

國立彰化師範大學九十六學年度碩士班招生考試試題

系所：生物學系

組別：乙組

科目：生物化學

請在答案紙上作答

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詳答題：

1. Trans-resveratrol has been shown to extend lifespan in several animal models including mouse, nematodes, and fishes. Please describe the possible trans-resveratrol mediated mechanism which may cause increasing the length of lifespan. (10%)
2. When fatty acids are being β -oxidized to produce acetyl-CoA, in what situation, the acetyl-CoA will become ketone bodies. (10%)
3. Ethanol can be converted into several molecules in human body. Please describe these conversions step by step. (10%)
4. Which two hormones can stimulate muscle glycolysis? (4%) What are enzymes they activate at beginning of glycolysis? (6%).
5. Where does the citric acid cycle take place? (4%) What are the two primary electron acceptors of the citric acid cycle? (6%)
6. Please compare the myoglobin and the hemoglobin. (10%)
7. Please describe the relationship between buffering and Henderson-Hasselbalch equation. (10%)
8. Please describe the Michaelis-Menten equation. (10%)
9. Please describe the posttranslational modification of proteins. (10%)
10. Please describe the posttranscriptional modification of RNA. (10%)