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| **C:\Users\ADMIN\Desktop\j.png** | **JAIPURIA INSTITUE OF MANAGEMENT, INDORE**  Post Graduate Diploma in Management |
| **Course Title: Operations Management (Course Code: 40502)**  **End-Term Examination, Term – II (January, 2024)** | |
| **Time Duration : 2 Hours Total Marks: 40** | |

***General Instructions*:** *Students are allowed two text books of choice or one text book and her/his class work copy in the examination hall. Students can make necessary assumptions.*

**Malwa Fashion House**

Malwa Fashion House (MFH) is a boutique in Indore. The boutique was established in year 1963 and is currently being operated by third generation entrepreneur Ms. Nikita Agrawal. Ms. Nikita graduated in management from a top business school of India and joined this family business in the year 2020.

Malwa Fashion House makes formal and designer garments both for men and women but they have expertise is female garments. Their garments are used by customers on multiple occasions like office formals, marriages, festivals etc. In the recent past, they also started supply of tailor made garments to corporates like schools and colleges for annual function, social organizations for their events and even government agencies for functions like youth meet, sports event inauguration or closing ceremony etc. The salary cost for the fashion house for their employees and artisans is @ Rs. 150/- per hour.

Malwa fashion house primarily manufactures a daily office use formal outfits primarily for women. these products are in heavy demand and at times, Malwa Fashion House is unable to meet the orders. The manufacturing process for these outfits involves multiple steps like designing an outfit, cutting of different cloth into desired pieces, stitching of cut pieces, Finishing the outfits, ironing and packing outfits.

Currently for the formal outfits for women, Malwa fashion house has employed twenty persons per shift (eight hours) for cutting, fifty persons per shift for stitching and twenty persons per shift for finishing and ten persons for ironing and packing. Each person in cutting area can cut 32 outfits per shift, a tailor is able to stitch 8 outfits in each shift, and each employee in finishing area can carry out finishing on 16 outfits per shift. The ironing and packing of outfits takes 15 minutes per piece. Each formal outfit generates a net profit of Rs. 1000/-.

Malwa Fashion House also manufactures designer outfits for events. They just received an invitation to participate in tender bid to supply 100 Nos. of costumes from an NGO for the inaugural function of “Malwa Mega Youth Festival” Ms. Nikita prepared a design and submitted it to the organizers who approved it. The organizers of this event have approved a total of Four designs from different boutiques, and now these four suppliers are required to submit a sample piece and quotation in sealed envelopes for entire order. Ms. Nikita prepared two sample outfits for this event. The first outfit was produced in 12 hrs. whereas the second outfit needed 10.8 hrs. of preparation. These outfits require a combination of cotton and silk cloths. The raw material cost for first outfit was Rs. 1500/- whereas the second outfit required material worth of Rs. 1350/-. Ms. Nikita wish to generate a profit of 25 % on actual cost of each outfit.

The boutique has multiple departments like Store for Raw material, cutting section, stitching section, finishing section, ironing and packing section, finished goods store and reception section with product display. As the current layout was almost six decades old, Ms. Nikita purchases a new larger building for manufacture of the garments in the future. This new building is at the corner plot of an industrial area and has dimensions of 150 Meters by 200 Meters. Ms. Nikita is also in a process of designing this new facility and estimated the area need for each section as: Raw material store – 10,000 M2, cutting – 6,000 M2, stitching – 8,000 M2, finishing – 3,000 M2, ironing and packing – 1,000 M2, finished goods store – 1,000 M2 and reception & display – 1,000 M2. The process requirements insist that raw material and store must be near to each other. At the same time, cutting and stitching sections; and finished store and reception needs to be adjacent to each other. It is required that ironing section be far away from raw material store to avoid any probable accidents due to electric spark and fire.

Malwa fashion house purchases silk material and cotton material in bulk every three months. The requirement of cotton fabric materials is 50,000 meters per quarter and silk 20,000 meters per quarter. The dyeing, block printing, embroidery etc. is done in house at MFH. Their current supplier supplies cotton fabric at a flat rate of Rs. 400/- per meter and Silk fabric @ Rs 1200/- per meter. The fabrics go out of fashion very fast and Ms. Nikita estimated that the cost of material obsolesce or deterioration etc. is one fifth of the material cost per unit per year. The cost of placing an order is Rs. 2000 per order for any fabric. However, supplier has offered a 5 % discount on price if order quantity is more than 10,000 meters per order for cotton fabric and more than 5000 meters per order for silk fabric. A discount of 10 % is available if quantity per order for cotton is more than 20,000 meters and for silk is more than 10,000 meters per order.

Ms. Nikita is in dilemma on optimization of operations processes at her fashion house. Apply operations management concepts and generate meaningful management insights.