I'm Doctor Kulkarni Rajender Rao. Associate professor from Government College of Arts, Science and Commerce.Quepem. I'm going to explain. Histology of pancreas from the Unit 4 endocrine pancreas outlines of this module. pancreas, heterocrine gland,.What is endocrine, exocrine and merocrine gland? Histology of the pancreas. Important secretions of pancreas. At the end of this module you will be able to distinguish between exocrine. Endocrine and heterocrine glands, describe Histology of the pancreas, and enlist the secretions of the pancreas.

A gland is a functional unit of cells that work together to synthesize and release a product.
Pancreas is the largest gland of the body, essential for glucose homeostasis in the body. It is about 20 centimetres long.3 centimetres broad at the head.2.5 centimetres broad at the neck 2 centimetres broad at tail. It is. 2 centimetres thick. About 80 grams in weight. Pancreas is a dual function organ. Both exocrine and endocrine. That's why it is known as mixed or heterocrine or mixocrine gland. About 98% of the pancreas consists of exocrine component, what are endocrine glands? Endocrine glands are the ductless glands the secret hormones and they pour the secretions or hormones into the bloodstream. Because their target generally located away from the source of production, endocrine gland generally controls long term activities of the body. Examples of endocrine glands, pancreas, thyroid, parathyroid, pituitary etc Exocrine glands are the glands with the ducts. These glands secret different substances like enzymes, sweat, mucus, sebum etc. These secretions are released directly at the target, located very close to the site of production by the ducts, exocrine glands, control, short term activities of the body, Example, pancreas. Salivary glands, liver, sweat glands etc. Now you may have observed here pancreas is in both endocrine and exocrine. That's why it is mixocrine
Coming to what is Merocrine glands and eccrine glands? These glands secrete their substances, that is, enzymes by exocytosis. Example is a pancreatic acinar cell. That's why pancreas is mixocrine and merocrine. For the clarification apocrine glands are the glands, they release their secretions by membrane budding. So by this process they may lose certain cytoplasm also. When they are secreting substances holocrine glands, secret their substances by membrane rupture.

Pancreas structure. Coming to the pancreas structure.It is composed of four parts, the head, neck, body and tail. Head may be further divided into head proper and uncinate process. It is pinkish white in colour. It is divided into lobules by the connective tissue,- septae . Lobules are grapelike clusters of exocrine cells located in the acini. These secret digestive enzymes. Location. It is mostly retroperitoneal except for the tail. It extends from the C shaped curve of the duodenum passes behind the stomach and finishes at the hilum of the spleen. Coming to the Histology. It is covered by a thin capsule. The parenchyma consists of pancreatic acini and pancreatic islets surrounded by stroma of the loose connective tissue.
Acinar cells have broad basal portion with basophilic cytoplasm and narrow apical portion with acidophilic cytoplasm. Acinar cells have abundant rough endoplasmic reticulum and Golgi complex. This supports the production of digestive enzymes. Secretory Acinar cells store their inactive enzymes called Zymogens or pro enzymes. Upon stimulation, they are activated and release their secretions by the way of exocytosis into the lumen of the acinus. Pancreas produces 1.5 to 2 litres of enzymes that help in digestion and to breakdown carbohydrates and fats. Proteolytic pro enzymes, which are in the primary

stage of the enzymes and bicarbonate. Important enzymes are trypsinogen and chymotrypsinogin lipase, alpha amylase, ribonuclease and deoxyribonuclease. They pass through intercalated ducts intra lobular ducts, interlobular ducts to the main pancreatic duct. Embedded within the pancreatic exocrine tissue are Islets of Langerhans, the endocrine component of the pancreas. The endocrine component of the pancreas is only two percentage. It consists of about 1 to 2,000,000 pancreatic islets. Or you can also call them islets of Langerhans. Islets are demarcated from the rest of the parenchyma by a delicate Sheath of reticular fibres. Islets are dispersed throughout the pancreas. Most of the Islets are located in the tail region. Islets produce several hormones in the body. Like insulin, Glucagon, Somatostatin and Pancreatic polypeptides.

Thank you.