 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 system3.3

|  |  |
| --- | --- |
| **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 hormone5.2 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]** |  |