

Part 1: [From 1. to 10. = 5 Marks]

True = a) False = b)

For the following, select (a) for True statements and select (b) for false statements:

No.	Statements	True	False
1.	Gene store information for producing all cellular proteins.	a)	b)
2.	m.RNA is an intermediate between gene and polypeptides.	a)	b)
3.	m.RNA transcript by RNA polymerase II enzyme.	a)	b)
4.	There are three types of RNA polymerases.	a)	b)
5.	Protein synthesis requires the incorporation of 25 different amino acids.	a)	b)
6.	The M phase includes the process of mitosis and interkinesis.	a)	b)
7.	Stem cells have asymmetric cell division in which the daughter cells have different fate.	a)	b)
8.	In female vertebrate, meiosis completed before fertilization.	a)	b)
9.	Hematopoietic stem cell is an example of cell type that lacks the ability to divide.	a)	b)
10.	Competitive inhibitors usually resemble the substrate in function.	a)	b)

Part 2: [From 11. To 20 = 5 Marks]

11. The major accessory organs of the digestive system include:

- a) Mucosa, Submucosa and Serosa.
- b) Pancreas, Liver and Gallbladder.
- c) Mouth, Esophagus and Stomach.
- d) Small intestine, Large intestine and Anus.

12. Substrate is:

- a) Reactant, which binds to product.
- b) Reactant, which binds to substrate.
- c) Reactant, which binds to an enzyme.
- d) Reactant, which binds to protein.

13. In GI tract structure, Muscularis is:

- a) Innermost layer is composed of a mucous membrane.
- b) Under the mucosa includes glands.
- c) Outermost layer of the GI tract.
- d) Mostly composed of a layer of longitudinal muscle and another layer of circular muscle.

14. Mitosis, in prophase:

- a) Chromosome compaction.
- b) Chromosomes aligned at the spindle equator.
- c) Sister chromatids split and move apart.
- d) Chromosome dispersed.

15. What of the following is not correct about Mucosa-associated lymphatic tissue (MALT)?

- a) It prevents pathogens from taking over the lumen of the digestive tract.
- b) It is important for preserving homeostasis.
- c) Secrete small amounts of watery saliva to moisten the oral mucosa.
- d) It is prevalent in the small intestine, large intestine, and appendix.

16. Which statement is true?

- a) Without an enzyme, only a few substrate molecules reach the transition state.
- b) With a catalyst, only a few substrate molecules reach the transition state.
- c) Without an enzyme, large amount of substrate molecules reaches the transition state.
- d) Without a catalyst, large amount of substrate molecules reach the transition state.

17. All of the following is true about enzymes except:

- a) Are present in cells in small amounts.
- b) Not permanently altered during the course of a reaction.
- c) Are highly specific for their particular reactants called substrates.
- d) Can affect the thermodynamics of reactions.

18. Chief cells:

- a) Secrete pepsinogen and gastric lipase.
- b) Produce hydrochloric acid and intrinsic factor.
- c) Produce red blood cells.
- d) Absorb Vitamin B12.

19. The small intestine has three regions, which are:

- a) Duodenum, jejunum and ileum.
- b) Trypsin, chymotrypsin and carboxypeptidase.
- c) Ascending colon, transverse colon and descending colon.
- d) Circular, longitudinal, and oblique layers of muscles.

20. Mechanism of enzyme catalysts includes the following except:

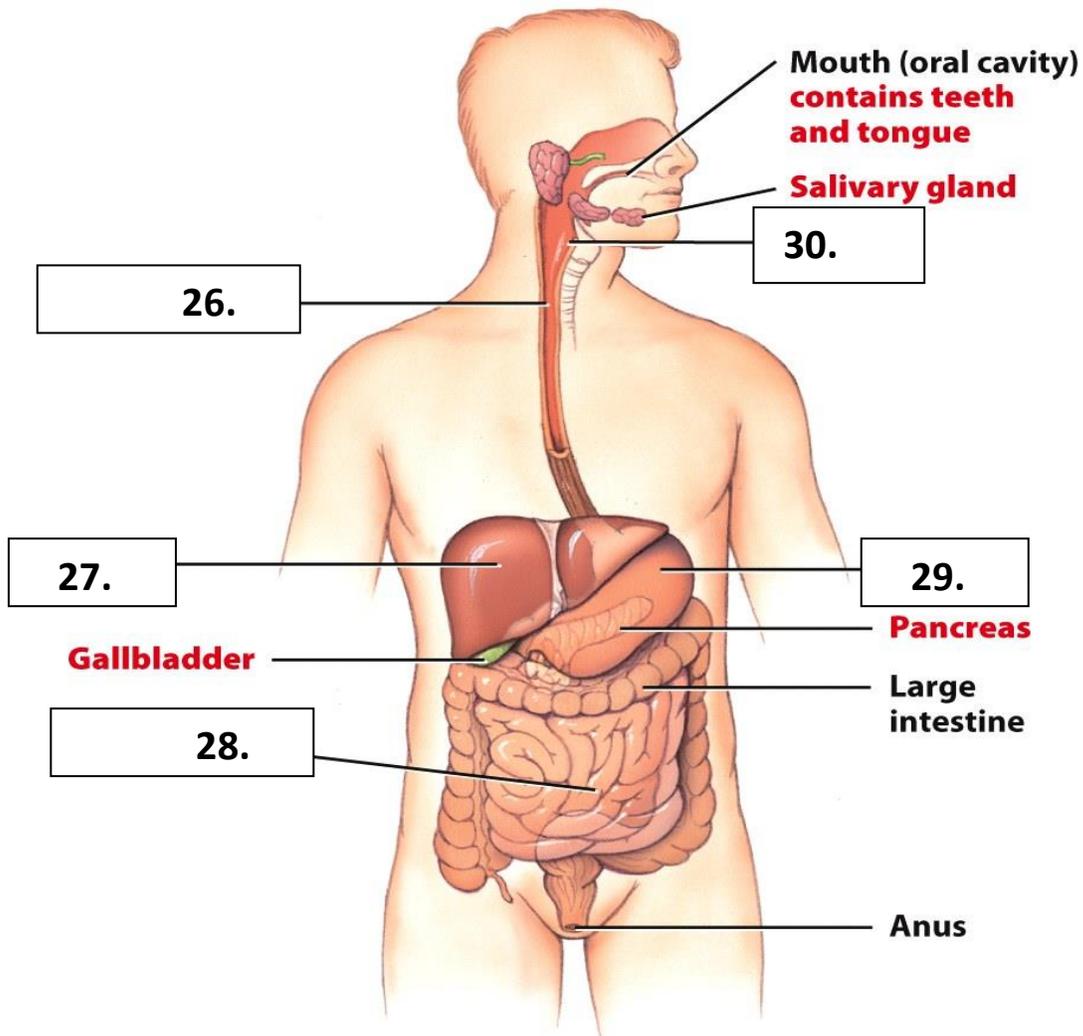
- a) Substrate orientation.
- b) Changing substrate reactivity.
- c) Inducing strain in the substrate.
- d) Produce both appropriate and inappropriate metabolic products.

Part 3: [From 21. To 25= 2.5 Marks]

Select the appropriate term for each definition:

Terms	Answer Letter	Definition
21. Synapsis		a) Operate at the metaphase / anaphase transition to check for misaligned chromosome.
22. Spindle checkpoint		b) Starting in the tonsil, the mucosa of GI tract contains a disease prevention tissue.
23. Promoter		c) During zygotene homologous chromosome pair.
24. MALT		d) Is where the enzyme binds prior to initiating transcription.
25. Chiasmata		e) Remaining points of attachment between homologous chromosomes.

Part 4: [From 26. To 30 = 2.5 Marks]



Question number	Question	a)	b)	c)	D)
26	What is this organ	a) Liver.	b) Stomach.	c) Esophagus.	d) Small intestine.
27	What is this organ	a) Liver.	b) Stomach.	c) Pharynx.	d) Small intestine.
28	What is function of this organ	a) Defecation.	b) Ingestion.	c) Absorption.	d) Produce watery saliva.
29	What is this organ	a) Liver.	b) Stomach.	c) Esophagus.	d) Small intestine.
30	What is this organ	a) Liver.	b) Stomach.	c) Esophagus.	d) Pharynx.

☺GOOD LUCK☺