

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

# GUJARAT TECHNOLOGICAL UNIVERSITY

M. E. 1<sup>ST</sup> Semester Remedial Examination –July- 2011

Subject code: 710001

Subject Name: Communication & Research Skills

Date: 06/07/2011

Time: 10:30 am – 01:00 pm

Total Marks: 60

## Instructions:

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

**Q.1 (a)** Define the communication process. Also explain it with the help of schematic representation. **06**

**(b)** Skim the following passage and answer the questions given at the end. **06**

The sun is the most direct source of energy. It powers the flow of wind and water cycles and sustains all life. Plants use this energy to synthesize carbohydrates from simple substances like carbon dioxide and water. All the food is derived from the process of photosynthesis. In fact, the energy by which all the animals including human beings live is generated by the oxidation of the food produced by the plants.

The sun contains in its core hydrogen nuclei moving at very great speeds. Whenever these nuclei collide and fuse to form a nucleus of a heavier element, it results in nuclear reactions. These reactions generate tremendous amount of energy. It is the energy that powers the sun.

The sun emits lights of different wavelengths. If sunlight is passed through a prism each of these wave-lengths is refracted by a different amount. Violet has the shortest wavelength, and red has the longest. The wavelength of green is midway between that of violet and red. Light with wavelength shorter than that of violet is called ultraviolet light. Light with wavelength longer than that of red light is called infrared light. About one-third of the light from the sun is infrared.

We know that nuclear reactions that go on in the interior of the sun liberate a large amount of energy. Nuclei of deuterium, which is the heavier isotope of hydrogen, collide in the sun's interior to produce helium. The energy liberated in these reaction fires the sun, which, in turn, emits lights of different wavelengths. Of these wavelengths, it is the infrared wavelengths that heat up the earth. The reaction in which the hydrogen in the sun is converted into helium is called a fusion reaction.

Questions (Any Two):

- (a) What is fusion reaction?
- (b) What is the central idea of the passage?
- (c) What is photosynthesis?

**Q.2 (a)** What is listening? What are the different types of listening? **06**

**(b)** Prepare a set of PowerPoint slides for professional presentations on "Use of Technology for Effective Communication" **06**

**OR**

**(b)** Write short notes on each of the following terms with special reference to job interviews in about 100 words. (Any Two) **06**

(1) Mental agility  
(2) Unsuitable personality (3) Apathy (4) Interpersonal skills

- Q.3 (a)** Write short notes on Nature and Importance of Group Discussion. **06**
- (b)** Assume that you are Niren Patel, a student doing M.Tech in Mechanical Engineering from IIT, Delhi. Write an e-mail message to Kabir Sahini, the Personnel Manager of Alpha Industries (e-mail address: [sahini\\_kabir@alpha.com](mailto:sahini_kabir@alpha.com)) requesting him to allow you to do summer training at the Gurgaon plant of the company. Tell him that you need to do a two weeks training at some company as part of your academic assignment. **06**

**OR**

- Q.3 (a)** Write a short note on “Professional and business etiquettes”. **06**
- (b)** Explain the following terms with reference to communication barriers and give two examples for each term: (1) Semantic Gap (2) Negative attitude (3) Absence of common frame of reference (4) information overload (5) Noise (6) selection of channel (7) Body Language **06**

- Q.4 (a)** Write a letter to the Police Commissioner, Patna complaining about bad law and order situation in your area. **06**
- (b)** Write short notes on following (any two): (a) Nature and scope of research (b) Hypothesis (c) solicited and unsolicited proposal **06**

**OR**

- Q.4 (a)** Explain the significance of the following in terms of any research writing: Abstract, Sampling, Bibliography, Index, Illustrations and Footnote. **06**
- (b)** Write a detailed note on data collection and data analysis methods for research. **06**

- Q.5 (a)** As a fresh graduate in engineering you have decided to establish a manufacturing unit in your hometown. For this purpose, you have decided to avail yourself of the liberalized loan facility under the self-employment scheme. Therefore, you wish to submit an unsolicited technical proposal for the manufacture of an item of your choice seeking loan from the State Industrial Development Corporation (SIDC), Jaipur. Now draft this proposal to be sent to the director, SIDC, Jaipur, inventing the necessary details. **06**

- (b)** The director of education is deeply concerned about the loss of reading habits among the youth today. As the Education Officer, you have been asked to collect the data from the University students and submit a report. Now prepare a Questionnaire (7 points) to elicit the relevant information. **06**

**OR**

- Q.5 (a)** As the manager of Sangam Hotel, New Delhi, write a claim letter to the General Manager of Bharat Potteries, Aligarh Road, Bhavanipur, telling him that most of the contents of the china-ware which you had ordered from their firm have reached you in a damaged condition. Demand replacement or suitable compensation. Invent necessary details. **06**
- (b)** ‘The District Collector, Jhunjhunu, is concerned about the rapid increase in the number of road accidents in Pilani. The Chairman, Municipal Corporation, Pilani, has been asked to submit a report investigating the causes and suggesting measures to improve the situation.’ Prepare an outline for the above report. **06**

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