

(3 Hours)

Total Marks: 80

N.B.

1. Question No. 1 is Compulsory.
2. Attempt any **Three** Questions from remaining **Five** Questions
3. Assume Suitable Data if needed and Justify the Same
4. Figures to the right indicate full marks.

Que.1

- a) Definition of Industrial Hygiene and Explain Phases of industrial hygiene [05]
- b) Explain Flammability characteristics of liquids and gases [05]
- c) Explain Different types of portable fire extinguishers [05]
- d) Enlist Safety precautions for working on pipelines [05]

Que.2

- a) Explain in detail History and development of safety movement and Safety programs [10]
- b) Explain Industrial Hygiene: Control Methods [10]

Que.3

- a) Explain Classification of fires [10]
- b) Explain in detail Fire and Explosion prevention methods [10]

Que.4

- a) Explain Chemical Reactivity and Safety In Plant Operation [10]
- b) Explain Root Cause Analysis (RCA) and Event tree analysis [10]

Que.5

- a) Explain Mechanism of Steam explosion [10]
 - b) Explain Safe procedures for plant start-up and shut-down [10]
- Write short note on [20]

Que.6

- a) BLEVE
- b) Fukushima Daiichi Disaster
- c) Fire hydrant system
- d) Job safety Analysis (JSA)
