

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/
COMMERCIAL PRACTICE- APRIL - 2018.

FABRIC FORMATION-III

(Maximum Marks : 100)

Time : 3 Hrs

PART-A
(Maximum marks: 10)

Marks

I. Answer all questions in one or two sentences. Each question carries 2 marks.

1. State the use of Multiple Box motion looms.
2. State the features of shuttle less looms.
3. List the various methods of weft insertion in rapier looms.
4. List the classification of jet looms.
5. Write the formula to determine efficiency of power loom. (5X2=10)

PART - B

(Maximum Marks : 30)

II Answer any five of the following questions . Each question carries 6 marks.

1. State the essential features of automatic loom.
2. Arrange the pattern cards for the following colour scheme.
Blue - 2 picks
White - 2 picks
Red - 4 picks
Yellow - 2 picks
Total - 10 picks
3. Compare conventional method of weaving and shuttle less weaving.
4. Mention the difference between Airjet and Waterjet looms.
5. Discuss the function of weft insertion element in airjet loom.
6. Describe the advantages of Projectile weaving.
7. Calculate the production per hour of a loom running at a speed of 190 rpm with an efficiency of 80%. The number of picks inserted per inch in the cloth is 75. [5x6 =30]

PART - C

(Maximum marks : 60)

(Answer one full question from each unit. Each full question carries 15 marks)

UNIT I

- III (a) State the objectives of terry motion. [3]
- (b) Explain the working of Eccle's drop box motion with the help of a neat sketch. [12]

OR

- IV (a) State the function of weft feeler mechanism in automatic loom. [3]
- (b) Discuss the pick-at-will loom with the aid of a neat sketch. [12]

UNIT- II

- V (a) State the features of rapier shuttleless weaving. [3]
- (b) Explain the various types of selvages formed in shuttleless weaving. [12]

OR

- VI (a) State the object of cam beat-up mechanism. [3]
- (b) Explain the working of Torsion bar picking mechanism. [12]

UNIT- III

- VII (a) List the merits and demerits of water jet looms. [5]
- (b) Illustrate the passage of warp yarn on a Maxbo airjet loom. [10]

OR

- VIII (a) Name the components of picking system in water jet picking. [3]
- (b) Illustrate four stages of weft insertion of water jet looms. [12]

UNIT – IV

- IX (a) Calculate the length of the cloth produced in yards of 8 hour on a loom which makes 220 picks/min. The picks/inch in the cloth are 85 and the loom has an efficiency of 80%. [5]

- (b) Calculate the time required to complete a weaver's beam having 1500 yards of warp on it. The woven cloth is required to have 60 picks/inch. The uptake of the warp in weaving is 6% and the waste may be taken as 5 yards. The loom is running at 220 rpm and the efficiency is 80%. [10]

OR

- X (a) The production per hour of a shuttle less loom is 15 yards. Calculate the length of warp that would be required per hour, if the waste and take up of the warp in weaving is 8%. [5]
- (b) There are 500 looms in a weaving shed producing 18000 yds of cloth per day of 8 hours. If 200 is the average r.p.m of the looms and 56 is the average picks of the different short of cloth produced, calculate the efficiency. [10]
