

EXAMINATION FOR INTERMEDIATE APPRENTICE MECHANIC/MECHANICAL
(GP Rs.4200) IN PAY BAND Rs. 9300-34800

Date : 31/01/2016

Duration : 3 Hours

Total Marks – 100

Instruction :

- 1) In case there is a conflict between Tamil, Hindi and English version, English version will prevail.
- 2) The answers to the Objective Type to be marked in the OMR sheet.
- 3) No negative marks.
- 4) The answers to the Subjective Questions should be in any one of the three languages notified.
- 5) The Objective Questions are given in PART – A and Subjective Questions in PART – B and PART -C.

PART – A

(20 x 2 ½ = 50 Marks)

(All questions carry equal marks)

1) Heat treatment is for

(i) Ductility (ii) Relieving internal stresses (iii) Refines grain size (iv) Increasing the hardness or tensile strength (v) Changing the chemical composition of metal surface.

(a) (i), (ii) and (iii) are correct

(b) (i), (ii), (iii), (iv) and (v) are correct

(c) (i), (ii) and (v) are correct

(d) (i), (ii) and (iv) are correct

2) One of the following Welding practice is not used at ICF:

(a) Submerged Arc (b) Metal Arc (c) Atomic Hydrogen (d) Gas Metal Arc

3) Before painting, Short Blasting is done

(a) On Corten Steel Body Coaches (b) Stainless Steel Body Coaches (c) In both Stainless and Corten Steel Body Coaches (d) None of these

4) Springs are made with

(a) Peeled Bars (b) Turned Bars (c) Milled Bars

(d) None of these

5) One of the following is not made of Sheet Metal

(a) Side Wall (b) Roof (c) End Wall (d) Wheel

- 6) Identify the machine which is used for Sheet Metal working
(a) 1000Ton Press (b) Wheel Press (c) Both of the above
(d) None of these
- 7) The Occupiers of Shell Division and Furnishing Divisions are
(a) CWE/Shell & CWE/Fur (b) Dy.CME/Shell & Dy.CME/F-I (c) CDE & CPM
(d) None of these
- 8) The Special Incentive System at ICF permits earning of Incentive up to
(a) 50% (b) 60% (c) 80% (d) None of these
- 9) PCO Organization issues
(a) Work Order (b) Purchase Order (c) Both Work Order & Purchase Order
(d) None of these
- 10) Conventional ICF Coaches are coupled with
(a) CBC (b) Screw Coupler (c) CBC or Screw Coupler (d) None of these
- 11) The setting of Brake Pipe and Feed pipe pressure in a Conventional Coach are
(a) Both are set at 5 Kg per sq.cm (b) Both are set at 6 Kg per sq.cm (c) Brake pipe pressure at 5 Kg per sq.cm and feed pipe pressure is set at 6 Kg per sq.cm (d) Brake pipe is set at 6 Kg per sq.cm and Feed pipe pressure is set at 5 Kg per sq.cm
- 12) The strength of Sub-Assembly depends on
(a) Type of material (b) Shape of material (c) Both Type and Shape of material
(d) None of these
- 13) The ICF Quality Policy is for
(a) Continuous improvement (b) Continual improvement (c) No improvement
(d) None of these
- 14) The Wheel turning machines are positioned at
(a) Furnishing Division (b) LHB Shed (c) Both Furnishing and LHB Shed
(d) None of these

- 15) Heat Treatment is done on Metals & Alloys in
(a) Solid state (b) Liquid state (c) Gaseous state (d) None of these
- 16) Identify the Item not assembled in a Trestle
(a) Coach Body (b) Under frame (c) Roof (d) Bogie
- 17) The Horse Power of the IGBT DPC is
(a) 1400HP (b) 1600HP (c) 1000HP (d) 700HP
- 18) The Brake Systems used in LHB Coach is
(a) Disc & Tread Brake (b) Tread Brake (c) Disc Brake (d) None of these
- 19) In the Quality System, IMS stands for
(a) Immediate Management System (b) Integral Management System (c) Incentive Management System (d) None of these
- 20) ICF has made Metro Coaches for
(a) Chennai Metro (b) Kolkatta Metro (c) Delhi Metro (d) None of these

PART – B

Answer any seven Questions

(7 x 5 = 35 Marks)

Each Question carries five marks

- 1) Write short note on the following:
(i) Roof manufacture
(ii) MIG Welding
- 2) State the IMS Policy of ICF.
- 3) Describe briefly the statements to be submitted under Factories Act in case of an accident.
- 4) List 5 material handling equipments and the type of materials handled at ICF.
- 5) Explain briefly with a sketch the Layout of Wheel Shop (or) Bogie Assembly Shop
- 6) Describe the working of Laser Cutting and Welding Machine.
- 7) The Brake System determines the maximum permissible speed. Explain why?
- 8) Explain in detail any one function of the PCO Organization.

- 9) Draw a sketch and briefly explain Body Jig (or) Under frame Jig
- 10) Explain the maintenance practice adopted for Traversers and Cranes
- 11) Explain briefly two sub-assemblies made of Sheet Metal.
- 12) Explain the various stages of Furnishing work done in Non-Air-conditioned LHB Coach (or) Diesel Power Car.

PART – C

(1 x 15 = 15 Marks)

Answer any one Question.

Each question carry 15 marks

- 1) Explain in detail the following:
 - (a) The types of LHB Coaches manufactured at ICF
 - (b) The role of ERP System
 - (c) The various Welfare measures taken by ICF
- 2) What is OLIC and its role ? Elucidate various Incentives given for promoting Official Language.
- 3) Draw the Layout of LHB Shop and explain various activities
(or)
Explain (with sketch if necessary) how skin tensioning of sidewalls of LHB Coach and Conventional Coach are done ?
(or)
The various composites used in the Coach Furnishing.
