Registration No. : | | | | | | | | | | |

Total number of printed pages – 2

B. Tech

PCMT 4402

Seventh Semester Back Examination – 2014

STEEL MAKING

BRANCH : MME

QUESTION CODE : L 203

Full Marks – 70

Time : 3 Hours

*Answer Question No. **1** which is compulsory and any **five** from the rest.*
The figures in the right-hand margin indicate marks.

1. Answer the following questions : 2×10

   (a) Differentiate between carbon boil and lime boil.

   (b) What is blue brittleness in steel ?

   (c) How does FeO content in slag affect Dp ?

   (d) What is Catch carbon technique ?

   (e) Write down two advantages of continuous casting.

   (f) What do you mean by foaming of slag ?

   (g) What do you mean by autogenous Steel making process ?

   (h) What is duplexing ?

   (i) What do you mean by killed, semi killed and rimming steels ?

   (j) Differentiate between pig iron and cast iron.

2. (a) Describe the design of lance in LD process. 5

   (b) What are the raw materials for steel making in LD process ? 5

3. (a) Explain different slag types and their role in EAF. 5

   (b) Mention the causes for which the Open hearth process is obsolete. 5

P.T.O.

4. What are the points to be considered to choose the best deoxidizer ? Describe the mechanism of deoxidation and its practice. 10

5. (a) Describe the principle of vacuum degassing. Compare and contrast R-H process and D-H process. 5

   (b) Describe the construction and metallurgy of OBM process. 5

6. (a) What is continuous casting of steel ? Mention the special features of curved mould (S-type) continuous casting. 5

   (b) Describe LDAC process of steelmaking with suitable sketch. 5

7. (a) Compare and contrast the favourable conditions for S and P removal. 5

   (b) Describe the carbon reaction in detail and its importance in steel making. 5

8. Write short notes on any **two** of the following : 5×2

   (a) SEN

   (b) Multi hole nozzle lance

   (c) Molecular theory of slag

   (d) Non-metallic inclusions.