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1. During tensile test, the percentage of elongation is an indicative of :
(A) creep (B) hardness (C) ductility (D) stiffness
2. Which flame is used in most of the oxy-acetylene welding ?
(A) oxidizing (B) carburizing (C) reducing (D) neutral
3. Which gas is normally used in gas shielded arc welding ?
(A) argon (B) hydrogen (C) acetylene (D) air
4. The sand grains suited for small and intricate casting should be :
(A) fine (B) medium (C) coarse (D) rounded
5. The best moulding for producing plastic article is :
(A) green sand moulding (B) pit moulding
(C) plaster moulding (D) injection moulding
6. In bracing the commonly used flux is :
(A) copper (B) lead (C) borax (D) sodium chloride
7. The process used to fix ceramic tool with the tool body is :
(A) welding (B) bracing (C) soldering (D) clamping
8. A mechanism that locks the lathe carriage to the lead screw for thread cutting is called :
(A) dog clutch (B) shim (C) half nut (D) fly cutter
9. Which of the following is not prior to the reaming operation ?
(A) drilling (B) tapping
(C) boring (D) counter boring

10. Which of the following machinery use abrasive slurry ?
(A) Electric Discharge Machine (B) Electro Chemical Machine
(C) Ultrasonic Machine (D) Spark Erosion Machine
11. Surface tension is a phenomenon due to :
(A) cohesion (B) adhesion
(C) cohesion and adhesion (D) cavitation
12. A tube is specified by :
(A) outer diameter only (B) inner diameter only
(C) thickness and inner diameter (D) thickness and outer diameter
13. Cavitation in centrifugal pump is due to :
(A) high discharge pressure (B) high discharge velocity
(C) high discharge rate (D) low suction pressure
14. For pumping slurry, the most suitable pump is :
(A) centrifugal pump (B) diaphragm pump
(C) jet pump (D) reciprocating pump
15. Notch is a device for measuring :
(A) flow velocity through a pipeline
(B) rate of flow through a pipeline
(C) flow velocity through a small channel
(D) rate of flow through a small channel
16. Which of the following turbine is used under low head and high discharge ?
(A) Pelton turbine (B) Francis turbine
(C) Tubular turbine (D) Kaplan turbine
17. A foot-valve provided in a pump is :
(A) pressure control valve (B) direction control valve
(C) flow control valve (D) pressure relief valve

18. The Young's modulus is depends on :
- (A) stress (B) lateral stress
(C) longitudinal stress (D) lateral strain
19. Maximum compressive stress developed in a transversely loaded rectangular beam is on the :
- (A) bottom layer (B) neutral axis (C) top layer (D) none of these
20. When a body just begins to slide over the surface of another body, the maximum frictional force which comes into play is :
- (A) sliding friction (B) limiting friction (C) rolling friction (D) kinetic friction
21. Critical temperature of steam is :
- (A) 100°C (B) 303°C (C) 375°C (D) 400°C
22. The heat absorbed by water at saturation temperature to get converted into dry steam at the same temperature is called :
- (A) sensible heat (B) specific heat (C) total heat (D) latent heat
23. The ratio between crank shaft speed and cam shaft speed of four stroke IC engine is :
- (A) 2 : 1 (B) 1 : 1 (C) 1 : 2 (D) 4 : 1
24. Steam that exit from the nozzle has :
- (A) high pressure and high velocity (B) high pressure and low velocity
(C) low pressure and high velocity (D) low pressure and low velocity
25. On a Mollier diagram, the ideal expansion process of a steam turbine can be represented by :
- (A) drawing a vertical line (B) drawing a horizontal line
(C) constant temperature line (D) constant dryness fraction line
26. Bin card is used in :
- (A) stores (B) administrative office
(C) workshop (D) assembly shop

27. The incentive wage plan, in which savings are expressed as a percentage of standard time is :
- (A) Hasley plan (B) Bedaux plan
(C) Lincon plan (D) Rowan plan
28. CPM consider the trade off between cost and :
- (A) time (B) machine (C) man power (D) material
29. Merit rating is the method of determine :
- (A) job identification (B) workers performance on a job
(C) relative value of job (D) utility of a machine
30. Routing and scheduling are integrated part of :
- (A) product planning (B) work study
(C) time study (D) quality control
31. With increase in intake air temperature, the efficiency of an IC engine will :
- (A) increase (B) decrease (C) remains same (D) unpredictable
32. Air petrol ratio for maximum power generation in spark ignition engine is about :
- (A) 6 : 1 (B) 12 : 1 (C) 18 : 1 (D) 24 : 1
33. Stroke of an IC engine equals :
- (A) half the crank radius (B) the crank radius
(C) twice the crank radius (D) four times of the crank radius
34. The float in the carburettor of a petrol engine controls :
- (A) flow rate of fuel (B) flow rate of air
(C) flow rate of air fuel mixture (D) level of the petrol in the float chamber
35. Which of the following is the extensive property of the thermodynamic system ?
- (A) volume (B) intensity of pressure
(C) temperature (D) density

36. First law of thermodynamics refers to conservation of :
(A) mass (B) momentum (C) energy (D) force
37. Heat is being supplied to air in a cylinder fitted with a frictionless piston held by a constant weight, the process is :
(A) isothermal (B) adiabatic (C) isobaric (D) isochoric
38. One Ton of refrigeration is equivalent to :
(A) 1 kW (B) 3.5 kW (C) 50 kW (D) 210 kW
39. In which component of vapour compression refrigeration system, the enthalpy remains constant ?
(A) condenser (B) compressor (C) evaporator (D) throttle valve
40. Which of the psychrometric processes is used in summer air conditioner ?
(A) sensible heating (B) cooling and dehumidification
(C) sensible cooling (D) heating and humidification
41. Which of the following is an integrating type instrument ?
(A) Wattmeter (B) Energy meter (C) Megger (D) Voltmeter
42. Example for an absolute instrument is :
(A) Earth tester (B) Ammeter
(C) Tangent Galvanometer (D) Power factor meter
43. A repulsion type voltmeter when used on AC circuits, reads :
(A) Peak value (B) Mean value
(C) Equivalent d.c. value (D) R.M.S. value
44. Which type of wattmeter cannot be used for both a.c and d.c. ?
(A) Induction type (B) Dynamo meter type
(C) Electrostatic type (D) None of the above

45. P.M.M.C. instrument used only in :
- (A) AC only (B) DC only
(C) Both AC and DC (D) None of the above
46. The pointer returns to initial position, when the current is removed, due to :
- (A) Deflection torque (B) Controlling torque
(C) Damping torque (D) All the above
47. Which of the following is an active transducer ?
- (A) Potentiometer device (B) Pirani gauge
(C) Piezo electric pick up (D) Hall effect pick up
48. One of the following can act as an inverse transducer :
- (A) Capacitive transducer (B) Resistance potentiometer
(C) Piezo electric crystal (D) Bourdon tube
49. A resistance potentiometer is a :
- (A) Zero order instrument (B) First order instrument
(C) Second order instrument (D) None of the above
50. In semi-conductor strain gauge, when tensile strain is applied :
- (A) Resistance increases in N type of materials
(B) Resistance increases in P type of materials
(C) Resistance increases in both P type and N type materials
(D) Resistance decreases in both P type and N type materials
51. Which of the following properties is not necessarily desirable for the material for transformer core ?
- (A) Low hysteresis loss (B) Adequate mechanical strength
(C) High permeability (D) High thermal conductivity

52. Which loss in a transformer varies significantly with load ?
(A) Copper loss (B) Core loss
(C) Hysteresis loss (D) Eddy current loss
53. The function of breather in a transformer is :
(A) To provide cooling air
(B) To provide oxygen
(C) To filter the transformer oil
(D) To prevent moisture entering into the transformer .
54. A short circuit test on a transformer gives :
(A) Copper losses at full load (B) Iron losses at full load
(C) Copper losses at half load (D) Iron losses at half load
55. Different types of consumers are charged at different uniform per unit rates, it is called :
(A) Simple tariff (B) Flat rate tariff (C) Block rate tariff (D) Two part tariff
56. A distribution transformer usually is a :
(A) Star Delta transformer (B) Star Star transformer
(C) Delta Delta transformer (D) Delta Star transformer
57. Form factor is :
(A) Maximum value / r.m.s. value (B) r.m.s. value/ maximum value
(C) r.m.s. value/average value (D) average value / r.m.s. value
58. Which of the following is used for measurement of high voltage ?
(A) Clip on meter (B) Auto transformer
(C) Potential transformer (D) Current transformer
59. The maximum value, positive or negative, of an alternating quantity is known as :
(A) Average value (B) Amplitude (C) Peak value (D) r.m.s. value

60. In a purely inductive circuit power is equal to :
(A) Maximum (B) Minimum (C) Zero (D) Unity
61. Which generator is used as a booster generator ?
(A) Shunt generator (B) Series generator
(C) Compound generator (D) None of the above
62. The function of commutator in a d.c machine is :
(A) To improve commutation
(B) To change alternating current into direct current
(C) To improve armature reaction
(D) To change alternating voltage into direct voltage
63. What would happen if the field of d.c. shunt motor is opened ?
(A) It will continue to run at its normal speed
(B) Speed will be reduced
(C) It will stop
(D) Speed will be enormously high and must destroy
64. The mechanical power developed by the d.c motor is maximum when :
(A) E_b is equal to zero (B) E_b is equal to V
(C) E_b is equal to half of V (D) E_b is equal to twice of the V
65. The reversal of rotation of motors and as electric braking is called :
(A) Negative braking (B) Regenerating braking
(C) Dynamic braking (D) Plugging
66. Which method is better to find voltage regulation in an alternator ?
(A) E.M.F. Method (B) M.M.F. Method
(C) Potier Triangle Method (D) Synchronous Impedance Method

67. Reduction factor of a lamp source is :
(A) M.S.C.P./M.H.C.P. (B) M.H.C.P./ M.S.C.P.
(C) Total flux / Emitted flux (D) Emitted flux / Total flux
68. In illumination unit of solid angle is :
(A) Candela (B) Flux (C) Steradian (D) Lumen
69. Luminous flux radiated out per unit solid angle in that direction is :
(A) Illumination (B) Candle power (C) Luminance (D) Transmittance
70. One lumen per square meter is the same as :
(A) One lux (B) One lumen metre
(C) One foot candle (D) One candela
71. The bipolar transistors have :
(A) Low input resistance compared to FET
(B) High input resistance compared to FET
(C) Zero input resistance
(D) Infinity input resistance
72. The knee voltage for a silicon PN junction is :
(A) 0.3 V (B) 0.7 V (C) 0.1 V (D) 0.2 V
73. The addition of pentavalent impurity to a semiconductor creates :
(A) Holes (B) Free electrons
(C) Positive ions (D) None of the above
74. If the PN junction will heavily doped, breakdown voltage will :
(A) Increase (B) Decrease (C) No change (D) Infinity
75. Reverse resistance of a diode is the order of :
(A) Ohm (B) Kilo ohm (C) Mega ohm (D) Zero

76. The self-destruction of an unstabilised transistor is known as :
(A) Stabilisation (B) Biasing
(C) Thermal runaway (D) None of the above
77. If collector supply voltage is 10 V, then collector cut of voltage under d.c. condition is :
(A) 1 V (B) 5 V (C) 10 V (D) 20 V
78. The frequency response of transformer coupling is :
(A) Poor (B) Good (C) Moderate (D) Excellent
79. If the absolute power gain of an amplifier is 100 then its decibel gain is :
(A) 10 db (B) 20 db (C) 30 db (D) 40 db
80. With gate open an SCR can be turned on by making supply voltage :
(A) Very small (B) Very high
(C) Equal to break over voltage (D) Less than break over voltage
81. Indian economy is most appropriately described as :
(A) Socialist economy (B) Mixed economy
(C) Capitalist economy (D) None of these
82. Wireless Telegraph was invented by :
(A) Marconi (B) Isaac Newton
(C) Humphrey Davy (D) Edison
83. AGMARK is :
(A) Co-operative for egg production
(B) Regulated agricultural market
(C) Farmers Co-operative
(D) A quality guarantee stamp for agricultural and allied commodities
84. The Azad Hind Fauj was formed by :
(A) Rash Behari Bose (B) Gopalakrishna Gokhale
(C) Subhash Chandra Bose (D) Bala Gangadhara Tilak