

**B.PRINTING ENGINEERING EXAMINATIONS 2019**  
**(THIRD YEAR 1<sup>ST</sup> SEMESTER)**  
***Offset Printing Machines***

Time: Three hours

Full Marks: 100

Answer any One question from Group-A,  
any two questions from Group-B and any two questions from Group-C

**Group-A**

1. a) What are the limitations of friction feeder?
- b) What are the functions of pressure foot?
- c) What are the limitations of push type side lays?
- d) Non-Contact bearer presses are more suitable for short run multicolor printing. Why?
- e) The bearer rings of the impression cylinder do not come in contact with the bearer rings of the blanket cylinder. Why?
- f) What is the function of the grooves placed on the printing cylinders just inside the bearer rings but outside the printing area in the circumferential direction?
- g) Alkaline dampening solution is not usually used in Sheet Fed Offset Press. Why?
- h) Gum Arabic is not used as desensitizing agent in alkaline dampening solution. Why?

3+3+3+3+2+2+2+2=20

2. (a) What happens, during printing of multicolor using sheet fed offset press, if the substrate to be printed is the coated paper consisting of partially hardened Casein?
- (b) What are the merits and drawbacks of the alcohol dampening systems?
- (c) Why does the ink, having its lower surface tension, not displace the water film in the non-image areas of the plate during inking by ink form rollers?
- (d) What happens to the droplets of water in the image areas during inking by ink form rollers?
- (e) Why does the ink not form a film across the top of the non-image areas fountain layer during inking?

3+3+4+5+5=20

**Group-B**

3. a) What are the merits and demerits of the contact bearer press over the non-contact bearer press?
- b) Describe in brief the plate and blanket fixing mechanisms in sheetfed Offset Press.

- c) What is the depth of cut?  $6+12+2=20$
4. Describe in brief about the different types of sheet control systems used in the delivery of the sheetfed offset press. 20
5. a) Compare between single sheet feeder and streamline sheet feeder,  
b) Describe how feeding of double sheets is restricted in streamline sheet feeder.  
c) Illustrate the pull type side lays.  $5+5+10=20$

**Group-C**

6. a) Illustrate how the sheet is transferred between multi-station of a multi-colour sheetfed offset press without disturbing registration.  
b) Illustrate the different types of intermediate sheet transport devices used in sheetfed offset press.  $10+10=20$
7. a) What are the basic features of an inking system used in sheetfed offset press.  
b) Describe how the supply of ink is controlled in sheetfed offset press.  
c) Illustrate the multi-roller type ink pyramid used in sheetfed offset press.  $5+7+8=20$
8. Illustrate the different types of insertion systems used in sheetfed offset press. 20