

JADUAL SPESIFIKASI UJIAN (JSU) BIOLOGI TINGKATAN 4

KERTAS 1

| Soalan | Tema | Bidang Pembelajaran | Standard Kandungan | PB01 Mengingat | | | KB01 Memahami | | | KB02 Mengaplikasi | | | KB03 Menganalisis | | | Jumlah | |
|---|--|--|--|-----------------------------|---|---|------------------|---|---|-------------------|---|---|-------------------|---|---|--------|---|
| | | | | R | S | T | R | S | T | R | S | T | R | S | T | | |
| | | | | | | | | | | | | | | | | | |
| | | | 1.1 Bidang Biologi dan Kerjaya | | | | | | | | | | | | | 0 | |
| 1 | Tema 1 Asas Biologi | 1.0 Pengenalan kepada Biologi dan Peraturan Makmal | 1.2 Keselamatan dan Peraturan dalam Makmal Biologi | 1 | | | | | | | | | | | | 1 | |
| | | | 1.3 Berkomunikasi dalam Biologi | | | | | | | | | | | | | 0 | |
| | | | 1.4 Penyiasatan Saintifik dalam Biologi | | | | | | | | | | | | | | 0 |
| 2 | | | 2.0 Biologi Sel dan Organisasi Sel | 2.1 Struktur dan Fungsi Sel | | | | 1 | | | | | | | | | 1 |
| | | 2.2 Proses Hidup Organisma Unisel | | | | | | | | | | | | | | 0 | |
| 3 | | 2.3 Proses Hidup Organisma Multisel | | 1 | | | | | | | | | | | | 1 | |
| | | 2.4 Aras Organisasi | | | | | | | | | | | | | | 0 | |
| 4 | | 3.0 Pergerakan Bahan Merentasi Membran Plasma | 3.1 Struktur Membran Plasma | | | | 1 | | | | | | | | | 1 | |
| | | | 3.2 Konsep Pergerakan Bahan Merentasi Membran Plasma | | | | | | | | | | | | | 0 | |
| 5, 7 | | | 3.3 Pergerakan Bahan Merentasi Membran Plasma dalam Organisma Hidup | | | | | | | 1 | | 1 | | | | 2 | |
| | | | 3.4 Pergerakan Bahan Merentasi Membran Plasma dalam Kehidupan Harian | | | | | | | | | | | | | 0 | |
| 6, 9 | | 4.0 Komposisi Kimia dalam Sel | 4.1 Air | | | | | | | | | | | | | 0 | |
| | | | 4.2 Karbohidrat | | | | 1 | | | | 1 | | | | | 2 | |
| 8 | | | 4.3 Protein | | | | 1 | | | | | | | | | 1 | |
| | | | 4.4 Lipid | | | | | | | | | | | | | 0 | |
| | | | 4.5 Asid Nukleik | | | | | | | | | | | | | 0 | |
| 10, 11 | | 5.0 Metabolisme dan Enzim | 5.1 Metabolisme | | | | | | | | | | | | | 0 | |
| | | | 5.2 Enzim | | | | | | | | | | 1 | 1 | | 2 | |
| | | | 5.3 Aplikasi Enzim dalam Kehidupan Harian | | | | | | | | | | | | | 0 | |
| 14 | | 6.0 Pembahagian Sel | 6.1 Pembahagian Sel | | | | | | | | | | 1 | | | 1 | |
| 12 | | | 6.2 Kitar Sel dan Mitosis | | | | 1 | | | | | | | | | 1 | |
| 13 | | | 6.3 Meiosis | | | | | | | | | 1 | | | | 1 | |
| | | | 6.4 Isu Pembahagian Sel Terhadap Kesihatan Manusia | | | | | | | | | | | | | 0 | |
| 15, 16 | | 7.0 Respirasi Sel | 7.1 Penghasilan Tenaga melalui Respirasi Sel | | | | | | | | | | | | | 0 | |
| | | | 7.2 Respirasi Aerob | | | | | | | | | | | | | 0 | |
| | | | 7.3 Fermentasi | | | | | | 1 | 1 | | | | | | 2 | |
| 17 | | 8.0 Sistem Respirasi dalam Manusia dan Haiwan | 8.1 Jenis Sistem Respirasi | | | | 1 | | | | | | | | | 1 | |
| | | | 8.2 Mekanisme Pernafasan | | | | | | | | | | | | | 0 | |
| 18 | 8.3 Pertukaran Gas dalam Manusia | | | | | | | | | | | 1 | | | 1 | | |
| | 8.4 Isu Kesihatan Berkaitan Sistem Respirasi Manusia | | | | | | | | | | | | | | 0 | | |
| 19 | 9.0 Nutrisi dan Sistem Pencernaan Manusia | 9.1 Sistem Pencernaan | | | | | | | | | | | 1 | | 1 | | |
| | | 9.2 Pencernaan | | | | | | | | | | | | | 0 | | |
| | | 9.3 Penyerapan | | | | | | | | | | | | | 0 | | |
| 20 | | 9.4 Asimilasi | | | | | | | | | | 1 | | | 1 | | |
| | | 9.5 Penyahinjaan | | | | | | | | | | | | | 0 | | |
| 21 | | 9.6 Gizi Seimbang | | | | | | | | | | | 1 | | 1 | | |
| | 10.0 Pengangkutan dalam Manusia dan Haiwan | 9.7 Isu Kesihatan Berkaitan Sistem Pencernaan dan Tabiat Pemakanan | | | | | | | | | | | | | 0 | | |
| 24 | | 10.1 Jenis Sistem Peredaran | | | | | | | | | | | | | 0 | | |
| | | 10.2 Sistem Peredaran Manusia | | | 1 | | | | | | | | | | 1 | | |
| 22 | | 10.3 Mekanisme Denyutan Jantung | | | | | | | | | | 1 | | | 1 | | |
| | | 10.4 Mekanisme Pembekuan Darah | | | | | | | | | | | | | 0 | | |
| 23 | | 10.5 Kumpulan Darah Manusia | | | | | | | | | | 1 | | | 1 | | |
| | | 10.6 Isu Kesihatan Berkaitan Sistem Peredaran Darah Manusia | | | | | | | | | | | | | 0 | | |
| 25 | | 10.7 Sistem Limfa Manusia | | | | | | | | | | 1 | | | 1 | | |
| | 10.8 Isu Kesihatan Berkaitan Sistem Limfa Manusia | | | | | | | | | | | | | 0 | | | |
| 26 | 11.0 Keimunan Manusia | 11.1 Pertahanan Badan | 1 | | | | | | | | | | | | 1 | | |
| | | 11.2 Tindakan Antibodi | | | | | | | | | | | | | 0 | | |
| 27 | | 11.3 Jenis Keimunan | | | | | | | | | 1 | | | | 1 | | |
| 28 | | 11.4 Isu Kesihatan Berkaitan Keimunan | | | | | | 1 | | | | | | | 1 | | |
| 29 | 12.0 Koordinasi dan Gerak Balas dalam Manusia | 12.1 Koordinasi dan Gerak Balas | | | | | | | | | | | | | 0 | | |
| 30 | | 12.2 Sistem Saraf | 1 | | | | | | | | | | | | 1 | | |
| | | 12.3 Neuron dan Sinaps | | | | | | | | | 1 | | | | 1 | | |
| | | 12.4 Tindakan Terkawal dan Tindakan Luar Kawal | | | | | | | | | | | | | 0 | | |
| | | 12.5 Isu Kesihatan Berkaitan Sistem Saraf | | | | | | | | | | | | | 0 | | |
| 31, 32 | | 12.6 Sistem Endokrin | | | | 1 | | | | | | 1 | | | 2 | | |
| 34, 35 | 13.0 Homeostasis dan Sistem Urinari Manusia | 12.7 Isu Kesihatan Berkaitan Sistem Endokrin | | | | | | | | | | | | | 0 | | |
| | | 13.1 Homeostasis | | | | | | | | 1 | | 1 | | | 2 | | |
| | | 13.2 Sistem Urinari | | | | | | | | | | | | | 0 | | |
| 33 | | 13.3 Isu Kesihatan Berkaitan Sistem Urinari | | | | | | | | | | | 1 | | 1 | | |
| 36 | 14.0 Sokongan dan Pergerakan dalam Manusia dan Haiwan | 14.1 Jenis Rangka | | | | | | | | | | | | | 0 | | |
| | | 14.2 Sistem Otot Rangka Manusia | | | | | | | | | | | | | 0 | | |
| | | 14.3 Mekanisme Pergerakan dan Gerak alih. | | | | | | | | | | | | 1 | 1 | | |
| | | 14.4 Isu Kesihatan Berkaitan Sistem Otot Rangka Manusia | | | | 1 | | | | | | | | | 1 | | |
| 37 | 15.0 Pembiakan Seks, Perkembangan dan Pertumbuhan dalam Manusia dan Haiwan | 15.1 Sistem Pembiakan Manusia | 1 | | | | | | | | | | | | 1 | | |
| | | 15.2 Gametogenesis Manusia | | | | | | | | | | | | | 0 | | |
| | | 15.3 Kitar Haid | | | | | | | | | | | | | 0 | | |
| | | 15.4 Perkembangan Fetus Manusia | | | | | | | | | | | | | 0 | | |
| | | 15.5 Pembentukan Kembar | | | | | | | | | | | | | 0 | | |
| 39 | | 15.6 Isu Kesihatan Berkaitan Sistem Pembiakan Manusia | | | | 1 | | | | | | | | | 1 | | |
| 40 | | 15.7 Pertumbuhan dalam Manusia dan Haiwan | | | | | | | | | | | | 1 | 1 | | |
| JUMLAH ITEM BAGI SETIAP KONSTRUK | | | | 5 | 1 | 0 | 6 | 3 | 2 | 2 | 5 | 3 | 7 | 3 | 3 | 40 | |
| JUMLAH ARAS KESUKARAN | | | | RENDAH | | | SEDERHANA | | | TINGGI | | | | | | | |
| | | | | 20 | | | 12 | | | 8 | | | | | | | |
| | | | | 20 | | | 12 | | | 8 | | | | | | | |

KERTAS 2

| Soalan | Topik/Subtopik | PB01 Mengingat | | | KB01 Memahami | | | KB02 Mengaplikasi | | | KB03 Menganalisis | | | KB04 Menilai | | | KB05 Mencipta | | | Aras Kesukaran | | | Jumlah Markah |
|-------------------|---|-------------------|---|---|------------------|---|---|----------------------|----|----|----------------------|---|---|-----------------|---|----|------------------|---|---|-------------------|-----------|-----------|------------------|
| | | R | S | T | R | S | T | R | S | T | R | S | T | R | S | T | R | S | T | R | S | T | |
| Bahagian A | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 2.4 Aras Organisasi | 4 | | | 1 | 1 | | | | | | | | | | | | | | 5 | 1 | 0 | 6 |
| 2 | 6.2 Kitar Sel dan Mitosis | 1 | | | 4 | | 1 | | | | | | | | | | | | | 5 | 0 | 1 | 6 |
| 3 | 3.2 Konsep Pergerakan Bahan Merentasi Membran Plasma | 1 | 2 | | 1 | | 1 | 2 | | | | | | | | | | | | 4 | 2 | 1 | 7 |
| 4 | 7.2 Respirasi Aerob | 2 | | | | 2 | | | | | | | | | | | | | | 2 | 2 | 0 | 4 |
| 4 | 7.3 Fermentasi | | | | | | | | 1 | 2 | | | | | | | | | | 0 | 1 | 2 | 3 |
| 5 | 5.2 Enzim | | | | 2 | | | | 2 | | | | | | | 4 | | | | 6 | 2 | 0 | 8 |
| 6 | 12.4 Tindakan Terkawal dan Tindakan Luar Kawal | 1 | | | 1 | 1 | | | 3 | 2 | | | | | | | | | | 2 | 4 | 2 | 8 |
| 7 | 15.3 Kitar Haid | 2 | 1 | | | | | | 3 | | 1 | | | | | | | | | 3 | 4 | 0 | 7 |
| 7 | 15.6 Isu Kesihatan Berkaitan Sistem Pembiakan Manusia | | | | | | | 2 | | | | | | | | | | | | 2 | 0 | 0 | 2 |
| 8 | 14.2 Sistem Otot Rangka Manusia | 1 | | | 1 | | | | | 3 | | | | | | | | | | 2 | 0 | 3 | 5 |
| 8 | 12.2 Sistem Saraf | | | | | | | | | 3 | | | | | | | | | | 0 | 0 | 3 | 3 |
| 8 | 10.3 Mekanisme Denyutan Jantung | | | | | | | | | 1 | | | | | | | | | | 0 | 0 | 1 | 1 |
| Bahagian B | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | 11.3 Jenis Keimunan | | | | | | | | | | 12 | 2 | | | 2 | | 2 | | | 12 | 4 | 2 | 18 |
| 9 | 11.1 Pertahanan Badan | | | | | | | | | | | | | | 2 | | | | | 2 | 0 | 0 | 2 |
| 10 | 8.3 Pertukaran Gas dalam Manusia | | | | | | | 5 | 5 | 5 | | 5 | | | | | | | | 5 | 10 | 5 | 20 |
| Bahagian C | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | 4.3 Protein | | | | | | | | | | | | | | 8 | | | | | 0 | 0 | 8 | 8 |
| 11 | 5.3 Aplikasi Enzim dalam Kehidupan Harian | | | | | | | 12 | | | | | | | | | | | | 12 | 0 | 0 | 12 |
| | | 12 | 3 | 0 | 10 | 4 | 2 | 21 | 14 | 16 | 13 | 7 | 0 | 0 | 0 | 10 | 6 | 2 | 0 | 62 | 30 | 28 | 120 |
| | JUMLAH | 15 | | | 16 | | | 51 | | | 20 | | | 10 | | | 8 | | | 62 | 30 | 28 | 120 |