Q.P. Code :02232

[Time: Three Hours] **[Marks:70]**

Please check whether you have got the right question paper.

N.B: 1. All Questions are compulsory.

1.		**Answer the following**	
	a)	Draw the structure of AMP	**1**
	b)	Name the stop codons	**1**
	c)	Name the shuttle which transports reducing equivalent from cytosol to mitochondria) matrix	**1**
	d)	Give the net ATP yield after oxidation of stearic acid	**1**
	e)	Enlist the components of ETC	**1**
	f)	Name two drugs inhibiting cholesterol synthesis; also mention the step which is inhibited	**2**
	g)	Name two drugs inhibiting Topoisomerase	**2**
	h)	Give the significance of Pentose phosphate pathway	**2**
	i)	Explain why DNA polymerase III is the primary enzyme for replication instead of DNA polymerase I	**2**
	j)	Calculate total ATPs formed when two molecules of acetyl CoA are consumed in TCA cycle	**2**
2.	**a)**	Give the names and structures of the substrate and product of the following enzymatic reactions (any 2) i) Glutamine- PRPP amidotransferase ii) β - Ketoacyl ACP reductase iii) α - ketoglutarate dehydrogenase complex	**4**
	b)	Write structures of given substrate and product with name of the enzyme catalysing the reaction (any 2) i) Pyruvate to oxaloacetate ii) Acetoacetyl CoA to HMG CoA iii) Inosinate to adenylosuccinate	**4**
	c)	Differentiate biosynthesis and β - oxidation of fatty acid	**3**
3.	**a)**	Give the biosynthesis of UTP. Predict the effect of methotrexate on pyrimidine nucleotide synthesis	**4**
	b)	Discuss post transcriptional modification in eukaryotes	**4**
	c)	Give the significance of telomeres and telomerase inhibitors	**3**
4.	**a)**	Write a note on Salvage pathway	**3**
	b)	Differentiate between prokaryotic and eukaryotec translation	**3**
	c)	Give steps for synthesis of mevalonate	**3**
	d)	Describe role of proteases and peptidases	**2**
5.	**a)**	Write a note on glycogenogenesis	**4**
	b)	Explain the preparatory phase of glycolysis	**4**
	c)	Explain DNA sequencing by Sanger dideoxy method	**3**
6.	**a)**	Distinguish between oxidative and substrate level phosphorylation	**4**
	b)	Compare biosynthesis with chemical synthesis of peptides	**4**
	c)	Draw schematic representation of DNA replication in prokaryotic cell	**3**