

# Government Polytechnic, Pune.

Term-Odd 2019

**MODEL ANSWER (180 OB)**

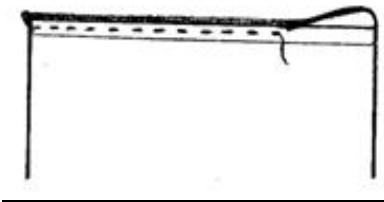
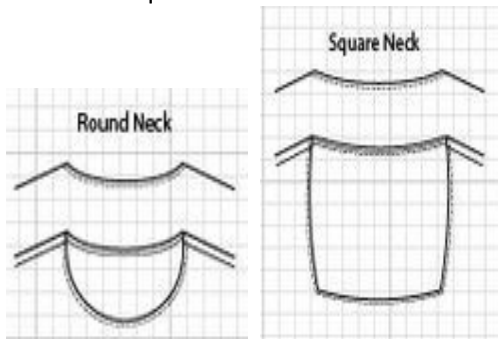
Course Name- Manufacturing Technology

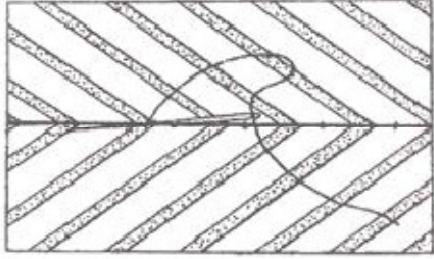
Course Code- DD1102

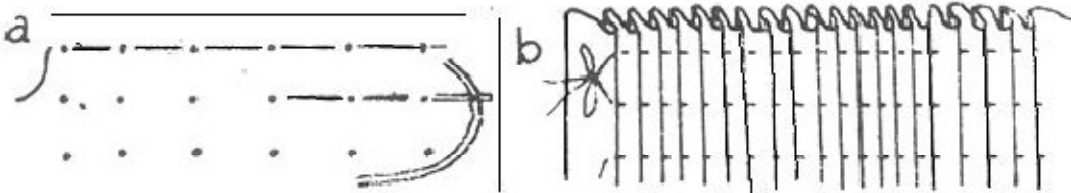

Marks- 80

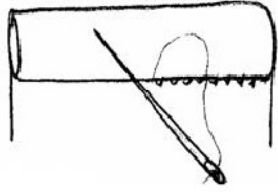
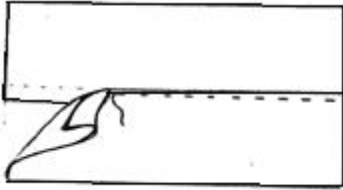
Time Allowed- 3 hrs

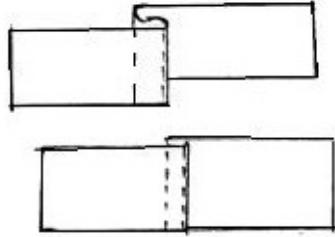
Que. No.	Model Answer	Marking Scheme
Que No-1	Attempt any ten (2 marks each)	20 marks
	<p>a. The basic parts of an Electric sewing machine are listed below:</p> <ul style="list-style-type: none"> <li>• Bed</li> <li>• Arm</li> <li>• Balance wheel</li> <li>• Spool pin</li> <li>• Thread guide</li> <li>• Tension disc</li> <li>• Take up lever</li> <li>• Needle bar</li> <li>• Bobbin case</li> <li>• Presser foot</li> <li>• Presser foot lifter</li> <li>• Stitch regulator</li> <li>• Bobbin winder</li> <li>• Clutch or Thumb screw</li> <li>• Slide Plate</li> <li>• Needle plate or Throat plate</li> <li>• Feed dog</li> <li>• Face plate</li> <li>• Spool pin for bobbin winding</li> </ul>	List of 4 parts- 2 marks
	<p>b. The Definition of Temporary stitches and their uses-</p> <p><u>Definition</u>- These stitches are removable and hold together garment pieces to be sewn before actual permanent stitches are made, so they are called as Temporary stitches. These temporary stitches are also termed as tacking or basting stitches.</p> <p><u>Uses of Temporary stitches</u>- They help in holding two or more layers of material together before the permanent stitches are made. Used as guide line for permanent stitches.</p>	Definition-1 Mark, 2 Uses-1 Mark
	<p>c. <u>Uses of flat felt seam</u>-</p> <ul style="list-style-type: none"> <li>· It is most durable seam</li> <li>· It is acceptable on sheer fabrics also as no raw edges are seen</li> <li>· No further seam finishes are required.</li> </ul>	2 Uses-2 Marks
	<p>d. Classification of seams according to usage-</p> <ul style="list-style-type: none"> <li>· <u>Inconspicuous seams</u>-</li> <li>· <u>Conspicuous seams</u>-</li> </ul>	2 Seams names- 2 Marks
	<p>e. The types of <u>Edge finishing techniques</u> are-</p> <ul style="list-style-type: none"> <li>· Using pinking scissor</li> <li>· Using Over lock stitch</li> <li>· Using lace or tape</li> <li>· Using bias bound</li> <li>· Using hem turn under technique</li> <li>· Using hemming</li> </ul>	4 techniques-2 Marks

	<p>f. <u>Definition of seam-</u> A seam is a method of joining two or more pieces of materials together by a row of stitches.</p>	Definition-2 Marks
	<p>g. <u>Bound seam-</u> This seam is formed by folding a separate binding strip over one or more plies of material and seaming the strip with one or more rows of stitches. They are frequently used as an edge finish at necklines, hems and sleeve plackets.</p>  <p style="text-align: center;"><b>Fig. Bound Seam</b></p>	Discription-1 Mark, diagram- 1 Mark
	<p>h. <u>The importance of Darts in garment-</u> Darts provides ease, fitting, shape and fullness to the garment. Also helps in enhancing look of the garment. The darts are especially used in women's wear.</p>	4 points- 2 Marks
	<p>i. <u>The purpose of lining fabric-</u> is to make your garment more wearable, long-lasting and comfortable. Here are some reasons why lining materials are used: To make the garment less see-through To add warmth and durability To make the inside part of the garment soft and pleasant to the touch To lend a luxury note to a garment To improve the structure of a garment To help the garment slide on easily To conceal seams, padding, interfacing, etc</p>	4 points-2 Marks
	<p>j. <u>Types of Interlining types-</u> with adhesive base and without adhesive base</p>	2 types of Interlining -2 Marks
	<p>k. <u>The use of Shoulder pads-</u> To support the shoulder, maintained shape, give strength, add warmth and durability to garment</p>	4 points-2 Marks
	<p>l. <u>The types of Plackets</u> are-</p> <ul style="list-style-type: none"> <li>· One Piece or continuous placket</li> <li>· Two piece Placket</li> <li>· Kurta placket</li> </ul>	2 Types-2Marks
	<p>m. Illustration of Round and Square Necklines-</p> 	Each illustration-1 Mark
	<p>n. Importance of openings in garment-</p> <ul style="list-style-type: none"> <li>· Openings made in the garment to put on or take off garment easily.</li> <li>· Openings give a garment proper fit.</li> <li>· Openings used in a garment for decorative purpose also.</li> </ul>	2 points-2 Marks
Que no-2	Attempt any three (4 marks each)	12Marks
	<p>a. Slip basting with neat sketch. <u>Slip basting-</u> This is the most often used Temporary stitch used while matching</p>	Discription-3 Marks, diagram

	<p>seams in checked and striped fabrics. This is also used to bast seam lines that have been fitted from the right side of the garment.</p> <p><u>Procedure-</u> Fold one seams edge under and pin it over the other seam edge along the stitching line. Bring the needle up very close to the folded edge through the three layers of fabric. As close to that point as possible go down through the single layer, and come up again <math>\frac{1}{4}</math> to <math>\frac{1}{2}</math> inch away through the three layers as before. Continue till the end. Stitches on wrong side will be slightly diagonal. Only very small stitches will appear on the right side.</p>  <p style="text-align: center;"><b>Fig. Slip basting</b></p>	– 1 Mark
	<p>b. <u>Difference between Temporary and Permanent Stitches/ Seams-</u> <u>Temporary Stitches/ Seams</u></p> <ul style="list-style-type: none"> <li>• The stitches are used to hold together garment pieces to be sewn before actual permanent stitches are made.</li> <li>• These temporary stitches are termed as tacking or basting stitches.</li> <li>• They help in holding two or more layers of material.</li> <li>• The stitches are removable.</li> <li>• These stitches can be made by hand and machine.</li> <li>• The length of stitches may vary depending on the weight of the fabric and how securely the pieces have to be held together.</li> <li>• There are several types of temporary stitches as-Even basting, Un-even basting, Diagonal basting etc.</li> </ul> <p><u>Permanent Stitches/ Seams-</u></p> <ul style="list-style-type: none"> <li>• The stitches are used to hold together garment pieces stitched by Temporary stitches.</li> <li>• These Permanent stitches are termed as Fixed stitches</li> <li>• They help in holding two or more layers of material permanently.</li> <li>• The stitches are no removable.</li> <li>• These stitches can be made by machine mostly.</li> <li>• The length of stitches may vary depending on the weight of the fabric and how securely the pieces have to be held together but are mostly closely stitched.</li> <li>• There are several types of permanent stitches as-Running stitch, Hemming etc.</li> </ul>	Description-4 marks (4 points-4 Marks)
	<p>c. If “Machine is breaking thread”- <u>Causes of upper thread breaking-</u></p> <ul style="list-style-type: none"> <li>· Needle is in backwards.</li> <li>· Machine improperly threaded</li> <li>· Tension too tight</li> <li>· Needle bent or having blunt point</li> <li>· Thread too coarse for needle size</li> <li>· Burr on needle hole of presser foot (Caused by breaking needle when pulling fabric from machine)</li> <li>· Needle too long for machine, or not inserted all the way in the needle bar</li> <li>· Tension discs worn so that thread works in groove</li> <li>· Needle too fine for size of thread and fabric to be sewn</li> </ul>	Description-4 marks (8 points-4 Marks)

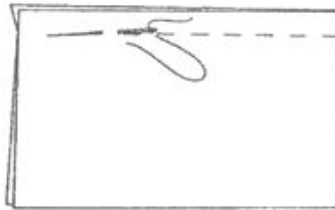
	<ul style="list-style-type: none"> <li>· Threads not properly pulled back under presser foot when starting to sew</li> <li>· Lint or dirt around bobbin case holder</li> <li>· Irregular sewing speed</li> </ul> <p><u>Causes of lower thread breaking-</u></p> <ul style="list-style-type: none"> <li>· Improper threading of bobbin in bobbin case</li> <li>· Tension too tight</li> <li>· Thread wound unevenly on bobbin in bobbin wound too full</li> <li>· Spring on bobbin case worn to sharp groove</li> <li>· Burr on underside of throat plate</li> <li>· Knot in bobbin thread</li> <li>· Lint, dirt, or thread under tension spring of bobbin case</li> </ul>	
	<p>d. <u>Preparation of fabric for smocking-</u></p> <ul style="list-style-type: none"> <li>• Smocking on plain material requires marking with a series of dots on the wrong side. These dots should be evenly spaced, around 0.3 cm apart, and the distance between the rows may be 0.5 -1 cm. For heavy fabrics the distance can be more. Fabrics with checks, plaids or dots do not require the transfer of the pattern.</li> <li>• Using strong thread, pick up the dots along one row and make several running stitches along. Complete all the rows. The number of rows depends on the area to be covered.</li> <li>• The width of fabric should be three times as long as the gathered fabric for smocking.</li> <li>• Draw up the fabric on the threads and fasten the thread ends by winding them together round the pins placed at one end to hold them securely.</li> <li>• This way the fabric is now ready for embroidery stitches.</li> </ul> <div style="text-align: center;">  </div> <p style="text-align: center;"><b>Fig. Preparation of material for smocking</b></p>	<p>Discription- 3Marks, diagram-1Mark</p>
	<p>e. Illustration of a skirt with Ruffles- Design can be varied</p> <div style="text-align: center;">  </div> <p style="text-align: center;"><b>Fig. Skirt with ruffle</b></p>	<p>Illustration with application of ruffle- 4 marks</p>
<p>Que no-3</p>	<p>Attempt any three (4 marks each)</p>	<p>12Marks</p>
	<p>a. Process of bobbin winding-</p> <p>Bobbins wind differently on various machines, but generally</p> <ul style="list-style-type: none"> <li>• The thread is first placed on a spool pin located below the flywheel and then drawn through the thread guide near the spool pin.</li> <li>• Now with your hand wind the end of the thread on the bobbin in clock wise direction and place it on the winder.</li> </ul>	<p>Description- 4 Marks</p>

	<ul style="list-style-type: none"> <li>• Turn the bobbin on the winder until the pin like projection on the winder fits into the slot on the bobbin, thus holding bobbin in place.</li> <li>• Then press the winder lever down until the rubber ring touches the hub of the fly wheel and is held there.</li> <li>• Loosen the thumb screw and run the machine, holding the thread end loosely.</li> <li>• Make sure that the thread winds on the bobbin evenly and that you do not fill the bobbin too full</li> </ul>	
	<p>b. working of hemming with suitable example- <u>Hemming-</u> This is used to secure down a folded edge of material like hems. Hemming appears as small slanting stitches on the wrong side and right side. The stitches should be fine and spaced close enough to hold the hem securely in place, but far enough apart to be inconspicuous from the right side of the garment. <u>Working Procedure</u> - Before starting the hem, fasten the thread with several tiny knots. Take a tiny stitch in the garment directly beneath the point where the thread leaves the fold. Now insert the needle in the hem, slip it along inside the fold and bring it out again about ½ inch away. Repeat the stitch Example- hemming is used at the hem of dresses, skirts , necklines etc.</p>  <p style="text-align: center;"><b>Fig. Hemming</b></p>	<p>Description- 2 Marks, diagram- 1 mark, example- 1 mark</p>
	<p>c. working of Lapped seam- <u>Lapped seam-</u> This seam is commonly used for joining a gathered section to a straight edge as in a yoke (Fig). Take the part of the seam which is to be laid on top and turn its seam allowance to the wrong side. Place this piece on the top of the second piece, right sides facing and matching the fold to the seam line. Tack in position and machine close to the folded edge.</p>  <p style="text-align: center;"><b>Fig. Lapped seam</b></p>	<p>Description- 3 Marks, diagram- 1 mark</p>
	<p>d. Differentiation between Counter seam and even basting- <u>Counter seam-</u> This is a durable flat seam used for very thick materials, men's wear and reversible garments. Turn down a little on wrong side of one piece of fabric and on right side of the other piece and iron them firmly. Keep wrong side of the first piece of fabric on the right side of the second piece along the edges, maintaining the seam allowances, and tack it in position. Machine stitch along the folded edges (Fig.). This also called as three layered counter seam.</p>	<p>Description-4 marks (4 points- 4 marks)</p>



**Fig. Counter Seam**

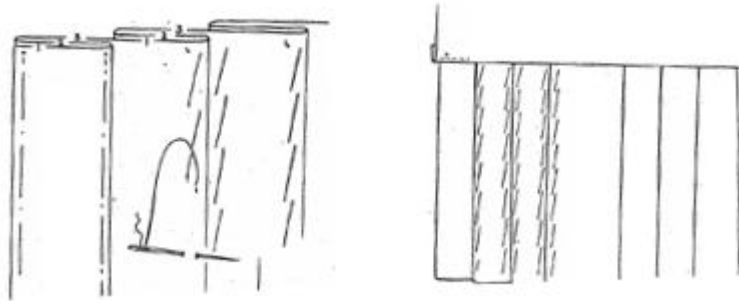
Even basting- This is used for tacking seams and other details. It is a short temporary stitch used on smooth fabric and in areas that require close control such as curved seams. The stitches are of equal length about  $\frac{1}{4}$  inch on both sides of the material. (Fig.).



**Fig. Even basting**

e. The procedure of-

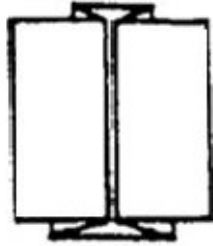
- (I) Knife pleats- They are usually about  $\frac{1}{2}$  inch to 1 inch wide and are turned towards the same direction (Fig). The direction may be reversed at center back or centre front of the garment. Pleats are formed by folding the fabric as per the width of the pleat required ( $\frac{1}{2}$  to 1 inch). Make all the folds or pleats in the same direction. Press them. Hand or pin bast along the folded edges. Pleats can be top stitched in place, or sometimes stitched from top along the folded line to produce the slender effect. The main function of a knife pleat in a tailored garment is to provide fullness at the bottom of the garment.




**Fig. Knife Pleats**

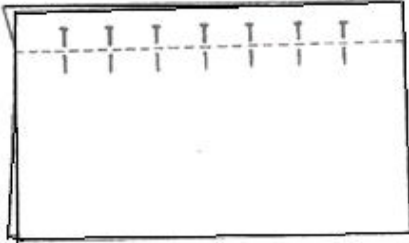
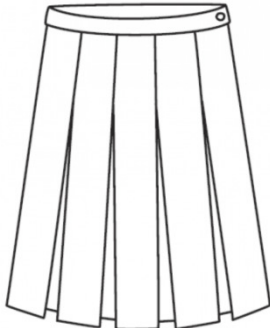
- II) Inverted pleat- It is the opposite of a box. It is made up of two knife pleats turned towards each other so that the folds meet in the middle on the right side of the garment. It is usually designed at centre front or centre back and looks like two knife pleats facing away from each other on the underside (Fig. 5.7).

Each pleat-2  
Marks,  
(Description- 1  
Mark, diagram-  
1 mark)

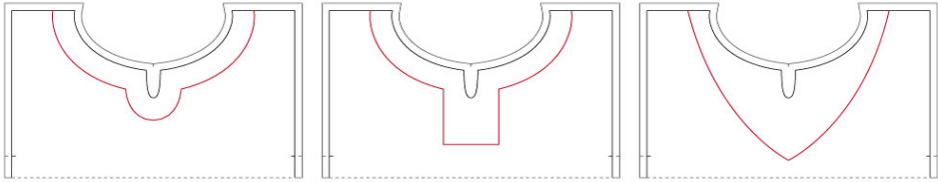
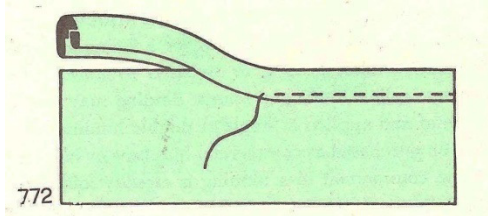

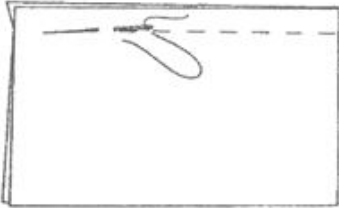


**Fig. Inverted box pleat**

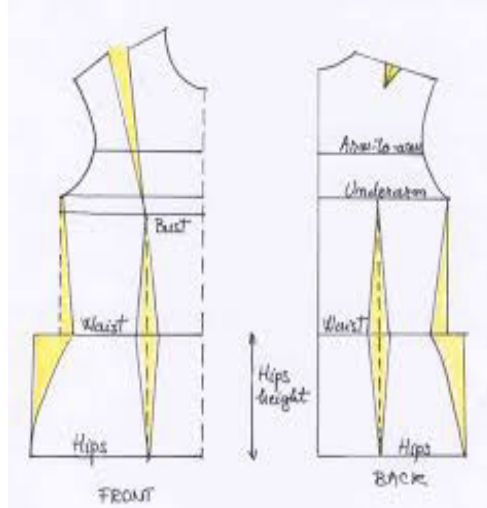
Que no-4	Attempt any three (4 marks each)	12Marks
	<p>a. Tips of cleaning and care of sewing machines- A sewing machine needs care for its smooth running. It should be cleaned and oiled regularly to ensure satisfactory sewing and long life. When not in use, cover machine to prevent dust accumulation on it. <u>Cleaning-</u> Use a small dry brush or old toothbrush and soft cloth to remove dust and lint. Always remove lint deposits, dust and thread bits before oiling any part of the machine. Use a pointed instrument like a needle to pick out the bits of thread and lint that cannot be brushed out. <u>Oiling-</u> It is necessary to oil and lubricate the machine periodically. If the machine is used every day, oil it once a week. After oiling, wipe off the surplus oil and place a piece of folded fabric under the presser foot to absorb any excess oil. To oil thoroughly, remove the upper thread, needle plate, slide plate, faceplate, bobbin case, needle and presser foot. Oil the holes on the underside first, after cleaning and then proceed to the upper side. Use only few drops of oil in each hole. Never use coconut oil. Machine oil of different brands may be used for different models of sewing machine, but should be used as recommended in the instruction book.</p>	Description-4 marks (8 points-4 marks)
	<p>b. "Different types of seam finishes used for types of fabrics or garments"- <u>Pinked seam finish-</u> It can be used on firm fabrics also shear fabrics. <u>Double Stitch Finish-</u> it is suitable for Bulky fabrics. <u>Edge stitched finish-</u> Used for unlined coats and jacket materials where seam allowance is wide</p>	Seam's names - 1 marks, Uses- 3 marks
	<p>c. Illustration of a Kurta with godets in it- Design can be varied.</p>  <p><b>Fig. Kurta with godets</b></p>	Illustration- 4 marks
	<p>d. Use of- I) Can can- The use of Can can - To support the main material, maintained shape of the garment, give strength, add warmth and durability to garment II) Shoulder pad- The use of Shoulder pads- To support the shoulder, maintain</p>	Each bit -2 marks (4 uses of each- 2 marks)

	shape, give strength, adding warmth and durability to garment.	
	<p>e. Types of fasteners-</p> <ul style="list-style-type: none"> <li>• There are six types of fasteners-</li> <li>• Buttons</li> <li>• Button holes</li> <li>• Hook and Eyes</li> <li>• Button Loops</li> <li>• Snaps</li> <li>• Fancy buttons</li> </ul>	Each fastener-2 marks, (Description-2 marks)
Que no-5	Attempt any three (4 marks each)	12Marks
	<p>a. Importance of Pin basting-</p> <p><u>Pin basting</u>- It is used more frequently as it is easy to use, removable and temporary type of basting. It is also quick method of basting or tacking with the help of pins. It is used as a guide line for the permanent stitch.</p>  <p style="text-align: center;"><b>Fig. Pin basting</b></p>	Description-3marks, diagram-1 mark
	<p>b. Illustration of skirt with Box pleat-</p> <p>Designs can be vary</p>  <p style="text-align: center;"><b>Fig. Box pleated skirt</b></p>	Illustration of skirt with application of Box pleat- 4 marks
	<p>c. Effect of support materials on finishing and durability of garments-</p> <p><u>The purpose of support material</u> is to make your garment more wearable, long-lasting and comfortable. They are usually lightweight and have a soft or silky texture. Not all items need to be supported by materials but here are some reasons why supporting materials are used:</p> <ul style="list-style-type: none"> <li>To make the garment less see-through</li> <li>To add warmth and durability</li> <li>To make the inside part of the garment soft and pleasant to the touch</li> <li>To lend a luxury note to a garment</li> <li>To improve the structure of a garment</li> <li>To help the garment slide on easily</li> <li>To conceal seams, padding, interfacing,</li> <li>To maintain shape of the garment etc.</li> </ul>	Description-4 marks (4 points-4 marks)
	<p>d. Points to be considered during selection of fancy buttons-</p> <p>Fancy buttons should be selected to suit the color, design and texture of the fabric, the style, use of the garment and position of the placket. One should also</p>	Description-4 marks, (4 points- 4 marks)



	<p>consider the age and sex of the wearer.</p> <p>e. Methods of finishing neck line are- There are three types of neckline finishing</p> <p>Facings-</p>  <p style="text-align: center;"><b>Fig. Neckline facing</b></p> <p>Bias binding-</p>  <p style="text-align: center;"><b>Fig. Bias Binding</b></p> <p>By attaching collar-</p>  <p style="text-align: center;"><b>Fig. Collar attaching</b></p>	<p>Description- 3 marks, diagram- 1 mark</p>
<p>Que no-6</p>	<p>Attempt any two (6 marks each)</p>	<p>12Marks</p>
	<p>a. Purpose of temporary basting-</p> <p><u>Temporary Basting-</u> The stitches are used to hold together garment pieces to be sewn before actual permanent stitches are made. These temporary stitches are termed as tacking or basting stitches. They help in holding two or more layers of material. The stitches are removable, easy to do. These stitches can be made by hand and machine. The length of stitches may vary depending on the weight of the fabric and how securely the pieces have to be held together. There are several types of temporary stitches as-Even basting, Un-even basting, Diagonal basting etc.</p>  <p style="text-align: center;"><b>Fig. Temporary Basting</b></p>	<p>Description -4 marks(4 points- 4 marks, diagram-2 mark)</p>
	<p>b. Darts and state their uses.</p> <p>1) <u>Single Pointed Darts-</u> It is a basic dart with positioning wide at bottom and tapering at another end point. It is a "V" shaped and sized according to the wearer's comfort. Which provides ease, fitting and shape to the garment. These darts are especially used in women's wear.</p>	<p>Each bit-3 marks, (Description -2 marks, diagram- 1 mark)</p>

II) French Dart or Fish Dart- It is dart with positioning wide in the centre and tapering at their respective end point. It is a “◇” shaped and also sized according to the wearer’s comfort. This has a shape like diamond or fish hence called as fish dart, French dart and even Body shape dart. Which provides ease, fitting and shape to the garment. These darts are especially used in long length women’s wear.

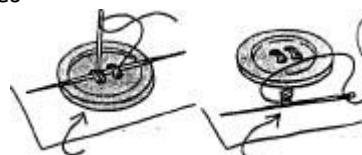


**Fig. Single pointed dart and French dart**

c. Importance of buttons in garments, illustration of types of buttons-  
The advantages of using buttons as closures are numerous. They are both functional and decorative. They give strength and neatness to the placket. The button helps in closer of garment without puckering the fabric. The fabric on which the button is attached should be reinforced to prevent tearing or pulling under strain. Sufficient buttons spaced equally helps the opening to be maintained neat without gaping between buttons. The width of spacing varies according to the position of opening, fabric weight and size of button. Too few or too many can spoil the appearance of the finished garment.

Types of buttons

- Buttons with holes



**Fig. Buttons with holes**

- Shank buttons



**Fig. Shank Buttons**

- Link buttons

Description -4 marks, diagram-2 mark



**Fig. Link buttons**