 Province of the

EASTERN CAPE

EDUCATION

**DIRECTORATE SENIOR CURRICULUM MANAGEMENT**

**(SEN-FET)**

**HOME SCHOOLING SELF-STUDY WORKSHEET**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **SUBJECT** | Life Sciences | **GRADE** | 12 | **DATE** | 04 June 2020 |
| **TOPIC** | Endocrine co-ordination | **TERM 1**  **REVISION** |  | **TERM 2 CONTENT** | ✓ |
| **INSTRUCTIONS** | Use the following resources to complete the worksheet:   * Textbook * Virtual lesson on Reflex action, reflex arc, CNS disorders and stem cell use to treat injuries * PowerPoint Presentation on Reflex action, reflex arc, CNS disorders and Stem cell use to treat injuries |  | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| 1 |  |  |  |
|  | 1.1 Endocrine |  |  |
|  | 1.2 Co-ordination |  |  |
|  | 1.3 Pancreas |  | (3) |
| 2 |  |  |  |
|  | 2.1 B |  | (1) |
|  | 2.2 (a) Pancreas |  | (1) |
|  | (b) Pituitary gland/ hypophysis |  | (1) |
|  | 2.3 Secrets thyroxin |  | (1) |
|  | 2.4 A- pituitary gland  E- thyroid gland  C - Pancreas | (2 X 3) | (6) |
| 3 |  |  |  |
|  | 3.1 (a) hormones  (b) target organs |  | (2) |
|  | 3.2 Nervous system/ endocrine system  3.3   |  |  | | --- | --- | | **Nervous system** | **Endocrine system** | | Operates with neurons/ electrochemical | Operates with bloodstream/hormones/  chemicals | | Rapid responses | Slow responses | | Response short lived | Response lasts longer | | Localized efffect | Effect may be widespread | |  | (1) |
|  |  | Any 2 X 2+ 1 for table | (5) |
| 4. |  |  |  |
|  | 4.1 07:00- 08:00 |  | (1) |
|  | 4.2 (a) increased blood glucose from 60 to70 mg/100ml |  |  |
|  | (b) no effect |  | (2) |
|  | 4.3 Insulin increase delays because there must be increased  blood glucose concentration first to stimulate the pancreas  to secrete insulin |  | (2) |
|  | 4.4   * When the glucose concentration increases * The islet of Langerhans/ pancreas is stimulated * To secrete insulin * Which stimulates the liver * To convert the excess glucose to glycogen * Glucose concentration in the blood decreases | Any 4 x 1 | (4) |
|  |  |  |  |
| 5 | 5.1 |  |  |
|  | 5- thyroid stimulating hormone  6- luteinising hormone  5.2 Progesterone   * maintains the thickness of the endometrium * prevents secretion of FSH   5.3 When a woman is pregnant/ taking contraceptives |  | (2)  (3)  (1) |
|  |  |  |  |
| 6 |  |  |  |
|  | A person stepped on the tail of a snake  OR  (Any relevant example)   * Fear triggers the adrenal gland to secret adrenalin into the blood * More blood lows to the brain and muscles and less to non-essential organs. * Thus more fuel and oxygen * for increased metabolic rate * to provide sufficient energy * to deal with the situation * The pupil becomes larger * to allow more light to enter the eye * for better sight * and aids the judgement of the situation | Any 3 x 1 | (1)  (3) |
|  |  | **[40]** |  |