THE TEXTILE ASSOCIATION (INDIA)
G.M.T.A. (REVISED) EXAMINATION – 2013
SECTION-B  PAPER-II (B-2)
FABRIC MANUFACTURE

Date: 24.12.2013  Marks: 100  Time: 2 to 5 pm

Instructions:
1. Attempt six questions out of which Q.1 is compulsory
2. Answer each next main question on new page
3. Figure to the right indicate full marks
4. Illustrate your answer with sketches and flow chart wherever necessary
5. Use of non programmable electronic pocket calculator permissible.
6. Mobile and any other communication devices are not allowed in exam hall.
7. Assume suitable data wherever necessary.

Q.1. a. Choose the correct answer and give reason.
   i. Dwell required for picking for 2 up/1 down weave
      a) 60°  b) 180°  c) 40°  d) 80°
   ii. The loom having crank radius r = 2.5 cm and length of connecting arm l = 8 cm then eccentricity ratio
        a) 0.51  b) 1  c) 0.31  d) 0.25
   iii. If the fabric having 40 ends/inch and 4 ends/dent. The reed count required to weave same fabric is
        a) 10  b) 20  c) 30  d) 40
   iv. The sectional warping machine having creel capacity of 600 packages. If fabric need to prepare
        having 52 ends/inch and 45 inch in width. The number of section required to prepare on sectional
        warping to prepare weaver’s beam are
        a) 6  b) 2  c) 10  d) 4

b. Draw the timing diagram for plain power loom.

c. Draw and give the function
   i. Shuttle ii. Needle iii. Size box

Q.2. a. Give the point of difference between over pick and under pick motion. Explain any one in detail.

b. Compare woven fabric with knitted fabric

Q.3. a. Give the objectives of winding and explain the winding process in detail with neat sketch.

b. Give the factors affecting shed geometry.

Q.4. a. Explain the knitting cycle with neat sketch.

b. Give construction of following parts.

Q.5. a. Find out Total production of loom shed in meters/day from given data.

PTO
i. Type of fabric: P/C 67/33.
ii. Type of weave: 2 up/1 down twill
iii. Fabric specification: 54 x 48.
iv. Fabric width: 45 inch.
v. Loom speed: 180 rpm
vi. Number of loom: 40

Also find out speed of bottom shaft and tappet shaft. (Assume suitable data if required)

b. Answer what will happen, if ...
   i. Picking tappet is made of one piece....
   ii. Back rest move in upward direction ....
   iii. Winding drum speed keep constant........
   iv. Size concentration is more........

Q.6. a. What are the basic requirements of weaver’s beam? Explain warping process with neat sketch. (08)
   b. Explain the prin built on prin winding. What are precaution required to winding filament on prin? (08)

Q.7. a. What are the objectives of sizing? Explain sizing process in detail. (10)
   b. Give the classification of loom. Give point of difference between shuttle and shutless loom. (06)

Q.8 Write Short notes. (Any two)
   i. Beat up mechanism.
   ii. Non woven process.
   iii. Let off mechanism
   iv. Take up mechanism.

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