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MBF-003-001204 Seat No. _____

B. Sc. (Sem. II) (CBCS) Examination

March / April - 2018

Botany

(Cell Biology, Biochemistry, Genetics & Physiology)

(Old Syllabus)

Faculty Code : 003

Subject Code : 001204

Time : $2\frac{1}{2}$ Hours] [Total Marks : **70**

1 Answer in very short : **20**

(1) Who gave the cell theory?

(2) What happens during cytokinesis?

(3) What is the space between two walls of nucleus known as?

(4) What is the function of mitochondrion?

(5) Define: Buffer

(6) Which amino acid contains sulpher?

(7) What is free energy?

(8) What is the effect of temperature on enzyme?

(9) What was mendel's experimental technique?

(10) What is the function of histone?

(11) According to standard amino acid code, the code for leucie is _____

(12) Draw diagram of telomeric chromosome.

(13) What is the principle of phase contrast microscopy?

(14) Give application of paper chromatography.

(15) Give application of pH meter in biology.

(16) Give 'beer lamberts' law used to run colorimeter.

(17) What is the main function of plant pigment?

(18) Which are the three main stages of Calvin cycle?

(19) What is photorespiration?

(20) What is the function of dermal tissue of plant?

2 (A) Answer in short : (Any **Three**) **6**

(1) What is nucleolus?

(2) What is pH? Give importance of pH.

(3) What is law of Segregation?

(4) Give principle of paper chromatography.

(5) What happens with rubisco enzyme during photo respiration?

(6) Give anatomical difference between dico and monocoat leaf

(B) Answer in brief : (Any **Three**) **9**

(1) Give modem interpretation of cell theory.

(2) Write down various function of nucleus.

(3) Discuss the mechanism of buffer action.

(4) What are the findings of monohybrid cross? What does it conclude?

(5) Give difference between light microscope and electron microscope.

(6) Discuss factors that increase photorespiration.

(C) Answer in detail : (Any **Two**) **10**

(1) Discuss structure and replication of Viroids and Prions.

(2) Write a short note on β–Oxidation of fatty Acids.

(3) Write a short note on structure of DNA.

(4) Write a note on plant tissue culture media composition.

(5) Write a note on 'Hatch and Slack Cycle'.

3 (A) Answer in short : (Any **Three**) **6**

(1) Draw labeled diagram showing various components of mitochondrion.

(2) Write a short note on aliphatic amino acids.

(3) What are the characteristics of genetic code?

(4) Discuss type of media in plant tissue culture.

(5) Discuss principle of pH meter.

(6) What is the product of the C_3 cycle?

(B) Answer in brief : (Any **Three**) **9**

(1) Discuss various components inside chloroplast.

(2) Write classification of amino acids based on polarity of side chain.

(3) What is law of conservation of energy? Give its mathematical interpretation.

(4) Discuss structure number and type of chromosomes.

(5) Discuss working on pH meter with labeled diagram of pH meter.

(6) Give anatomical difference between dicot and monocot stem.

(C) Answer in detail : (Any **Two**) **10**

(1) Discuss various phases of Prophase I in meiosis.

(2) What is mechanism of enzyme action? Discuss lock and key hypothesis.

(3) Write a note on mechanism of protein synthesis and draw labeled diagram.

(4) Write principle function and working of colorimeter.

(5) Write a short note on the C_3 pathway.
