PART 07 — PRODUCTION AND INDUSTRIAL ENGINEERING

(Answer **ALL** questions)

76. Electroforming is particularly useful for
   1. Non-ferrous components
   2. Thin walled parts requiring high order of accuracy and internal surface finish
   3. Manufacturing electrical conductors
   4. Parts that cannot be machined

77. The investment castings tolerances may be expected to the extent of
   1. ±1 mm
   2. ±0.1 mm
   3. ±0.05 mm
   4. ±0.001 mm

78. Shot peening
   1. is done at recrystallisation temperature
   2. changes the crystalline structure of materials
   3. improves the fatigue life of small parts
   4. refines the grain structure

79. The process used for manufacturing the body of a carburettor is
   1. Fine sand casting
   2. Metal spraying
   3. Die casting
   4. Continuous casting

80. Construction of FLD curve is based upon
   1. Applied load during forming
   2. Circumferential strains
   3. Frictional stresses
   4. Chemical composition of material

81. Hidden welding is mainly carried out by
   1. TIG
   2. Under water welding
   3. EBW
   4. LBW

82. The concept of HAZ can be easily explained by
   1. Lap joint
   2. T joint
   3. Butt joint
   4. V joint

83. The shielding gases used in GMAW is
   1. any gas
   2. only inert gas
   3. combination of gases where inert gas is a must
   4. combination of two different inert gases only

84. In machine tools chatter occurs due to
   1. Free vibration
   2. Forced vibration
   3. Random vibration
   4. Self excited vibration

85. In cutting tool materials, considering the property of hardness, the next hard material to diamond is
   1. Stellite
   2. CBN
   3. Coated carbides
   4. SiC

86. Profile of a gear tooth can be checked by
   1. Sine bar
   2. Bench micrometer
   3. Optical pyrometer
   4. Optical projector

87. Optical flats are made of
   1. Quartz
   2. Glass
   3. Plastic
   4. Silicon

88. Vee Block used in the workshop is to check the
   1. Roundness of a cylindrical work
   2. Surface roughness
   3. Dimensions of an oval job
   4. Taper on a job

89. Electron beam machining removes materials by
1. Shear
2. Melting and vapourisation
3. Erosion
4. Abrasive action

90. The type of chip produced when cutting cast iron is
1. Discontinuous
2. Continuous
3. With built up edge
4. Curled

91. The percentage of Pearlite present in 0.4 % C steel is
1. 25
2. 50
3. 75
4. 100

92. Duralumin is an alloy of Aluminium and
1. Copper
2. Magnesium
3. Zinc
4. Silicon

93. Which one of the following pair constitutes Pearlite?
1. Ferrite + Austenite
2. Austenite + Cementite
3. Cementite + Ferrite
4. Ferrite + Martensite

94. The corrosion resistance of stainless steel is due to the presence of
1. Chromium
2. Nickel
3. Silicon
4. Tungsten

95. During Vulcanizing, the rubber is heated with
1. Sodium
2. Sulphur
3. Silicon
4. Zinc

96. The coding system which consist of 5 digit form code and 4 digit supplementary code is
1. MICLASS system
2. OPITZ system
3. DCLASS system
4. COFORM system

97. The hardware/software protocol developed jointly by industries for Network Communication is
1. MAP
2. JIT
3. TQM
4. SNA

98. The data structure used to represent the B-Rep model is known as
1. Edge vertice data structure
2. Winged edge data structure
3. Model based data structure
4. Linked list data structure

99. The Euler-Pontcare formula to check the validity of the solid model is
1. $F + E - V = 4$
2. $F - E + V = 4$
3. $F - E + V = 2$
4. $F + E - V = 2$

100. Which of the following datum selection is difficult for process planning engineer?
1. The machine datum
2. The fixture datum
3. The part datum
4. The tool datum

101. A small firm produces 100 pens per day. The direct material cost is found to be Rs. 160, direct labour cost is Rs. 200 and factory overheads chargeable to it is Rs. 250. If the selling on cost is 40 % of the factory cost, what must be the selling price of each pen to realise a profit of 14.6 % of the selling price?
1. Rs. 8.54
2. Rs. 10
3. Rs. 6.10
4. Rs. 8.10

For a shop producing one type (or) class of product, the suitable over-head allocation method would be

1. Man-hour rate
2. Machine hour rate
3. Unit rate
4. Machine and man hour rate

103. The material used for the manufacture of Jig Bush is

1. Bronze
2. Brass
3. Copper
4. Hardened Steel

104. The locator used in milling operation is

1. Stepping block
2. Height gauge
3. Setting block
4. V-block

105. In press operation, the size of the blanked part is dependent on the size of

1. die and clearance
2. punch and clearance
3. die
4. punch

106. Queuing theory deals with problems of

1. material handling
2. reducing the waiting time
3. better utilization of manpower
4. effective utilization of machines

107. PERT has the following time estimates

1. One time estimate
2. Two time estimate
3. Three time estimate
4. Four time estimate

108. The simplex method is the basic method for

1. Value analysis
2. Queueing problems
3. Linear programming
4. Network analysis

109. The probability distribution of project completion in PERT follows

1. Normal distribution
2. Binomial distribution
3. Beta distribution
4. Exponential distribution

110. A two person zero sum game is known as

1. n person game
2. Fair game
3. Zero sum game
4. Rectangular game

111. Work study is concerned with

1. improving present method and finding standard time
2. motivation of workers
3. improving production capability
4. improving production planning and control

112. String diagram is used when

1. a team of workers is working at a place
2. material handling is involved
3. idle time is to be reduced
4. machining time is to be reduced

113. ABC analysis deals with

1. analysis of process chart
2. flow of material
3. scheduling of jobs
4. controlling inventory costs

114. Process layout is employed for

1. batch production
2. continuous production
3. effective utilization of machines
4. mass production

115. The economic order, quantity is the

1. highest level of inventory
2. lot corresponding to break even point
3. capability of the plant
4. optimum lot size