

- Instructions :** (1) All questions are compulsory.
(2) Illustrate your answers with neat sketches wherever necessary.
(3) Figures to the right indicate full marks.
(4) Assume suitable data, if necessary.
(5) Preferably, write the answers in sequential order.

1. Attempt any **NINE** of the following : [18]
- Give various zones of reactions in blast furnace with their temperature range.
 - What are the products of blast furnace?
 - Define Heat treatment.
 - Why gold does not get corroded in air?
 - List any two advantages of gaseous fuels over solid fuels.
 - Define viscosity index and cloud point.
 - Why gold does not get corroded in air?
 - Explain the function of coke in extraction of Iron from its ore.
 - State different types of film formed during corrosion and which type of oxide film is more protective against corrosion?
 - Name two ores of Iron with its molecular formulae.
 - Define fuels. How are they classified?
 - Give composition of L.P.G.
2. Attempt any **FOUR** of the following : [16]
- Write the effect alloying elements carbon and chromium on properties of steel.
 - Differentiate between annealing normalizing.
 - List any four characteristics of a good fuel.
 - State composition properties and applications of C.N.G.
 - Give chemical reactions taking place in zone of reduction of blast furnace.
 - Explain fluid film lubrication with diagram.
3. Attempt any **FOUR** of the following : [16]
- Explain stepwise mechanism of electrochemical corrosion by evolution of hydrogen gas.
 - State four functions of lubricant in mechanical industry.
 - Select the lubricants for following mechanical jobs:
 - Internal combustion engines
 - Sewing machines
 - Rail axel boxes
 - Cutting tools.
 - Give composition properties and applications of Biogas.
 - Distinguish between galvanizing and tinning.
 - Name and explain the method used to protect small and uneven articles from corrosion.

Paper Discussion Schedule for all Subject: FY Diploma Sem-II

| Date | Day | Timing | Centre |
|--------------|--------|-------------------|-----------|
| 9 April 2017 | Sunday | 9 a.m. to 11 a.m. | Dadar |
| 9 April 2017 | Sunday | 12 p.m. to 2 p.m. | Thane |
| 9 April 2017 | Sunday | 9 a.m. to 11 a.m. | Ghatkopar |
| 9 April 2017 | Sunday | 12 p.m. to 2 p.m. | Borivali |
| 9 April 2017 | Sunday | 12 p.m. to 2 p.m. | Nerul |
| 9 April 2017 | Sunday | 3 pm to 5 pm | Kalyan |