THE OPEN UNIVERSITY OF SRI LANKA
FACULTY OF ENGINEERING TECHNOLOGY
DIPLOMA IN TECHNOLOGY – LEVEL 3
FINAL EXAMINATION 2007/2008
MEX3233 -WORHSHOP TECHNOLOGY

DATE : 23rd MAY 2008.
TIME : 1445-1700HRS.
DURATION : TWO HOURS AND FIFTEEN MINUTES.

PART B

01) a) Name the two basic types of cast iron.

b) What is grey cast iron?

c) What is the advantage of using grey cast iron for heavy structural member of a machine?

02) a) Explain how "tensile test" is carried out.

b) Draw a typical load elongation curve for a ductile material and mark the important points on the curve

c) What are the properties, which could be determined from the tensile test?

03) a) What are the different processes available for manufacturing of steel?

b) Explain the process of steel making in an electric arc furnace with the help of a sketch.

c) What is the purpose of refining molten metal?

04) a) What is a "Phase Diagram"?

b) Sketch a simplified form of Iron-Carbon equilibrium diagram and mark the important points and areas.

c) What is the difference between eutectic and eutectoid points? Mark them on the diagram.

05) a) Explain briefly the following mechanical properties of Engineering Materials

(i). Malleability

(ii). Ductility

(iii). Plasticity

b) What is structural steel?

c) Name the fabrication processes used to process structural steel and explain them briefly.

06) a) Explain the Submerged Arc Welding process.

b) What are the advantages of Submerged Arc welding?

c) Name the destructive test methods carried out on weld for checking the quality of weld.

07) a) What are the special casting techniques.

b) List out the advantages of special casting techniques over sand casting.

c) Name the materials used for permanent moulds.

08) a) Explain what is gas cutting.

b) What are the differences between the oxy acetylene-cutting torch and oxy acetylene-welding torch?

c) What is flame machining?

09) a) What are the materials used for cutting tools?.

b) Draw a sketch of a lathe tool and identify the major cutting tool angles.

c) What factors are taken in to account in deciding the value of cutting tool angles.