Name : ....

Roll No. : ....

Invigilator's Signature : ....

CS/B.Tech (APM)/SEM-5/APM-503/2010-11
2010-11
APPAREL PRODUCTION CONTROL

Time Allotted : 3 Hours   *Full Marks :* 70

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

GROUP – A
(Multiple Choice Type Questions)

1.   Choose the correct alternatives for the following : $10 \times 1 = 10$

   i)   Manufacturing process in a fashion boutique is an example of

   a)   assembly line manufacturing

   b)   make through process

   c)   quick response system

   d)   progressive bundling method.

   ii)   SMV stands for

   a)   Standard Marginal Value

   b)   Standard Mean Variance

   c)   Standard Minute Value

   d)   None of these.

iii) Basic time =

    a) Observed time + standard time

    b) Observed time + break time

    c) Observed time + total allowance

    d) Allotted time – stoppage time.

iv) The parameters required to find labour cost of a process are

    a) SAM and total overhead cost

    b) SAM & hourly wage rate

    c) Labour efficiency and hourly wage rate

    d) Productivity and material cost.

v) AON & AOA represent

    a) network model for production planning

    b) work measurement technique

    c) productivity measurement technique

    d) none of these.

vi) Flow process chart is a useful tool for

    a) production calculation

    b) work study in sewing department

    c) production planning

    d) lay lot planning.

vii) WIP stands for

    a) Work Indexing Process

    b) Work Insertion Process

    c) Work In Process

    d) None of these.

viii) DNLS stands for

    a)   Double Needle Long Stitch

    b)   Double Needle Loose Stitch

    c)   Double Needle Lateral Stitch

    d)   Double Needle Lock Stitch.

ix) Determination and allocation of manpower is a part of

    a)   line balancing process

    b)   work measurement process

    c)   production planning process

    d)   both (a) & (c).

x) Cherry picking algorithm is useful for

    a)   cut planning   b)   marker planning

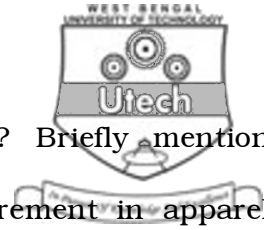   c)   production planning   d)   plant layout planning.

GROUP – B

(Short Answer Type Questions)

Answer any *three* of the following.   3 × 5 = 15

2.   Write short notes on :

    a)   Bundling & ticketing system in the context of apparel manufacturing process.

    b)   Order concentration. $2\frac{1}{2} + 2\frac{1}{2}$

3.   Explain in brief, the different steps involved in Apparel Product Development with a suitable flow-chart.   5

4. What do you mean by 'Productivity' ? Briefly mention different methods of productivity measurement in apparel industry. 5

5. Mention the check list for avoiding errors in cutting section, with brief explanation. 5

6. What do you mean by line balancing ? Briefly explain different parameters of line balancing in apparel industry. 5

7. Let the observed time for four elements of job *i.e., P, Q, R & S* are 1·2, 3, 2 and 1·5 respectively. Calculate SAM & Labour Cost for that job if the grade percentage of the operators are 70% and the total allowance is 20% of the basic time. 5

GROUP – C
(Long Answer Type Questions)
Answer any *three* of the following. 3 × 15 = 45

8. Write short notes on

   a) Timetable concept for PPC & PDM

   b) Development of apparel production flow-chart

   c) Calender of clothing industry. 5 + 5 + 5

9. Mention different manufacturing processes generally adopted in apparel industry. Explain the characteristics, advantages and disadvantages of each of those processes.   15

10. Mention commonly occurred problems in Sewing, Pressing and Patternmaking departments. Suggest suitable remedies for those problems.   5 + 5 + 5

11. a) In a Shirt Manufacturing Factory M/s Men's Paradise, the data on the output and various inputs are as mentioned below :

    Total number of machines per shift : 105

    Total number of operators per shift : 100

    Total number of helpers per shift : 20

    Total number of checkers per shift : 19

    Total number of supervisors per shift : 3

    Duration of work per shift : 450 minutes

    Product Sewn : Men's full sleeve formal shirt

    SAM of the shirt (sewing) : 16·59 minutes

    Average output per shift : 2000 shirts

    Calculate the followings :

    i)   Operator productivity (sewing)

    ii) Machine productivity (sewing)

    iii) Productive efficiency of operators (sewing)

    iv) Total labour productivity (sewing)   8

b) In a knitted T-shirt manufacturing company Zenith Apparels, the details of Order number MHS-012/10 is given below :

Date of order confirmation : 15th December, 2010

Date of delivery : 16th January, 2011

Style No. : Zen/MH/038

Colour No. : Zen-17

Total Number of Pcs. ordered : 3000

The details of production planning estimation are as under :

Days required for

Fabric sourcing : 7 days

Fabric inspection : 5 days

Cutting : 10 days

Sewing : 20 days

Washing & Finishing : 15 days

Ironing : 7 days

Final inspection : 5 days

Packing : 7 days

Prepare a suitable Gantt chart to make a planning sheet for the order mentioned above. 7

12. What do you mean by production planning & control ? Mention its objectives. Illustrate different tools useful for PPC with suitable examples. 2 + 3 + 10

13. a) Mention the logic & principles of line balancing in apparel industry.

   b) Explain the logic of lay lot planning to optimize cutting cost with suitable example.

   c) Illustrate some control formats used for bundling, ticketing and cutting room.

   d) Briefly mention the principles of time & cost control in Garment Industry. 3 + 3 + 6 + 3

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