

| No. | Kriteria pemarkahan                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Markah                             |   |
|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|---|
| 2a  | <b>Dapat menamakan kompleks K</b><br><i>Able to name complex K</i><br><br><b>Jawapan</b><br><i>Answer</i><br><br>Enzim-substrat<br><i>Enzyme-substrate</i>                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1                                  | 1 |
| b   | <b>Dapat menyatakan jenis enzim untuk amilase</b><br><i>Able to state the type of enzyme for amylase</i><br><br><b>Jawapan</b><br><i>Answer</i><br><br>Ekstrasel<br><i>Extracellular</i>                                                                                                                                                                                                                                                                                                                                                                                                            | 1                                  | 1 |
| c   | <b>Dapat menerangkan mengapa substrat S tidak dapat bergabung dengan enzim amilase</b><br><i>Able to explain why substrate S is not able to combine with amylase</i><br><br><b>Jawapan</b><br><i>Answers</i><br><br>F1. Tapak aktif amilase tidak sepadan dengan substrat S<br><i>Active site of amylase is not fit/compatible/match with substrate S</i><br><br>P1. Maka tindakbalas / hidrolisis kanji tidak berlaku<br><i>So reaction / starch hydrolysis does not occur</i><br><br>P2. Tindak balas enzim adalah spesifik<br><i>The reaction of enzyme is specific</i><br><br><b>F1 + P1@P2</b> | 1<br><br><br>1<br><br>1<br><br>1+1 | 2 |
| d   | <b>Dapat menerangkan kesan kehadiran molekul Z ke atas aktiviti</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                    |   |

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|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|---|
|  | <b>enzim amilase</b><br><i>Able to explain the effect of presence molecule Z on the amylase activity</i><br><br><b>Jawapan</b><br><i>Answer</i><br><br>P1. Molekul Z adalah perencat<br><i>Molecule Z is inhibitor</i><br><br>P2. Substrat P dihalang/tidak boleh bergabung dengan tapak aktif amilase<br><i>Substrate P cannot bind with the active site of amylase</i><br><br>P3. Kadar tindak balas perlahan/berhenti<br><i>Rate of activity slower / stop</i><br><br>P4. Tiada produk / maltose dihasilkan<br><i>No product / maltose is produced</i><br><br><b>Mana-mana 2P</b><br><i>Any 2P</i><br><b>Jumlah</b> | 1<br><br><br>1<br><br>1<br><br>1 | 2 |
|  | <b>Jumlah</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 6                                |   |

## MARKING SCHEME

| Item Num. | Scoring Criteria                                                                                                                                                                                                                                                                                                | Mark                                               |                                                  |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|--------------------------------------------------|
| 1(a)(i)   | <p>Able to name molecule of P, Q and R.</p> <p><i>Answer:</i><br/> P: Lipid<br/> Q: Lipase-Lipid Complex / Enzyme-substrate complex<br/> R: Glycerol // Fatty Acid</p>                                                                                                                                          | <div></div> <div>1</div> <div>1</div> <div>1</div> | <div></div> <div></div> <div></div> <div>3</div> |
| 1(a) (ii) | <p>Able to explain the specific action of lipase's enzyme on substrate P.</p> <p><i>Answer:</i><br/> P1: An enzyme only reacts on certain substrate.<br/> P2: Enzyme of lipase has specific active site.<br/> P3: Corresponding to substrate P/lipid only.</p> <p style="text-align: right;"><i>Any two</i></p> | <div></div> <div>1</div> <div>1</div> <div>1</div> | <div></div> <div></div> <div></div> <div>2</div> |
| 1(b)      | <p>Able to explain the function of enzyme in papaya.</p> <p><i>Answer:</i><br/> (Enzyme papain/protease) can tenderise meat // hydrolyse protein in meat</p>                                                                                                                                                    | <div></div> <div></div> <div>1</div>               | <div></div> <div></div> <div>1</div>             |
|           | <b>Total</b>                                                                                                                                                                                                                                                                                                    |                                                    | <b>6</b>                                         |