

Write the following information in the first page of Answer Script before starting answer

ODD SEMESTER EXAMINATION: 2020-21

Exam ID Number _____

Course _____ Semester _____

Paper Code _____ Paper Title _____

Type of Exam: _____ (Regular/Back/Improvement)

Important Instruction for students:

1. Student should write objective and descriptive answer on plain white paper.
2. Give page number in each page starting from 1st page.
3. After completion of examination, Scan all pages, convert into a single PDF, rename the file with Class Roll No. (2019MBA15) and upload to the Google classroom as attachment.
4. Exam timing from 10am – 1pm (for morning shift).
5. Question Paper will be uploaded before 10 mins from the schedule time.
6. Additional 20 mins time will be given for scanning and uploading the single PDF file.
7. Student will be marked as ABSENT if failed to upload the PDF answer script due to any reason.

11. Cell dormancy takes place during:
- a. G1 phase
 - b. G2 phase
 - c. S phase
 - d. G0 phase
12. The common pathway of entry into the endoplasmic reticulum (ER) of secretory, lysosomal and plasma membrane proteins is best explained by which of the following?
- a. Binding of their mRNAs to a special class of ribosome attached to the ER
 - b. Addition of a common sorting signal to each type of protein after completion of synthesis
 - c. Addition of oligosaccharides to all three types of proteins
 - d. Presence of a signal sequence that targets each type of protein to the ER during synthesis
13. Which of the following doesnot support endosymbiotic theory?
- a. Mitochondria
 - b. Chloroplast
 - c. Nucleus
 - d. None of these
14. Which type of movement occurs when Na/K pump is used?
- a. Na ions moves out of the cell and K⁺ move in
 - b. both Na and K⁺ ions move inside the cell
 - c. both Na and K⁺ move out of the cell
 - d. K⁺ ion moves out of cell and Na ion move in
15. Which among is following is not a nuclear protein?
- a. Nucleosomes
 - b. Nucleocapsid proteins
 - c. Nucleoporins
 - d. Karyherins
16. MTOC is associated with
- a. Microarray Organizing Centre
 - b. Microfilament Organizing Centre
 - c. Microtubule Organizing Centre
 - d. Microkinetochor Organizing Centre
17. Retinoblastoma is associated with all the following, except
- a. Tumor suppression
 - b. Cancer
 - c. Mutation
 - d. All of the above
18. Ribosomes are made up of
- a. RNA s and DNAs
 - b. RNAs and glycolipds
 - c. RNAs and protein
 - d. RNAs and lipid
19. The proteins encoded by proto-oncogenes participate in various metabolic processes including
- a. regulation of transcription
 - b. cell to cell signaling
 - c. intracellular signaling transduction
 - d. all of the above
20. At which cell cycle checkpoint, cell cycle is halted if cell's DNA is damaged:
- a. G₁ - S
 - b. S - G₂
 - c. G₂ - M
 - d. G₀ - G₁

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(PART-B : Descriptive)

Time : 2 hrs. 40 min.

Marks : 50

[Answer question no.1 & any four (4) from the rest]

1. Illustrate the nucleus and nuclear pore structure present in both prokaryotic/eukaryotic cells. 10

2. a. Explain the benefaction made by scientist towards theory of cell. 6+4=10
b. Critically analyze the ionic shift across cell membrane.

3. a. Explain various stages of cell cycle with its dormant phase. 6+4=10
b. Illustrate the mechanism for cellular death.

4. a. What are the regulatory gates of cell cycle? 7+3=10
b. What relationship prevails by mitochondria and chloroplast and how?

5. a. Explain briefly Sodium Glucose transport system? 5+5=10
b. Energy couple is associated with ionic movement? Explain with suitable example.

6. a. Which part of endoplasmic reticulum is not associated with ribosome and why? 6+4=10
b. Which cellular organelles is known as the controlling centre of the cell and why?

7. a. Cellular transport is associated with which direction. Explain briefly with suitable diagram. 4+6=10
b. Explain various complex of oxidative phosphorylation.

8. a. Explain the function of suicidal bags of the cell? 4+6 =10
b. Elaborate gain and loss of function in a cell.

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