Q.P. Code :02231

[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)	Give 2 examples of physiological uncouplers of oxidative phoshorylation	**1**
	b)	Name a drug that inhibits DNA Polymerase III	**1**
	c)	Name the enzyme involved in synthesis of eukaryotic mRNA	**1**
	d)	Name drug which inhibits HMG CoA reductase	**1**
	e)	Name enzyme involved in removal of primer in prokaryotic replication	**1**
	f)	Name a drug inhibiting thymidylate synthase	**1**
	g)	How does tetracyaline inhibits protein synthesis	**1**
	h)	Give the significance of glyoxylate pathway	**2**
	i)	Give names of two shuttle systems for transfer of reducing equivalents to mitochondria	**2**
	j)	Enlist any two ketone bodies with its structure	**2**
	k)	Define Substrate level phosphory'ation with an example	**2**
2.	**a)**	Give the names and structures of the substrate and product of the following enzymatic reactions (any 2) i) HMG CoA synthase ii) Pyruvate carboxylase iii) β - Ketoacyl ACP reductase	**4**
	b)	Write structures of given substrate and product with name of the enzyme catalysing the reaction (any 2) i) α -D- ribose-5- phosphate to 5-PRPP ii) Fructose-6-phosphate to Fructose-1,6-bisphosphate iii) Squalene to Squalene- 2,3-epoxide	**4**
	c)	What is Salvage pathway?	**3**
3.	**a)**	Outline series of reaction involved in Kreb's cycle	**4**
	b)	Write reactions for actual β -oxidation of palmitic acid with net ATP yield	**4**
	c)	Write note on telomere and telomerase	**3**
4.	**a)**	Discuss post transcriptional modifications	**4**
	b)	Describe *de novo* synthesis of IMP	**4**
	c)	Draw schematic representation of ETC	**3**
5.	**a)**	Discuss translation in detail	**4**
	b)	Write reactions for oxidative phase of pentose phosphate pathway.	**4**
	c)	Explain any one method for DNA sequencing	**3**
6.	**a)**	Discuss solid phase DNA synthesis	**3**
	b)	Give the biosynthesis of CTP	**3**
	c)	Compare enzymatic biosynthesis against chemical synthesis of peptide	**3**
	d)	Describe role of proteases and peptidases in peptide sequencing	**2**