

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2024
(Second Semester)

Branch – COSTUME DESIGN & FASHION

KNIT DESIGN AND FABRIC MANUFACTURE

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(10 × 1 = 10)

| Module No. | Question No. | Question | K Level | CO |
|------------|--------------|--|---------|-----|
| 1 | 1 | In knitting, what does the term “gauge” refer to? a) The length of yarn used to create a loop b) The width of the fabric produced c) The number of needles per given measurement d) The distance between two adjacent loops | K1 | CO1 |
| | 2 | The _____ is the part of the stitch that is visible on the front side of the fabric, often creating a smooth appearance. a) Loop length b) Cut loop c) Face loop d) Back loop | K2 | CO1 |
| 2 | 3 | What is the primary element responsible for forming loops in single jersey circular weft knitting? a) Yarn feeding mechanism b) Cam system c) Needles d) Take-up mechanism | K1 | CO2 |
| | 4 | Which element of the circular knitting machine helps in forming intricate stitch patterns by controlling the movement of the needles? a) Sinker b) Cam c) Feeder d) Yarn carrier | K2 | CO3 |
| 3 | 5 | What could be the cause of “Yarn snags” in knitted fabric? a) Tension too tight b) Uneven tension c) Poor quality yarn d) Needle damage | K1 | CO3 |
| | 6 | In which knitting structure, the fabric is characterized by its ability to lay flat and resist curling at the edges? a) Single jersey b) Double jersey c) Rib knit d) Interlock knit | K2 | CO3 |
| 4 | 7 | What is an essential feature of warp knitting machines that allows for the simultaneous formation of multiple loops? a) Warp beam b) Guide bars c) Latch needles d) Warp tensioner | K1 | CO4 |
| | 8 | Raschel knitting machines are known for their ability to _____ a) Knit multiple colours simultaneously b) Form loops in both warp and weft directions c) Produce fine, intricate lace patterns d) Create heavyweight, textured fabrics | K2 | CO4 |
| 5 | 9 | Flat bed purl knitting produces a fabric with _____ a) Vertical columns of stitches b) Raised patterns and textures c) Smooth, V-shaped stitches d) Horizontal ridges on both sides | K1 | CO5 |
| | 10 | Racked rib structure in flat knitting results in a) A fabric with diagonal ribs b) Alternating rows of knit and purl stitches c) Twisted columns of stitches d) Loops arranged in a vertical column | K2 | CO5 |

Cont...

SECTION - B (35 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks

(5 × 7 = 35)

| Module No. | Question No. | Question | K Level | CO |
|------------|--------------|--|---------|-----|
| 1 | 11.a. | Apply your understanding of loop length and stitch density to explain how they affect the properties of knitted fabrics | K3 | CO1 |
| | | (OR) | | |
| | 11.b. | Develop a list with key differences between weft and warp knitting, providing examples of each type | | |
| 2 | 12.a. | Define the key elements of a knitting machine and describe how they contribute to the knitting process | K2 | CO2 |
| | | (OR) | | |
| | 12.b. | Explain the sequence of actions involved in the passage of yarn through a single jersey circular knitting machine | | |
| 3 | 13.a. | Apply your knowledge of weft knitting structure classification based on the appearance and characteristics of the fabric | K3 | CO3 |
| | | (OR) | | |
| | 13.b. | Utilize your understanding of weft knitting, describe the purl and interlock knit structure | | |
| 4 | 14.a. | Demonstrate the warp knitting elements | K4 | CO4 |
| | | (OR) | | |
| | 14.b. | Design and produce a fabric structure of raschel knit | | |
| 5 | 15.a. | Identify the quality control processes for flat weft knitted fabrics and explain in brief | K4 | CO5 |
| | | (OR) | | |
| | 15.b. | Develop a step-by-step guide for setting up a flat bed pearl knitting machine including adjusting needle positions, yarn tension and stitch patterns | | |

SECTION -C (30 Marks)

Answer ANY THREE questions

ALL questions carry EQUAL Marks

(3 × 10 = 30)

| Module No. | Question No. | Question | K Level | CO |
|------------|--------------|--|---------|-----|
| 1 | 16 | Critically analyze the advantages and disadvantages of knitting compared to weaving, considering factors such as fabric properties and production efficiency | K4 | CO1 |
| 2 | 17 | Compare and contrast the features and knitting actions of spring, latch and compound needles, considering factors such as loop formation and yarn handling | K4 | CO2 |
| 3 | 18 | Analyze the relationship between knit stitch types and fabric properties and discuss how variations in stitch type can affect the overall performance of knitted fabrics | K4 | CO3 |
| 4 | 19 | Evaluate the impact of warp knitting machine advancements on the design and production of seamless garments | K4 | CO4 |
| 5 | 20 | Analyze the structural characteristics of flat knitting basic structures, such as cardigan, racked rib and cable stitch | K4 | CO5 |