**`**

**Part End-Semester Examination (CH2110)**

# Date: 10/11/2021

**Instructions:**

1. Total Marks: **15 marks**
2. Please do **5 out of 5** questions compulsory.
3. Open textbook. Submit as group in single copy.
4. Write bullet points in the theory part with strictly restricted words and illustrate your answers with assumption wherever necessary.
5. Submission Deadline: **26th, November,2021 before 5pm**.
6. **(a)** Derive Michaelies Menten (MM) equation and explain its mathematical validation with respect to substrate Vs rate constant. Draw neat diagram to show maximum rate is half of its overall reaction rate.

**(b)** Difference between MM and Briggs Haldane model for E+S <==> ES complexes, How Km varies in each of this models, explain with proper assumption points (pseudo-steady state / quasi-equilibrium). Explain how MM and Briggs Haldane model are valid for enzyme/substrate complex less than 1.

1. **(a)** Write glycolysis to pyruvic acid to acetyl CoApathways and calculate the energy currency of ATP generated in the end of glucose conversion.

**(b)** Write detail kinetic for the Growth and Enzyme with define terms.

1. **(a)** Why immobilization is an important procedure for microbial cell. Give different methods with example for both enzyme and cell.
2. **(a)** Write a procedure to ‘Isolate mammalian cell line from tissue’**.**

**(b)** Write summary on technical topic on enzyme chosen by the individual group about 200 words.

1. Students!! They are 20 words of biological terms to be spot and define each of them in a line.

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| G | A | E | A | T | D | A | S | N | O | A | P | R | S | T | V | K | Y | L | K | T | J | F | S | S | D |
| A | N | T | O | M | N | A | N | X | C | Z | H | G | F | A | C | M | S | B | N | A | Q | H | J | F | A |
| D | R | P | O | R | N | L | S | C | H | K | W | A | D | E | G | H | D | A | R | N | P | O | A | T | S |
| M | r | Q | r | N | O | P | M | N | T | R | A | C | E | T | Y | L | C | O | A | I | B | M | L | A | T |
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| K | H | G | F | S | D | I | Q | E | R | T | O | S | I | R | N | M | G | Y | S | I | R | T | E | H | O |
| C | L | C | V | R | E | G | N | T | A | E | W | N | S | L | O | Z | E | T | I | D | X | R | D | K | B |
| O | M | Z | X | C | B | E | O | P | E | A | N | C | I | A | V | C | N | E | S | O | T | V | O | H | E |
| O | N | Y | H | K | M | N | I | G | E | R | S | V | H | N | F | L | Y | S | O | S | O | M | E | S | A |
| N | O | R | S | A | D | A | I | H | S | T | T | B | N | K | G | I | G | T | P | V | F | C | Y | T | E |
| W | F | Q | A | G | B | N | M | G | F | T | R | I | J | H | L | P | F | U | E | H | K | C | T | E | D |
| S | G | A | W | V | X | G | H | L | K | A | E | R | G | M | U | A | A | Z | X | S | A | D | E | F | A |
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