

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**BE - SEMESTER-IV • EXAMINATION – WINTER 2013**

**Subject Code: 140301****Date: 26-12-2013****Subject Name: Life Science - II****Time: 02:30 pm to 05:00 pm****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) What are the basic categories of hormones? Explain the mechanisms of hormone release. **07**
- (b) Explain the actions of the hormones secreted by the anterior and posterior lobes of the pituitary gland. **07**
- Q.2** (a) Explain spermatogenesis. **07**
- (b) discuss the process of ovulation and the hormones that control it **07**
- OR**
- (b) Differentiate: Wernicke's area vs. Broca's area. **07**
- Q.3** (a) List all nerve plexus and explain their function. **07**
- (b) List all cranial nerves and explain their function. **07**
- OR**
- Q.3** (a) Explain the anatomy and functions of cerebellum. **07**
- (b) Explain the anatomy and functions of diencephalon. **07**
- Q.4** (a) Explain secretion of gastric juice and functions of the stomach. **07**
- (b) Describe the structure and function of the tongue. **07**
- OR**
- Q.4** (a) Explain the composition and role of saliva in digestion. **07**
- Q.4** (b) Describe the structure of the small intestine. **07**
- Q.5** (a) List the functions of kidney and explain any one in detail. **07**
- (b) Explain the structure and function of ureters. **07**
- OR**
- Q.5** (a) Describe the following structures in the dermis; blood vessels, lymph vessels, sensory (somatic) nerve endings, sweat glands and their ducts hairs, arrector pili muscles and sebaceous glands. **07**
- (b) Explain the following functions of skin; protection, regulation of body temperature, formation of vitamin D, sensation, absorption and excretion. **07**

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