

B.E. (Full Time) DEGREE END SEMESTER EXAMINATIONS, Apr/May 2014

PRINTING TECHNOLOGY BRANCH

V SEMESTER - (REGULATIONS: 2004/2008)

*PT 381* / PT 9305 Web Offset Technology

Time 3 Hrs.

Max.Marks:100

Answer All Questions

**Part A**

**10x2=20 Marks**

1. What is fan out? How it can be controlled?
2. What are the different types of dryers used in a web offset press?
3. Define printing couple and printing unit of a web fed press.
4. What is meant by bay windows?
5. What is the need for having a chiller in heat set press?
6. Enumerate the various components of a reel stand and their types.
7. What is the function of RTF?
8. A plate having a circumferential measurement of 570mm. has an angular deviation of 0.09°. What would be the error in colour registration?
9. What type of gear is advisable to drive the cylinders of a printing unit? Why?
10. Draw a fail-safe plate locking up mechanism.

**Part B**

**5x16=80 Marks**

11. I. Explain the working principle of a fountain solution recirculating unit.  
II. Illustrate the relationship between each one of the parameters to be controlled in fountain solution.
12. a. Explain the working principle of combination folder in a web offset press?  
Or  
b. Explain in detail about electronic shaftless drive? State its advantages over conventional drive system.
13. a. I. A web material is 1750mm wide and the unit web tension is 20kg/m. There are 6 movable festoon rollers with a total weight of 300kg. If the stroke of the above system is 2m., what is the total length of web stored in the festoon? If the press is running at a speed of 300 m/min. how much time is there for a successful splicing to take place?  
II. How much pressure should be developed inside the cylinder of a counter pressure system to have a tension of 20kg/m in the above festoon rollers? The diameter of the cylinder is 100mm. Explain with a diagram.  
Or  
b. I. Explain the features of speed match splicer and its working principle with a neat diagram.  
II. Explain the features of zero speed splicer and its working principle with a neat diagram.
14. a. Explain the method of packing the cylinders with True rolling principle for bearer and bearerless presses. Explain the merits.  
Or  
b. Explain the method of packing the cylinders with Equal diameter principle for bearer and bearerless presses. Explain the merits.

15.a.I. With a neat diagram explain how lateral and circumferential registration could be done in web offset printing.

II. Cyan image has to move by 6mm. both circumferentially and laterally. The helix angle of the gear is  $30^{\circ}$ . Lead per pitch is 0.3mm. How many times the wheel connected externally should be turned?

Or

b.I. Explain the working principle of automatic register control system.

II. Cyan image has to move by 8mm. both circumferentially and laterally. The helix angle of the gear is  $35^{\circ}$ . Lead per pitch is 0.5mm. How many times the wheel connected externally should be turned?