

**B. E. PRINTING ENGINEERING THIRD YEAR SECOND SEMESTER (OLD), 2017**

**FLEXO AND GRAVURE**

Time : Three hours

Full Marks : 100

Answer any *FIVE* questions.

- 1.a) What are the major components of a flexographic press? Describe briefly. 8  
b) Which factors go in favour of flexography with respect to other printing processes? Explain briefly. 6  
c) Which types of products are printed primarily with flexography? 3  
d) How does flexography differ from letterpress? 3
- 2.a) Draw a neat diagram showing the physical parts of a flexographic printing plate and explain each term. 6  
b) How a liquid polymer plate is prepared in flexography? 6  
c) Mention the drawbacks of rubber plates over photopolymer plates. 3  
d) Explain outfeed unit of a flexographic press. 5
- 3.a) Explain the difference between 3-roller and 2-roller inking system in flexography. 8  
b) Mention different types of press configurations exploited in flexographic printing. Describe their salient features with appropriate diagrams. 12
- 4.a) Why does gravure give high quality output and long press run? 5  
b) Compare between sleeve cylinder and shaft cylinder in gravure printing. 6  
c) How the surface treatment is done on film surface in gravure printing? 3  
d) Why the gravure cylinders are coated with chromium? 2  
e) How the corrections are made on a gravure cylinder? 4

*[Turn over*

5. How the gravure cylinders are prepared by using diffusion etch process and electromechanical process? Describe each process in the light of their merits and demerits and also draw the diagrams of different opening and depth of cells. 20

6.a) What are the main wears caused by the wiping action of doctor's blade on a gravure cylinder? Discuss about their probable causes. 2+6=8

b) What purposes does a gravure impression roller actually serve? 3

c) How does a drying system function in a gravure unit? 6

d) Which characteristics should gravure inks have? 3

7. Write short notes on any *four*: 5x4 =20

a) Pigment settlement and cylinder wear in gravure.

b) Streaking and drying in gravure.

c) Bleeding and pinholes in gravure.

d) Mottle and blocking in flexography.

e) Feathering and halos in flexography.