Con. 8934-13. **GX-12140**

(3 Hours) **[Total Marks : 80**

N.B. : (1) Question No. **1** is **compulsory**.
(2) Attempt any **three** questions out of remaining **five** questions.
(3) **Figures** to **right** indicate **full** marks.
(4) Assume suitable **data** if **necessary**.

Q.1. Write short note on any **four** of following: - **(20)**

(a) Pattern allowances.

(b) Thermit welding process

(c) Blow moulding process.

(d) Rolling defects.

(e) Important properties of moulding sand.

Q.2. (a) Explain the process of production of seamless tubes by rolling process. **(6)**

(b) What is weldabiltiy? Discuss various welding defects with their remedies. **(8)**

(c) With a neat sketch explain the principle of electro slag welding process. **(6)**

Q.3. (a) Name various methods of powder manufacture techniques in powder metallurgy and explain any one in detail. **(8)**

(b) Compare TIG and MIG welding process. **(8)**

(c) Write short note on application of plastics in industries. **(4)**

Q.4. (a) what is NDT.Explain any two NDT methods in detail. **(8)**

(a) With a neat sketch explain the working principle of plastic injection moulding process. **(6)**

(c) List important applications of powder metallurgy technique. **(6)**

Q.5. (a) with neat sketches explain briefly on "friction welding". **(6)**

(b) A casting of 50cm × 40cm × 10 cm size solidifies in 20 minutes. Find the solidification time for 40 cm × 30 cm× 5 cm casing under similar conditions. **(8)**

(c) Differentiate between "soldering" and "brazing" operation. **(6)**

Q.6. (a) With the help of a neat sketch explain the complete gating system in casting process. **(8)**

(b) Define the terms "Spread", "Elongation", and "Draft" w.r.t. Rolling process. **(6)**

(c) Explain vacuum forming process of polymers. **(6)**
