

134/2015

Maximum : 100 marks

Time : 1 hour and 15 minutes

1. A metal object obtained by allowing molten metal to solidify in a mould is known as :
(A) Casting (B) Machining
(C) Forming (D) Molding
2. The taper provided on all vertical surfaces of the pattern as it is lifted up is known as :
(A) Rapping allowance (B) Shrinkage allowance
(C) Draft allowance (D) Distortion allowance
3. The added projection on the pattern and it terms a seat in the mould in which the sand core rests during the pouring of the mould is known as:
(A) Pattern (B) Core prints
(C) Handle (D) Core box
4. The castings are prepared by forcing molten metal under high pressure into a metal mould is known as:
(A) Sand casting molding (B) Pressure die casting
(C) Full mould casting (D) Vacuum molding
5. Which of the following is **NOT** a pressure die casting machine?
(A) Hot chamber machine (B) Cold chamber machine
(C) Goose neck machine (D) Investment casting
6. The passage way through which molten metal enters a mould cavity is called :
(A) Riser (B) Runner
(C) Puller (D) Passage
7. _____ is a vertical passage through the cope and connecting the pouring basin to the runner :
(A) Sprue (B) Gate
(C) Riser (D) Runner

8. Which of the following is **NOT** the function of a die casting machine?
- (A) Closing the two halves of the die
 - (B) Securing the two die halves firmly together
 - (C) Forcing the molten metal into the die
 - (D) Solidify the casting
9. In a multi - piece pattern contains three parts, the middle part of the pattern is known as :
- (A) Drag
 - (B) Cope
 - (C) Cheek
 - (D) Split pattern
10. The tool which is used to remove the pattern from the mould and also for rapping the pattern gently to loosen it from mould sand is :
- (A) Trowels
 - (B) Slicks
 - (C) Swab
 - (D) Draw spike
11. In which of the following is **NOT** a casting defects :
- (A) Blow hole
 - (B) Hot tears
 - (C) Aspiration effects
 - (D) Run outs
12. The casting process which is used where very hard outer surfaces and wear resistant castings required :
- (A) Sand casting
 - (B) Chill casting
 - (C) Continuous casting
 - (D) Shell molding
13. The squeeze casting is also known as :
- (A) Liquid forging
 - (B) Centrifugal casting
 - (C) Die casting
 - (D) Continuous casting
14. Ability of sand to flow around and over the pattern when the mould is rammed :
- (A) Flow ability
 - (B) Permeability
 - (C) Refractoriness
 - (D) Deformation
15. From the following, which is the property of core sand?
- (A) Bond strength
 - (B) Permeability
 - (C) Tensile strength
 - (D) Crushability

16. The casting defect in which a slight displacement of the cope half of the casting with respect to the drag half :
- (A) Mismatch (B) Over size casting
(C) Swelling (D) Blow hole
17. Ability of sand to remain solid as a function of temperature :
- (A) Flow ability (B) Refractoriness
(C) Permeability (D) Shear strength
18. The model of the casting in which it can be used for forming an impression in molding Sand is known as :
- (A) Casting (B) Pattern
(C) Molding box (D) Cope
19. In split patterns the two parts of the pattern are aligned with :
- (A) Core (B) Clamp
(C) Riser (D) Dowel pin
20. The typical shrinkage allowances provided in casting of steel in mm/meter is :
- (A) 8 (B) 20
(C) 14 (D) 16
21. The best cast able alloys are :
- (A) Aluminum alloys (B) Copper alloys
(C) Zinc alloys (D) Magnesium alloys
22. The common die material is :
- (A) Tungsten (B) Molybdenum
(C) Cast iron (D) Tool steel
23. The device used to increase injection pressure in pressure die casting is called :
- (A) Surge pump (B) Accumulator
(C) Feed screw (D) Compressor

24. The property molding sand to measure of ease with which air can pass through the sand aggregate is known as :
- (A) Permeability (B) Refractoriness
(C) Flow ability (D) Cohesiveness
25. The casting process in which combines features of forging and casting in one operation is in :
- (A) Slush casting (B) Squeeze casting
(C) Die casting (D) Mould casting
26. The furnace which is most commonly used for melting and refining pig iron along with scrap in the production of iron casting is :
- (A) Cupola furnace (B) Air furnace
(C) Rotary furnace (D) Crucible furnace
27. Melting point aluminum is about :
- (A) 1450°C (B) 1200°C
(C) 420°C (D) 660°C
28. Pure iron that has body centered cubic lattice structure is known as :
- (A) Ferrite (B) Pearlite
(C) Alpha - iron (D) Cementite
29. Heat treatment process in which heating beyond critical temperature and cooling in air is known as :
- (A) Stress relieving (B) Annealing
(C) Hardening (D) Normalizing
30. The permanent displacement of atoms from a given starting position by slip or twinning is known as :
- (A) Visco elasticity (B) Allotropy
(C) Plastic deformation (D) Modulus of rupture
31. Ability of material to resist deterioration by chemical or electrochemical reaction with its environment :
- (A) Fatigue strength (B) Chemical properties
(C) Corrosion resistance (D) Toughness

32. The percentage of carbon present in Cast Iron is about :
- (A) 4.5 – 6% (B) 0.1 – 0.3%
(C) 1.8 – 3% (D) 0.01 – 0.1 %
33. Cast iron which contains carbon as free carbon in the form of graphite is known as :
- (A) Grey cast Iron (B) White Cast Iron
(C) Malleable Cast Iron (D) Wrought Iron
34. The resistance to corrosion of steel is increased by adding :
- (A) Tungsten (B) Copper
(C) Chromium (D) Silicon
35. The failure of material under repeatedly applied stress is called :
- (A) Creep (B) Fatigue
(C) Corrosion (D) None of these
36. The property of a material due to which it is able to resist abrasion indentation and scratching is known as :
- (A) Hardness (B) Toughness
(C) Brittleness (D) Creep
37. Gun metal is an alloy of :
- (A) Copper - Zinc (B) Copper - Tin
(C) Copper - Tin - Zinc (D) Copper - Tin - Antimony
38. Optical Fibers are made from :
- (A) Clay (B) Non-ferrous metals
(C) Refractory materials (D) Silica
39. The casting produced by forcing molten metal under pressure into a permanent metal mould is known as :
- (A) Permanent mould casting (B) Slush casting
(C) Die casting (D) Centrifugal casting

40. The pattern which is used largely for drainage fitting and pipe work is :
- (A) Shell Pattern (B) Sweep Pattern
(C) Skeleton Pattern (D) Segmental Pattern
41. The property of sand due to which it evolves a great amount of steam and other gases is called :
- (A) Cohesiveness (B) Permeability
(C) Collapsibility (D) Adhesiveness
42. Metal patterns are commonly used for :
- (A) Large castings (B) Small Castings
(C) Complicated Castings (D) Large Scale productions of castings
43. The casting defects which results in general enlargement of a casting is known as :
- (A) Sand Wash (B) Swell
(C) Shift (D) Scab
44. Rapping allowance is provided on a pattern to take care of :
- (A) Shrinkage (B) Distortion
(C) Machining (D) Easy withdrawal
45. One Watt is equal to :
- (A) 100 joules/sec (B) 0.1 joules/sec
(C) 10 joules/sec (D) 1 joules/sec
46. Matter contained in a body is called :
- (A) Momentum (B) Weight
(C) Mass (D) Impulsive Force
47. Which of the following are vector quantities?
- (A) Angular acceleration (B) Angular velocity
(C) Angular displacement (D) All of above
48. The ratio of linear stress to linear strain is called :
- (A) Modulus of Rigidity (B) Modulus of Elasticity
(C) Bulk Modulus (D) Poisson's Ratio

49. The Modulus of Elasticity for Mild Steel is approximately equal to :
- (A) 80 KN/mm² (B) 100 KN/mm²
(C) 110 KN/mm² (D) 210 KN/mm²
50. The energy stored in a body when strained within elastic limit is known as :
- (A) Resilience (B) Proof resilience
(C) Strain energy (D) Impact energy
51. The line joining the centre of rivets and parallel to the edge of the plate is known as :
- (A) Back pitch (B) Marginal pitch
(C) Gauge line (D) Pitch line
52. In a fusion welding process :
- (A) Only heat is used (B) Only pressure is used
(C) Heat and pressure is used (D) None of these
53. 18 - 4 - 1 High speed steel contains :
- (A) 18 % Iron (B) 18 % Tungsten
(C) 18 % Nickel (D) 18 % Chromium
54. Up setting is the term used in one of the following operations :
- (A) Casting (B) Turning
(C) Drilling (D) Forging
55. In filing operations the metal removes during :
- (A) Both forward and return stroke (B) Return stroke only
(C) Forward stroke only (D) None of these
56. Mild steel belonging to the following category :
- (A) Low carbon steel (B) Medium carbon steel
(C) High carbon steel (D) Alloy steel
57. The unit of energy in SI system is :
- (A) Dyne (B) Kg-m
(C) Watt (D) Joule

58. Melting point of mild steel is about :
- (A) 1539°C (B) 1712°C
(C) 1131°C (D) 1480°C
59. The size of a gear usually specified by :
- (A) Pressure angle (B) Pitch circular diameter
(C) Circular diameter (D) Diametric pitch
60. Which of the following material has the maximum ductility?
- (A) Mild steel (B) Copper
(C) Zinc (D) Aluminium
61. Least count of vernier micrometer is _____ mm :
- (A) 0.001 (B) 0.01
(C) 0.02 (D) 0.1
62. Gun metal is an alloy of :
- (A) copper, zinc and lead (B) copper and tin
(C) copper, zinc and tin (D) iron, silicon and manganese
63. In the Indian Standard Systems for Limits and Fits, there are _____ grades of Fundamental tolerances :
- (A) 16 (B) 18
(C) 20 (D) 25
64. Suggest a combination of tolerance for precision sliding fit, from the given combinations :
- (A) H7/u6 (B) H7/r6
(C) H7/p6 (D) H7/g6
65. The operation of assembling slip gauges together for a given combination is known as :
- (A) slipping (B) clamping
(C) wringing (D) welding
66. The operation of shaping a grinding wheel is known as :
- (A) truing (B) dressing
(C) balancing (D) aligning

67. In a plain or simple index head, one complete rotation of the index crank rotates the spindle by :
- (A) 40 revolutions (B) one revolution
(C) 1/4 of a revolution (D) 1/40 of a revolution
68. The defects on a die cast component due to cold metal slow shot, low die temperature is known as :
- (A) cracks (B) cold shut
(C) sink marks (D) heat marks
69. Cast metal bonding to the die casting surface is known as :
- (A) welding (B) soldering
(C) heat marks (D) sink marks
70. Which half of the die casting dies is secured to the stationary platen of the machine?
- (A) hot chamber (B) ejector half
(C) cover half (D) none of the above
71. Hot chamber die casting machines are used for making castings in :
- (A) higher melting point alloys (B) low melting point alloys
(C) thermo setting plastics (D) cast iron
72. The connecting member between the goose neck and the sprue bush in die casting machine is known as :
- (A) guide pin (B) piston
(C) adapter (D) nozzle
73. The amount of die opening at the time the angled pin contacts the core block in die casting dies is known as :
- (A) dwell (B) day light
(C) clearance (D) shut height
74. The pump used in hydraulic power pack is :
- (A) centrifugal pump (B) piston pump
(C) vane pump (D) gear pump

75. _____ hold parts in perfectly related alignment by absorbing side pressure and lateral thrust :
- (A) rivets (B) bolts and nuts
(C) dowels (D) socket head cap screw
76. Build up of die release material on the die results in an irregular rough surface on the casting is known as :
- (A) Blisters (B) Sink marks
(C) Wave or lake (D) Scale
77. Which grade of grinding wheel is preferred for grinding hard metals?
- (A) hard grade wheels (B) soft grade wheels
(C) open structured wheels (D) none of the above
78. In an electric discharge machining process, electrode is connected to :
- (A) cathode (B) anode
(C) bed (D) none of the above
79. Least count of vernier bevel protractor is :
- (A) 5 minutes (B) 5 seconds
(C) one minute (D) one degree
80. In a fanuc control system, used in CNC machines, the functional code G21 is for :
- (A) skip function (B) dimensioning in inch
(C) dimensioning in mm (D) rapid traverse
81. India's mars mission is officially known as :
- (A) Mangalyan (B) Mangala
(C) Mars Mission (D) Mars orbitor mission
82. Which country won the Davis Cup Tournament 2013?
- (A) Czech Republic (B) Russia
(C) America (D) England
83. Bitcoin is the digital currency used for internet trading. Where is the world's first Bitcoin ATM is located :
- (A) China (B) Canada
(C) Singapore (D) Sweeden

84. Who is the new Director General of World Trade Organization?
 (A) Pascal Lamy (B) Margarete chan
 (C) Roberto Asavedo (D) Ban Ki Moon
85. Who won the Abel prize 2013?
 (A) Pierre Deligne (B) Endre Szemerédi
 (C) John Torence (D) John Milnor
86. Sreenagar the capital city of Jammu and Kashmir located on which river bank :
 (A) Beas (B) Chenab
 (C) Indus (D) Jhelum
87. The soil survey of India established in which year :
 (A) 1976 (B) 1949
 (C) 1956 (D) 1963
88. The leaders of the home rule movement in India borrowed the term Home Rule from a similar movement in :
 (A) Scotland (B) Ireland
 (C) Canada (D) USA
89. Who was the first commander of Indian National Army (INA)?
 (A) Capt. Mohan Singh (B) Subash Chandra Bose
 (C) Rash Bihari Bose (D) Capt. Lakshmi
90. Mixed economy was envisaged for the first time in the :
 (A) Preamble of constitution (B) First Five Year Plan
 (C) Second Five Year Plan (D) Bombay plan
91. River Pamba originates from :
 (A) Marayur (B) Peerumedu
 (C) Iravikulam (D) Munnar
92. Which among the following is the major soil type of Kerala?
 (A) Laterite (B) Alluvial
 (C) Red soil (D) Black soil

93. According to 2011 census which district in Kerala has the highest density of population :
- (A) Alappuzha (B) Malappuram
(C) Thiruvananthapuram (D) Kollam
94. In which year peoples planning introduced in Kerala :
- (A) 1995 (B) 1996
(C) 1997 (D) 1998
95. Time magazines person of the year 2013 goes to :
- (A) Pope Francis (B) Edward Snodan
(C) Barac Obama (D) Edith Windsdon
96. Who wrote the drama "Jathikkummi"?
- (A) Ayyankali (B) Dr. Ayyathan Gopalan
(C) Pandit Karuppan (D) Kurumban Daivathan
97. The Malayali who worked under Gandhiji as the editor of young India :
- (A) M. C. Joseph (B) T. K. Madhavan
(C) K. Ayyappan (D) Barrister George Joseph
98. "No caste No Religion and No God for human being" is the slogam of :
- (A) Dr. Palppu (B) Sahodharan Ayyappan
(C) Sree Narayana Guru (D) Kumaranasan
99. Who is known as Lincoln of kerala?
- (A) Pandit Karuppan (B) Ayya Vaikundar
(C) Vagbhatananda (D) Thycad Ayya
100. Who first introduced the system "A school along with every church"?
- (A) Poikayil Yohannan (B) Kuriakose Chavara
(C) Dr. Hermen Gundert (D) Dr. Benjamin Basily