

**PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)**

**BSc DEGREE EXAMINATION MAY 2017
. (Fourth Semester)**

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Branch- **BIOCHEMISTRY**

METABOLISM -1

Time : Three Hours

Maximum : 75 Marks

SECTION-A (20 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** marks- (10 x 2 = 20)

- 1 Name the marker enzymes for metabolic studies.
- 2 Mention the types of metabolic reactions.
- 3 Define bioenergetics.
- 4 Write the structure of ATP.
- 5 What is Pasteur effect?
- 6 What is Crabtree effect?
- 7 What are ionophores and uncouplers?
- 8 Write any two inhibitors of oxidative phosphorylation.
- 9 How do you mean by covalent modification?
- 10 Write the importance of HMP shunt.

SECTION - B (25 Marks)

Answer **ALL** Questions

ALL Questions Carry **EQUAL** Marks (5 x 5 = 25)

- 11 a Give a note on tracer techniques for metabolic study.
OR
b How will you isolate the sub cellular organelles? Explain.
- 12 a What are high energy compounds? Explain.
OR
b Illustrate thiamine as coenzyme with its structure and functions.
- 13 a Describe Rapaport - Leubering cycle with its significance.
OR
b Write a note on mitochondrial shuttle system.
- 14 a How will you justify TCA cycle as an amphibolic pathway? Explain.
OR
b Elaborate the chemiosmotic theory.
- 15 a Describe the pathway of glycogenesis with its regulation.
OR
b Glucuronic acid pathway - Explain.

SECTION - C (30 Marks)

Answer any **THREE** Questions

ALL Questions Carry **EQUAL** Marks (3 x 10 = 30)

- 16 Give an account on the methods involved in studying metabolic pathways.
- 17 Exemplify the enzymes involved in biological oxidation.
- 18 Elaborate the pathway of glycolysis with its energetics.
- 19 Discuss the pathway of gluconeogenesis from pyruvate and lactate.
- 20 ' Explain HMP shunt with its reactions. ' < ■

Z-Z-Z

END