MANIPAL UNIVERSITY

SECOND SEMESTER BPT/BOT/B.Sc. MIT/B.Sc. CVT/B.Sc. RRT & DT/B.Sc. R.T./BOPT/B.Sc. MLT/B.Sc. NMT DEGREE EXAMINATION - AUGUST 2017
SUBJECT: BPT 106/BOT 106/BMIT106/BCVT 106/BDT 106/BRES 108/BOPT 104/BMLT 104/BNMT 104
BIOCHEMISTRY/GENERAL BIOCHEMISTRY
(2016 SCHEME)
Friday, August 18, 2017 (14.00 - 16.00 Hrs.)

Marks: 50 **Duration: 120 mins.**

Answer ALL questions.

1)	Write the reactions of anaerobic glycolysis with the enzymes and coenzymes.	(10)

2. Explain beta-oxidation of fatty acids under the following headings:

2A)	Activation	(1)
2B)	Transport into mitochondria	(3)
2C)	Reactions	(4)
2D)	Energetics	(2)

3A)	Define basal metabolic rate (BMR) and give its normal values. Explain THREE factors affecting BMR.	(5)
3B)	Write the different chemical forms of vitamin A with their biochemical functions. List the manifestations of vitamin A deficiency.	(5)
3C)	Name the complexes of electron transport chain with their components and write ONE inhibitor for each of the complexes.	(5)
3D)	Classify diabetes mellitus. Add a note on the biochemical basis for signs and symptoms.	(5)
4A)	Define proenzymes and give TWO examples.	(2)
4B)	Name TWO lipoproteins with ONE function for each.	(2)
4C)	Explain mutual supplementation of proteins with an example.	(2)
4D)	Name TWO physiologically important products each obtained from glycine and tryptophan.	(2)
4E)	Write TWO differences between DNA and RNA.	(2)

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SECOND SEMESTER BPT DEGREE EXAMINATION - AUGUST 2017
SUBJECT: BPT 110 - ELECTROTHERAPY - I
(2016 BATCH)
Monday, August 21, 2017 (14.00 - 17.00 Hrs.)

Marks: 100 **Duration: 180 mins.**

Answer all the questions.

1)	What is the purpose of plotting a strength duration (SD) curve? Explain the procedure involved in plotting SD curve. Compare the findings of the graphs of both partially and completely denervated muscles. (2+10+8 = 20 marks)	(20)
2)	Explain the principles and production of interferential currents. Discuss the therapeutic uses of interferential currents. Add a note on the methods of application. (8+5+7 = 20 marks)	(20)
3)	Explain the physiological and therapeutic effects of faradic currents. (5+5 = 10 marks)	(10)
4)	Explain in detail the mechanisms of pain modulation with TENS.	(10)

5. **Short answers:**

5A)	Explain chronaxie and rheobase.	(5)
5B)	Explain the principle and application of faradism under pressure.	(5)
5C)	Discuss the characteristics of a nerve fibre.	(5)
5D)	Discuss methods of application of TENS.	(5)
5E)	Describe the indications for faradic type currents.	(5)
5F)	Describe the descending pain suppression system.	(5)

6. **Brief answers:**

6A)	Define action potential.	(2)
6B)	Give any TWO indications for galvanic currents.	(2)
6C)	What is frequency sweep and mention its use in IFT?	(2)
6D)	What is refractory period?	(2)
6E)	Define nociception.	(2)