno

(C) Anto

(D) Pseudo

(E) Answer not known

178. Choose the correct antonym of the underlined word

The discussion suddenly became <u>animated</u>

(A) Lively

(B) Dull

(C) Specialized

(D) Disciplined

(E) Answer not known

179. Choose the correct antonym of the underlined word

He is utterly <u>destitute</u>

(A) Rich

(B) Poor

(C) Arrogant

(D) Polite

(E) Answer not known

180. Choose the correct synonym of the underlined word in the sentence

We are bringing about a few <u>radical</u> changes in the power structure

(A) Ultimate

(B) Continuous

(C) Serious

(D) Fundamental

(E) Answer not known

181. Choose the correct synonym of the underlined word

He was <u>stridently</u> proclaiming again and again that he was innocent

(A) Confidently

(B) Harshly

(C) Seriously

(D) Quickly

(E) Answer not known

182. Match the following :

|		
(a) Acumen	1.	Decorate
(b) Cicada	2.	Skill
(c) Impasse	3.	A long winged insect
(d) Festoon	4.	Barrier

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

(E) Answer not known

183. Choose the sentence that is closest in meaning to the statement

Hardly had I finished speaking when the door opened

(A) Although I finished speaking before the door opened, it was hard for me to do so

(B) The door opened before I finished speaking

(C) I just finished speaking with great difficulty when the door opened

(D) It was with great difficulty that the door opened when I finished speaking

(E) Answer not known

184.
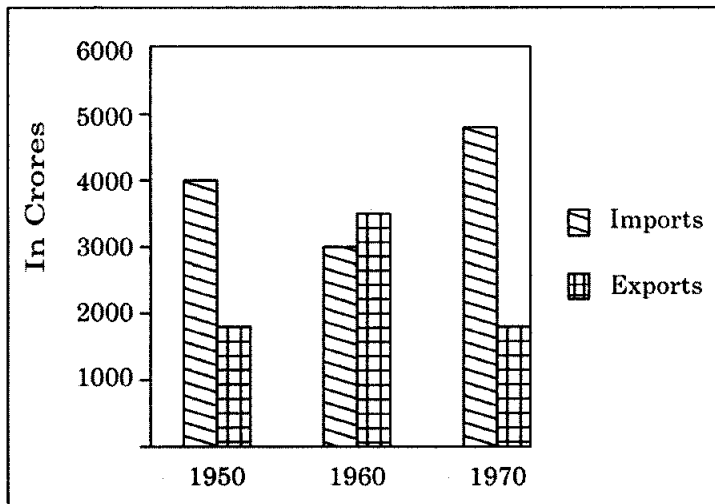
Which statement is true?

(A) There have been ups and downs in exports

(B) There have been ups and downs in imports

(C) In 1960 exports touched 3000 crores

(D) In 1970 imports touched 6000 crores

(E) Answer not known

185. With a little more effort I could have won the first prize. This means that

(A) I won the first prize

(B) I did not win the first prize

(C) I put in a lot of effort

(D) I put in no effort

(E) Answer not known

186. A letter written to complain about the bad condition of roads that is in need of repairs is known as a

(A) Circular letter

(B) Formal letter

(C) Informal letter

(D) Editorial letter

(E) Answer not known

187. In multimedia systems, two types of compression are

(A) Lossy and lossless (B) Small and large

(C) RGB and CMY (D) Color and colorless

(E) Answer not known

188. What is firebox?

(A) Browser (B) URL

(C) Search engine (D) System program

(E) Answer not known

189. In power point, the master slide is the

(A) Last slide (B) Slide controller

(C) Slide designer (D) Slide counter

(E) Answer not known

190. Whenever bits flow from one node to another, two or more bits changed in data unit is termed as

(A) Burst error (B) Bit-by-bit error

(C) Framing error (D) Multi-bit error

(E) Answer not known

191. Which address uniquely identifies a host on the internet?

(A) Physical address (B) IP address

(C) Port address (D) Specific address

(E) Answer not known

192. You have two computers connected by an Ethernet hub at home. What network system is this?

   (A) LAN ✓

   (B) MAN

   (C) WAN

   (D) Internet

   (E) Answer not known

193. Uniform Resource Locator (URL) defines

   (A) Path

   (B) Host computer

   (C) Port

   (D) All the above ✓

   (E) Answer not known

194. Which of the following is an object oriented language?

   (A) Fortran

   (B) Pascal

   (C) C

   (D) Java ✓

   (E) Answer not known

195. A recursive subroutine is a subroutine that calls

   (A) Another subroutine

   (B) Nothing

   (C) Itself ✓

   (D) More than 2 subroutines

   (E) Answer not known

196. In compiler design, syntactical error represents

   (A) Missing semicolon or unbalance parenthesis

   (B) Name of some identifier typed incorrectly ✓

   (C) Incompatible value assignment

   (D) Code not reachable, infinite loop

   (E) Answer not known

197. Output of assembler is called as

(A) Object file   (B) Executable file

(C) Class file   (D) Date file

(E) Answer not known

198. The memory used in MP3 players, PDAS, Laptops, digital cameras and mobile phones is

(A) Flash Memory   (B) Optical Memory

(C) Primary memory   (D) Auxiliary memory

(E) Answer not known

199. The overall time required to access data, which is the time required to read or write data on the disk is

(A) Disk latency + Transfer time

(B) Seek time + Transfer time

(C) Rotational delay + Seek time

(D) Rotational delay + Transfer time

(E) Answer not known

200. Which type of screen is used in gaming devices, clocks, watches, calculators and telephones?

(A) LCD   (B) Plasma

(C) CRT   (D) OCR

(E) Answer not known