

208/2015

Maximum : 100 marks

Time : 1 hour and 15 minutes

1. Carbon content of grey cast iron is :
(A) Less than 0.5% (B) 0.5-1%
(C) 1.0—1.5% (D) 2-3.5%
2. Brass is :
(A) Cu-Zn alloy (B) Cu-Tin alloy
(C) Cu-Pb alloy (D) Cu- Ni alloy
3. Large size bolt heads are made by :
(A) Hammering (B) Casting
(C) Swaging (D) Upset forging
4. A micron is :
(A) 1mm (B) 0.1mm
(C) 0.01mm (D) 0.001mm
5. The melting point of gold is :
(A) 100°C (B) 569°C
(C) 1063°C (D) 1493°C
6. For soldering of Brass and Copper, the flux used is :
(A) Zinc Chloride (B) HCl acid
(C) Cupric acid (D) Ammoniumchloride
7. Forging results in the following :
(A) Reduced mechanical properties (B) Improves the grain flow
(C) Creates internal defects (D) All of the above
8. The property of a material which enables it to retain the deformation permanently is called :
(A) Brittleness (B) Stiffness
(C) Maliability (D) Plasticity

9. Blast furnace is used to produce :
- (A) Pig iron (B) Cast iron
(C) Wrought iron (D) Steel
10. Wrought iron :
- (A) is a ductile material
(B) can be easily forged or welded
(C) cannot stand sudden and excessive shocks
(D) all of these.
11. Which of the following materials cannot be forged?
- (A) Wrought iron (B) Cast iron
(C) Mild steel (D) High carbon steel
12. Hot working operation is carried at :
- (A) Recrystallization temperature
(B) Near elastic stage temperature
(C) Below recrystallization temperature
(D) Above recrystallization temperature
13. In an anvil, punch hole is used for :
- (A) Bending rods of small diameter
(B) Cold punching operation
(C) Holding irregular work
(D) Cutting operations.
14. Which of the tong used for bolts rivets and other work of a circular section?
- (A) Flat tong (B) Rent tong
(C) Gad tong (D) None of the above
15. Swaging :
- (A) Causes a steadily applied pressure instead of impact force
(B) Is used to force the end of a heated bar into a desired shape
(C) Is a forging operation in which two halves of a rotating die open and close rapidly while impacting the end of the heated tube or shell.
(D) Is a forging method for reducing the diameter of a bar and in the process making it longer

16. Bick iron is made of :
- (A) Tool steel (B) Cast iron
(C) Wrought iron (D) All the above
17. Cutting edge of a cold chisel, hot chisel are respectively :
- (A) 60,30 (B) 30,45
(C) 45,60 (D) 30,60
18. In forge welding the method of preparing the pieces of metal for welding is :
- (A) Edge preparation (B) Cutting
(C) Scarfing (D) Polishing
19. Commonly used size of anvil is :
- (A) 150kg (B) 200kg
(C) 250kg (D) 400kg
20. The process in which the cross section of the work piece is increased by reducing its length is called :
- (A) Upsetting (B) Fullering
(C) Swaging (D) Drifting
21. Which of the following process is different from the rest of the processes?
- (A) Shot peening (B) Cold extrusion
(C) Sand blasting (D) Drop forging
22. Alpha iron has the crystal structure of :
- (A) BCC (B) FCC
(C) HCP (D) None of the above
23. The defect occurred in some alloy steel due to rapid cooling from forging temperature is :
- (A) Creep (B) Flakes
(C) Cracks (D) Dents
24. Corronion resistance of steel is increased by adding :
- (A) Tungston and Sulpher (B) Nickel and molybolenum
(C) Nickel and chromium (D) Zinc and aluminium

25. Which of the following processes would produce strongest components?
- (A) Forging (B) Die casting
(C) Cold rolling (D) Hot rolling
26. The process of deforming a metal at room temperature to improve its hardness is known as :
- (A) Recrystallisation (B) Normalization
(C) Tempering (D) Work hardening
27. The imperfection in crystal structure of metal is called :
- (A) Slip (B) Impurity
(C) Fracture (D) Dislocation
28. Which of the following is the advantage of Drop farging?
- (A) There is little wastage of material
(B) The operation are relatively faster
(C) The strength of the material is enhanced
(D) All of the above
29. For Smithy operation, the anvil used to hold small work piece is :
- (A) Bench vice (B) Hand vice
(C) Bick iron (D) Leg vice
30. Which type of rule is used for marking and measuring patterns and hot jobs handled by blacksmith?
- (A) Narrow rule (B) Shrink rule
(C) Hook rule (D) Short rule
31. The forging of steel specimen is done at a temperature of :
- (A) 400°C (B) 800°C
(C) 1100°C (D) 1500°C
32. The process of removing the burns or flash from a forged component in drop forging is called :
- (A) Swaging (B) Perforating
(C) Trimming (D) Fettling

33. _____ is a safety device used for protecting eyes while working in the furnace.
- (A) Goggles (B) Mask
(C) Apron (D) Gloves
34. An opening through which the blast air enters blast furnace is :
- (A) Wind box (B) Blower
(C) Tuyers (D) Slag hole
35. The furnace for melting non ferrous metals are :
- (A) Cupola (B) Open hearth furnace
(C) Blast furnace (D) Crusible furnace
36. The recrystallisation temperature for steel is near to :
- (A) 550°C (B) 1025°C
(C) 960°C (D) 800°C
37. C-14 steel indicates plain carbon steel containing carbon percentage :
- (A) 0.14 (B) 1.4
(C) 1 to 0.18 (D) 14
38. Dielectric materials are :
- (A) Insulators (B) Semiconductors
(C) Conductors (D) Super conductors
39. Forging defect :
- (A) Swell (B) Scabs
(C) Hot tear (D) Fins and rags
40. Fatigue strength of a part can be increased by :
- (A) Having surface well finished
(B) Maintaining the temperature at lowest possible level
(C) Super imposing static stress.
(D) Reducing frequencing operation

41. Which is the only method to join metals permanently?
- (A) Brazing (B) Soldering
(C) Welding (D) Seaming
42. Centre punch tip is ground at _____ °.
- (A) 60° (B) 90°
(C) 40° (D) 70°
43. In a gas welding which flame is used to weld brass?
- (A) Neutral flame (B) Carburising flame
(C) Oxidising (D) None of these
44. _____ is used to convert AC welding supply into DC welding supply.
- (A) welding transformer (B) welding generator
(C) welding rectifier (D) motor generator
45. For primary combustion, the volume of acetylene and oxygen are supplied from the blow pipe to produce a neutral flame :
- (A) 1:1.5 (B) 1:1
(C) 1:2.5 (D) 1:2
46. Which type of apron is used while during welding?
- (A) Plastic (B) Cotton
(C) Silk (D) Leather
47. What will happen unsafe welding practice, keeping the welding floor in wet condition?
- (A) cut on the legs (B) eye injury
(C) electric shock (D) burn injury
48. Brass is an alloy of :
- (A) copper + tin (B) copper + zinc
(C) copper + lead (D) copper + aluminum
49. What is the temperature of oxy-acetylene flame?
- (A) 3000°C – 3100°C (B) 3100°C – 3300°C
(C) 2400°C – 2700°C (D) 2700°C – 2800°C

50. A groove or channel formed in the parent metal at the toe of the weld is called :
- (A) under cut (B) edge melted off
(C) crack (D) porosity
51. The normal storing capacity of acetylene in dissolved state is 6m^3 with the pressure ranging between :
- (A) $20 - 25 \text{ kg/cm}^2$ (B) $120 - 150 \text{ kg/cm}^2$
(C) $15 - 16 \text{ kg/cm}^2$ (D) $60 - 80 \text{ kg/cm}^2$
52. The size of the nozzle used to 1.6 mm plate thickness of the joint to be welded :
- (A) 3 (B) 1
(C) 5 (D) 7
53. Low Hydrogen type electrodes are called _____ electrodes.
- (A) cellulose coating (B) rutile coated
(C) iron coated (D) basic coated
54. Which colour coding is used to identify the argon cylinder?
- (A) blue (B) grey
(C) black (D) maroon
55. The ratio of the coating diameter to the core wire diameter is called :
- (A) dia of electrode (B) coating factor
(C) size of electrode (D) length of electrode
56. If the main electric supply is not available, we can do arc welding with :
- (A) transformer set (B) engine generator set
(C) motor generator set (D) rectifier set
57. In pipe welding, the pipe is in vertical and welding is in horizontal position. What is the welding position?
- (A) 1G (B) 5G
(C) 2G (D) 6G

58. _____ will spoil metal surface due to the effect of various elements in the atmosphere and water.
- (A) oxidation (B) reduction
(C) corrosion (D) thermal expansion
59. Shade number of coloured glass for manual metal arc welding current in amperes up to 100 :
- (A) 8 – 9 (B) 10 – 11
(C) 12 – 14 (D) 11 – 13
60. The distance between the junction of the metals and the point where the weld metal touches the base metal toe is called :
- (A) heat affected zone (B) leg length
(C) throat thickness (D) fusion penetration
61. _____ is the straight distance between the electrode tip and the job surface when the arc is formed.
- (A) arc stream (B) arc length
(C) leg length (D) heat affected zone
62. When the arc deviates from its regular paths due to the magnetic disturbances. It is called :
- (A) distortion (B) gravity
(C) arc blow (D) polarity
63. 3.15 mm electrode diameter equal to _____ guage electrode.
- (A) 12 (B) 10
(C) 14 (D) 16
64. Which effect is more useful in the case of over-head welding?
- (A) Gravity force (B) Electromagnetic force
(C) Surface tension (D) Gas expansion force
65. Steel with a carbon range of 0.05 to 0.30% are called _____ steel.
- (A) high carbon steel (B) medium carbon steel
(C) low carbon steel (D) high speed steel

66. While gas cutting the nozzle should be :
- (A) touch the work (B) 2 mm away from work
(C) 5 mm away from work (D) 10 mm away from work
67. Argon gas is a :
- (A) inert gas (B) fuel gas
(C) supporting of fuel gas (D) active gas
68. A _____ is used for removing metal / oxide from the outer surface and to make the metal piece edges square.
- (A) hack saw (B) file
(C) chisel (D) hammer
69. Which one is a pressure welding process?
- (A) Electric arc welding (B) Atomic hydrogen arc welding
(C) Submerged arc welding (D) Resistance welding
70. D.A. cylinder means :
- (A) dissolved acetylene (B) dissolved air
(C) dissolved argon (D) defective acetylene
71. What is meant by MAG welding?
- (A) Metal Arc Gas (B) Metal Active Gas
(C) Metal Inactive Gas (D) Metal Acetylene Gas
72. In CO₂ cylinder, what is the necessity of pre-heater?
- (A) to pre-heat the gas (B) to reduce the gas
(C) to stop the gas (D) to produce the gas
73. Which shielding gas has low density compared to air in MIG / MAG welding?
- (A) Helium (B) Argon
(C) Neon (D) Carbon dioxide
74. Which power source is suitable for GMAW?
- (A) AC (B) DC
(C) DC constant voltage (D) DC low voltage

75. Nickel and Titanium can be welded only by this process. Which process is that?
 (A) MIG welding (B) TIG welding
 (C) Sub merged arc welding (D) Electro slag welding
76. Which material is used to make gas nozzle in TIG welding process?
 (A) Mica (B) Ceramic
 (C) Bakelite (D) Graphite
77. Coding of electrodes in IS: system, the third digit indicating :
 (A) Welding position (B) Ultimate tensile strength
 (C) Percentage elongation (D) Current condition
78. _____ is the ability of the metal to stretch, bend or twist without breaking or cracking.
 (A) Tensile strength (B) Brittleness
 (C) Toughness (D) Ductility
79. Which inert gas cylinder is coloured in black with white neck?
 (A) Argon (B) Helium
 (C) Carbon dioxide (D) Neon
80. An example of non-destructive test is :
 (A) Radiography test (B) Nick break test
 (C) Free bend test (D) Tensile test
81. 'A post – dated cheque on a crashing bank' was Gandhiji's opinion about :
 (A) Simon commission (B) Crips mission
 (C) Hunter commission (D) Cabinet mission
82. Jog falls is in the river :
 (A) Kabani (B) Ganga
 (C) Narmada (D) Sharavathi
83. Bhoodan movement was started by :
 (A) Sundarlal Bahuguna (B) Nithya chaithanya Yathi
 (C) Swami Vivekananda (D) Acharya Vinobha Bhave

84. India's first five year plan was started in :
(A) 1950 (B) 1951
(C) 1961 (D) 1960
85. The oldest mountain range in India :
(A) The Aravalli (B) The Himalaya
(C) The Vindhya (D) The Western Ghat
86. The rescue operation conducted by Govt. of India in Yemen is called :
(A) Operation blue star (B) Operation Vijay
(C) Operation Rahat (D) Operation sealion
87. Chattambi Swamikal attained Samadhi at :
(A) Panmana (B) Varkala
(C) Venganoor (D) Pallana
88. The organization 'Khudhai Khidmathkhars' was organized by :
(A) Rani Gaidilue (B) Sir Sayed Ahamed Khan
(C) Khan Abdul Gafar Khan (D) Mohamedali Jinnah
89. Bharath Mala and Sagar Mala are the projects related to :
(A) Health (B) Education
(C) IT (D) Roads
90. Ananthamatham was founded by :
(A) Kumara Guru (B) Pandit Karuppan
(C) Brahmananda Sivayogi (D) Vagbhatananda
91. The highest mountain peak in South India :
(A) Mount Everest (B) Anamudi
(C) Mount K₂ (D) Nilgiri
92. The proposed capital of Andhra Pradesh is :
(A) Hyderabad (B) Secunderabad
(C) Warangal (D) Amaravathi

93. Who was known as the father of Muslim Renaissance in Kerala?
(A) Ali Musliyar (B) Mohamed Abdurahiman
(C) Vakkom Abdul Khader Moulavi (D) Moidu Moulavi
94. K.M. Mani presented his 13th budget in Kerala assembly on :
(A) March 13, 2015 (B) March 12, 2015
(C) March 16, 2015 (D) March 11, 2015
95. Edwin Arnold's 'The Light of Asia' inspired Kumaranasan to write :
(A) Chandalabhikshuki (B) Buddhacharitha
(C) Prarodanam (D) Veenapoovu
96. The historic midnight speech was delivered by :
(A) Jawaharlal Nehru (B) Gandhiji
(C) Jinnah (D) Bhagath Singh
97. Lee Kuan Yew, who died recently was the father of modern :
(A) Malasia (B) Singapore
(C) China (D) Indonesia
98. The original name of Thycaud Ayya was :
(A) Muthukutty (B) Kunhan Pillai
(C) Govindankutty (D) Subbarayer
99. Mamankam was held in :
(A) Ponnani (B) Kozhikode
(C) Thirunavaya (D) Tirur
100. The political party formed by C.R. Das and Mothilal Nehru in 1922 :
(A) Swarajist party (B) Home rule league
(C) Forward block (D) Congress socialist party