

**Avinashilingam Institute for Home Science and Higher Education for Women
Coimbatore-641 043**

Bachelor's Degree Examination –November 2017

I Semester

Class : I UG

Major: Biochemistry and Biotechnology

Time: 3 hours

Max. Marks: 100

15BBTC02/11BBTC02 Biophysics

PART- A

Choose the Correct Answer

(10 X 1 = 10)

- Basal metabolic rate shall be measured while a person is
 - Jogging
 - Going to work
 - Resting
 - Sweating
- Adenosine triphosphate (ATP) is a nucleoside triphosphate used in cells as a ____
 - Electron supplier
 - Co-factor
 - Coenzyme
 - None of the above
- What is the maximum absorption wavelength for photosystem I in green plants?
 - 550 nm
 - 600 nm
 - 650 nm
 - 700 nm
- Carbon dioxide is converted into sugars in a process called
 - Carbon deamination
 - Carbon Fixation
 - Carbon hydrolysis
 - Carbon decarboxylation
- Which of the following testing methods uses electrodes attached to the head to test the integrity of the auditory pathway?
 - immitence
 - otoacoustic emissions
 - evoked auditory potentials
 - probe microphone measurement
- An FT-IR instrument record a signal in the
 - time domain
 - frequency domain
 - shortly domin
 - none of the above
- Why is it generally preferable to use absorbance as a measure of absorption rather than % transmittance?
 - Because %T cannot be measured as accurately as absorbance
 - Because absorbance is proportional to the concentration of the analyte, whereas %T is not
 - Because %T is dependent on the power of the incident radiation
 - None of the above
- Fluorescence spectroscopy is also known as or
 - Fluorometry
 - Spectrofluorometry
 - Both A and B
 - None of the above
- EEG refers to the recording of the brain's spontaneous electrical activity over a short period of time, usually
 - 10–20 minutes
 - 30–40 minutes
 - 20–30 minutes
 - 20–40 minutes
- FDG-PET scanning appears to be of greatest value in evaluating patients with prostate cancer in assessing what situation?
 - Localized disease
 - Regional node metastases
 - Bone metastases
 - Response to therapy

PART – B
Answer the following (5 X 6 = 30)
Answer should not exceed 400 words or two pages

11. (a). Write the laws of thermodynamics.
(or)
(b). Write the role of ATP.
12. (a). Describe the non-cyclic photophosphorylation.
(or)
(b). Explain the regulation of retinal sensitivity.
13. (a). Illustrate about hearing abnormalities.
(or)
(b). Elucidate the reception of sonic vibrations.
14. (a). Give a note on Raman spectra.
(or)
(b). Elucidate the UV spectroscopy.
15. (a). Explain the ultra sound scan .
(or)
(b). Write the importance of CAT scan.

PART – C
Answer the following (5 X 12 = 60)
Answer should not exceed 800 words or four pages

16. (a). What are the factors affecting BMR? Discuss.
(or)
(b). Describe the abnormalities of body temperature regulation.
17. (a). Explain the mechanisms of photo system I .
(or)
(b). List out neuronal functions of retina.
18. (a). Discuss the types of hearing aids .
(or)
(b). Explain the propagation of nerve potential.
19. (a). Describe the atomic absorption spectroscopy .
(or)
(b). Enumerate the mass spectroscopy.
20. (a). Illustrate about electrocardiogram.
(or)
(b). Elaborately discuss MRI scan.

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