NBF-003-001204 Seat No. _____

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

April / May - 2017

Botany : B-201

(Cell biology, Biochem, Genetics, Physiology, Anatomy)

(Old Course)

Faculty Code : 003

Subject Code : 001204

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

Instructions : (1) Write answer of all questions in your answer book.

(2) Draw neat and labeled diagrams wherever necessary.

(3) Figures to right side indicates full marks for the questions.

1 Answer in very short : **20**

(1) Who discovered nucleus in the cell?

(2) Which organisms are having exception to cell theory?

(3) What is the Greek term for nucleus?

(4) Chromosomes are looking "L" or "J" or "V" Shaped during which phase?

(5) Chiasmata are found during which phase?

(6) The term mitochondria was coined by _____.

(7) The numbers net yield of ATP generated by β-Oxidation of palmitic acid are _____ ?

(8) AUG is Code also known as?

(9) Electron microscope was invented by _____.

(10) DNA synthesis in a mitotic cycle takes place during which phase?

(11) Protein part of enzyme is often called _____ enzyme.

(12) Which relationship are describe between $E=mc^2$?

(13) Who introduced the pH measurement scale?

(14) Which organelle is concerned with photo respiration in plants?

(15) What is the nature of stomata of CAM plants during day and night?

(16) Write the name of place where root hair emerges from?

(17) What is cryoprecipitation?

(18) Write any two plant name of C_4 cycle.

(19) Chromatography is based upon which phenomenon?

(20) Write the first law of thermodynamics.

2 (A) Answer in brief : (any **three**) **6**

(1) Define pH

(2) What is Buffer solution?

(3) Write principle of segregation.

(4) Define Enzyme

(5) Define Resolution power of Microscope.

(6) Define tissue culture.

(B) Answer in short : (any **three**) **9**

(1) What are viroids and prions?

(2) Types of chromosome according to position of centromere - explain in brief.

(3) Write the third law of thermodynamics.

(4) Write the principle and method of paper chromatography technique.

(5) Write about pH scale

(6) Write importance of tissue culture.

(C) Answer in detail : (any **two**) **10**

(1) What is cell division? Write the phases of mitosis and its importance

(2) Describe Action mechanisms of enzyme.

(3) Explain the principles and functions of Electron Micro Scope.

(4) Explain ultra structure and functions of mitochondria.

(5) Explain ultra structure and functions of nucleus.

3 (A) Answer in brief : (any **three**) **6**

(1) Give the principle of colorimeter.

(2) What is kranz anatomy?

(3) What is photorespiration?

(4) Write the function of chloroplast.

(5) What is Termination Codon ?

(6) Write law of segregation.

(B) Answer in short : (any **three**) **9**

(1) Describe -Significance of meiosis.

(2) Explain- photosynthetic pigments.

(3) Draw labeled diagram of Dicotyledons leaf (TS).

(4) Write A biological significance of enzyme.

(5) Describe cell theory.

(6) Write anatomical differences between monocot and dicot stem.

(C) Answer in detail : (any **two**) **10**

(1) Describe DNA Replication.

(2) Explain C_4 plants.

(3) Explain Anatomy of Dicot stem T.S.

(4) Explain β-oxidation path way.

(5) Explain Mendle's law of heredity.