

I B.Tech. Regular Examinations, November -2005

ENGLISH

(Common to Civil Engineering,Electrical & Electronic Engineering,Mechanical Engineering,Electronics & Communication Engineering,Computer Science & Engineering,Chemical Engineering,Electronics & Instrumentation Engineering,Bio-Medical Engineering,Bio-Medical Engineering,Information Technology,Information Technology,Electronics & Control Engineering,Mechatronics,Computer Science & Systems Engineering,Electronics & Telematics,Metallurgy & Material Technology,Electronics & Computer Engineering,Production Engineering,Aeronautical Engineering,Instrumentation & Control Engineering and Bio-Technology)

Time: 3 hours

Max Marks: 80

**Answer any FIVE Questions
All Questions carry equal marks**

1. Imagine that you are a journalist representing Scientific American. You have been deputed by your journal to find out the problems of exhaustible energy sources and the measures adopted by the Government of India to find alternative energy resources. Prepare a set of questions to be put to the secretary, Department of Non-conventional Energy Sources, Government of India and the possible answers (responses) of the Secretary. [16]
2. Bring out the moral contained in Rachel Carson's A Fable for tomorrow, silent Spring. How far does it apply to the conditions in India today? [16]
3. Detail the contribution of the two Trailblazers profiled in Master Minds. How did they transform Scientific temper and indigenous industrialisation in India? [16]
4. Attempt a portrait of Dr. Vikram Sarabhai as the Father of Space Age in India. [16]
5. Prepare a feasibility report on establishing a small scale industry to manufacture portable generators on the outskirts of your town / city. Your report should include the suitability of place selected, availability of raw material,skilled and unskilled workers, transport and electrical power and water facilities, and financial resources required. [16]
6. Write an essay on 'India of My Dreams'. [16]
7. (a) Read the following passage and answer the questions below the passage:

How did life begin on earth? The conventional view is that amino-acids formed in an atmosphere of methane, ammonia, and water, and then joined into the chains of molecules, called proteins, that are necessary for life. But could this protein-making process really have happened? Some scientists say

that although amino-acids could easily have formed in that primitive environment, the conditions required to join them into chains probably did not exist.

In April, chemist Clifford Matthews of the University of Illinois and his student Robert Ludicky reported possible proof of an alternative- and controversial-protein forming process that Matthews has been advocating for nearly twenty years. In Matthew's version, the early earth's methane and ammonia first combined to form hydrogen cyanide, a carbon containing compound with all elements except oxygen necessary for building proteins. [8]

- i. What is the conventional view of the beginning of life on earth?
 - ii. What is the role of protein in the creation of life?
 - iii. What is the problem relating to protein-making process?
 - iv. What is the relationship between Clifford Mathews and Robert Ludicky?
 - v. For how long has Mathews been advocating his alternative theory?
 - vi. Is his theory accepted without a doubt by all?
 - vii. What is Matthew's version?
 - viii. What are the properties of Hydrogen cyanide?
- (b) A list of words is given below. Use the suitable words to fill the blanks in the passage that follows. Change the form of the word, if necessary: [8]
Pollution; temperature; atmosphere; radiation;populations;role; greenhouse; ozone; oxygen; environment.

Chemical ——— is changing the structure of earth's ———, threatening to alter the climate and expose human ———- to higher levels of dangerous ultraviolet ———. The two major effects involved are ——— effect and damage to the ——— layer. The earth's atmosphere plays a crucial ——— in maintaining even ——— on earth's surface.

8. (a) Rewrite the following sentences after making corrections, if necessary. [4]
- i. The Indian government is trying to make India industrially self-reliance since 1950.
 - ii. At most of the Olympic games, India has been winning less gold medals, than even some small African countries.
 - iii. Neither the Chairman nor the Vice-Chairman of the Board have attended the General Body meeting.
 - iv. Most computer scientists are believing that computers of tomorrow will have near human capacity to reason.
- (b) Put the accent mark at the right place in the following words: [4]
- i. MAGICIAN
 - ii. POLITICS
 - iii. PHOTOGRAPHY
 - iv. DOMINATE.

(c) Give antonyms of the following: [2]

- i. Apex
- ii. Arrival
- iii. Accelerate
- iv. **Occidental.**

(d) Give one-word substitutes of the following: [2]

- i. Capable of doing everything
- ii. An instrument to measure the speed of air.

(e) Supply the appropriate preposition / article in the following sentences. [4]

- i. ————— **scientists of** India are truly of global eminence.
- ii. ————— Knowledge is power.
- iii. The Prime Minister accepted ————— the technology policy of the Planning Commission.
- iv. It is a fact that India abounds —————- rich mineral wealth.

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1. Imagine that you are living in 2050 A D. Technology has developed rapidly since 2003. You wish to order a household robot, which will be designed to perform the tasks of your daily life. Prepare a list of tasks and exact specifications and requirements for the design of the robot and write a detailed, descriptive order. [16]
2. Write a detailed note on the aims, scope and organisation of a training programme in a pharmaceutical industry. [16]
3. Discuss the contribution of the Scientists described by Enakshi Mukherjee as institution builder's to Scientific research and industrial advancement in India. [16]
4. Attempt a portrait of Dr. S.S. Bhatnagar as 'Science commander', bringing out his qualities of leadership and pioneering industrial research. [16]
5. You are a journalist. You have been sent by your Editor to report on an accident involving an Express train at an unmanned railway crossing. Your report should include details of the time possible causes, person(s) responsible and suggestions for measures to avoid future recurrence of such accidents. [16]
6. Write an essay on 'The Role of Youth in National Development'. [16]
7. (a) Read the following passage and answer the questions below the passage. [8]
A flood of activities has taken place in the cellular industry over the past few years. However, the issue that has taken prominence among the cellular operators, subscribers and policy makers, is that of pricing. The competition among the players in the industry has also aggravated this issue. Each and every player is coming out with his or her tariff plans and tries to attract more subscribers.
Is the issue of pricing peculiar to India? Can we not consider and compare

with the practices in other countries? In order to consider these issues and find answers to the problem of pricing we need to look at the cellular tariff rates prevailing across some of our neighbours. An examination of the rates shows that, while in India the monthly rental is as high as 2.52, it is 0.02 in China 0.94 in Sri Lanka, 0.34 in Malaysia and 0.08 in Singapore. Can this higher pricing be attributed to poor telecommunications infrastructure in our country? Or is it owing to an practice of Receiving Party Pays (RPP) scheme as against the scheme of Caller Party Pays (CPP) followed by our neighbours? The pricing structure in our country needs a critical analysis to find answers to the questions raised.

The two important issues to be considered are affordability and Sustainability - the desire to reduce cost of services and the ability to sustain the investment. The pricing relates to what are called leaner and greener pricing; the former refers to socially desirable pricing and the latter refers to cost-based pricing.

- i. What is the prominent issue worrying Cellular operators and Subscribers?
 - ii. What is the additional element that aggravates the issue?
 - iii. What is the motive behind each player coming out with different tariff plans?
 - iv. What is the author's answer to the question 'Is this issue of pricing peculiar to India'?
 - v. What must we do to find answers to the problem of pricing in India?
 - vi. What is the pricing-level in neighbouring countries compared with that in India.
 - vii. What are the different schemes practised in India and neighbouring countries?
 - viii. What is meant by leaner pricing and greener pricing?
- (b) A list of words is given below. Use the suitable words to fill the blanks in the passage that follows. Change the form of the word if necessary. [8]
Inexpensive; efficient; mechanism; arrangement; body; variety; equipment; developed; enveloped; effort.

Pedalling is probably the most ———— use of the muscles of the human ————. Pedal power using either a bicycle like pedal ———— or a treadle ———— can be used to power a ———— of agricultural ————, water pumps, grinders and generators. In Philippines, Scientists ———— a small, light-weight ———— foot-powered pump.

8. (a) Rewrite the following sentences after making corrections if necessary: [4]
- i. One of the advertisements use a large number of incomplete sentences.
 - ii. The President appealed to the concerned scientists to involve themselves in socially-relevant research.
 - iii. Over the last forty years computers had developed dramatically, becoming smaller, cheaper and more powerful.
 - iv. As a majority of the voters are credible, politicians with muscle, money and lung power get elected to positions of power and authority.

- (b) Put the accent marks at the right place in the following words. [4]
- i. AUGUST(as Noun); PICTURESQUE
 - ii. ELECTRICIAN; POLITICS
- (c) Give antonyms of the following: [2]
- i. Zenith
 - ii. Bright
 - iii. Slavery
 - iv. Opaque
- (d) Give one-word substitutes of the following. [2]
- i. A person who hates mankind
 - ii. Not belonging to the earth.
- (e) Supply the appropriate preposition / article in the following sentences. [4]
- i. On the contrary, computer education calls ———- a great deal of imagination
 - ii. One of the advertisements is addressed——— engineers and specialists
 - iii. ——— noise pollution in Madras has reached alarming levels in recent times
 - iv. In the area where you live, there is no check——— the use of loudspeakers at political meetings.

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1. Imagine that you are living in a town / city which is affected by air and noise pollution. As Secretary of the Society for Clean Living, you have convened a meeting of the Assistant Commissioner of Police(Traffic), a bus driver and a student leader. Attempt a report on their discussions relating to pollution and possible solutions. [16]
2. Give an account of the development of computers during the 20th century and their likely evolution in the first decade of the 21st century. Are they likely to approximate to human capacity for reason? Give your reasons. [16]
3. Detail the contribution of Salim Ali to a scientific study of bird life in India. [16]
4. Attempt a profile of Dr C.V. Raman as an original researcher and an institution builder. [16]
5. There has been an accident in a chemical industry. You are the Engineer-in-charge. Prepare a report to be submitted to the Chairman. Your report should include the time place, causes, person(s) responsible for the accident and suggestions for preventing recurrence of such accidents in the future. [16]
6. Write an essay on 'The Two Faces of Technology'. [16]
7. (a) Read the following passage and answer the questions below the passage.
The purification of water is basically a two-step or three-step process carried out under the strict supervision of public health scientists and engineers. As the first step, natural water from the least contaminated source is allowed to stand in large reservoirs, where most of the mud, silt and clay and settle out; this is called sedimentation. Often, in water with high mud content, lime and aluminium sulphate are added to the water in the settling reservoir. These chemicals react in the water to form aluminium hydroxide, which settles slowly

and carries much of the bacteria, to the bottom of the reservoirs. As the second step, the water is filtered through beds of sand and gravel, which remove other impurities and chemicals in it. During or after filtration, antibiotic chemicals are ordinarily added to the water to kill any remaining harmful bacteria. Chlorine is one of the most common chemicals used for this purpose. A third step is to add to the water other beneficial chemicals such as fluoride and soda ash:

- i. Under whose supervision should the purification of water be carried out? [8]
- ii. From what source should water be allowed into large reservoirs?
- iii. What is the process known as sedimentation?
- iv. For what purpose is aluminium sulphate added to water?
- v. What is the result of the reaction of the chemicals added to the water?
- vi. Describe the process adopted as the second step.
- vii. When are antibiotic chemicals added and for what purpose are they added?
- viii. What are the other beneficial chemicals used during the third step?

- (b) A list of words is given below. Use the suitable words to fill the blanks in the passage that follows. Change the form of the word, if necessary: [8]
 Hands; mass; beings; dependent; sophisticated; rich; resources; system; poor; consistent.

As Gandhi said, the poor of the world cannot be helped by—— production, only production by the masses. The system of mass production, based on——, highly capital intensive, high-energy input—— technology, presupposes that you are already——.

The —— of production by the masses uses the priceless —— which are possessed by all human ——, their clever brains and skilful ——.

8. (a) Rewrite the following sentences after making corrections, if necessary: [4]
- i. The additional expenditure on the project will be borne by the central government.
 - ii. To encourage indigenous science the Tatas found the Indian Institutte of Science.
 - iii. None of the developments in the fields of nuclear science have been foreseen a few decades ago.
 - iv. India has become an independent country at the midnight of 15th August 1947,
- (b) Put the accent mark at the right place in the following words: [4]
- i. EXAMINATION
 - ii. SUBJECT (As verb)
 - iii. AUGUST (As Adjective)
 - iv. COMMUNICATE

(c) Write antonyms of the following: [2]

- i. Immigrant
- ii. Advance
- iii. Rejoice
- iv. Optimistic

(d) Give one-word substitutes of the following: [2]

- i. To be present everywhere
- ii. To be skilful in both the hands.

(e) Supply the appropriate preposition / article in the following sentences: [4]

- i. ——- University ought to be a temple of learning, not a hotbed of politics.
- ii. ——- Man is **mortal**
- iii. Indian software engineers are not inferior ——- anybody else in the world.
- iv. The managerial policies adopted by the company during globalisation must be different ——- those adopted during pre-liberalisation era.

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**Answer any FIVE Questions
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1. Hussain Sagar is one of the most polluted lakes in Andhra Pradesh. A meeting is convened for chalking out an effective programme for cleaning it. The meeting is attended by a Professor of Environment Engineering, a foreign volunteer and Secretary, Pollution Board of the State. Prepare an account of the discussions at the meeting. [16]
2. You are a member of a Debating Club. The topic for debate is 'Technology is a curse to Mankind', You, A, are called upon to oppose the proposition. The other speaker, B, supports the proposition. Present arguments for and against the proposition, in a coherent and logical manner. [16]
3. Attempt a profile of Dr.Homi J.Bhabha as the pioneer of Nuclear Science in India. [16]
4. Detail the contribution of Dr. Birbal Sahani to Paleobotany in India. [16]
5. Write a critical assessment of "The Book I Like Most". [16]
6. Prepare a Progress Report on the electrification of railway track between Secunderabad and Manmad. Your report should include the progress in the area of acquisition of material, deployment of manpower, utilisation of finances and the time-Schedule of possible completion of the project. [16]
7. (a) Read the following passage and answer the questions given below the passage;
There are more than 350 nuclear reactors in the world and no loss of life has been reported. Unfortunately a reactor accident in April 1986 to unit-4 of the Chernobyl plant has resulted in the loss of lives, contamination of the environment around the plant site and radioactive releases into the atmosphere. The loss of life was confined to certain plant personnel and those that were part of the emergency response crews, and has not extended to members of

the public.

There are major differences between chernobyl reactor and the Indian pressurised heavy water reactors. The chernobyl reactor was graphite moderated and water cooled. Hot graphite and water make a dangerous combination if they come into contact as large amounts of hydrogen are produced. When the fuel was starved of cooling, rupture of pressure tubes **leading** to graphite-water reaction took place and caused the accident. [8]

- i. How many nuclear reactors are operating in the world and at how many of them have there been accidents till 1986?
 - ii. What are the results of the accident at Chernobyl reactor?
 - iii. What was the extent of loss of life due to the accident?
 - iv. What are the features of Chernobyl reactor?
 - v. What is the dangerous combination mentioned?
 - vi. What would be the result of such a combination?
 - vii. What happens if the pressure tubes are ruptured?
 - viii. What are the chances of such an accident taking place at Indian nuclear reactors?
- (b) A list of words is given below. Use the suitable words to fill the blanks in the passage that follows. Change the form of word if necessary. [8]

Products; endowed; systems; manufacturing; bad; language; artificial; age; leisure; information.

Computer systems—— with ‘artificial intelligence’ have begun to make their mark on American——-. Computer vision ——, some of which can ‘see’ the difference between a good and —— circuit board on an assembly line, made up nearly a quarter of the \$1 billion —— intelligence industry in 1986. Natural——-systems are also rapidly coming of —— with some \$ 60 million spent in 1986 for —— that respond to naturally spoken English

8. (a) Rewrite the following sentences after making corrections, if necessary. [4]
- i. At Boeing, one of the largest commercial aircraft builder, expert systems development is a priority.
 - ii. The name ‘Science fiction’ has been invented by Hugo Gernsback in 1926.
 - iii. As the allegation was proved beyond doubt, the judge ordered that the accused should be hung.
 - iv. Walking along the road, a bus dashed against a little girl.
- (b) Put the accent marks at the proper place in the following words. [4]
- i. Magician
 - ii. Together
 - iii. Project(as a verb)
 - iv. Grotesque
- (c) Give synonyms of the following. [2]

- i. Zenith
- ii. Omnipresent
- iii. Abundant
- iv. Profound

(d) Give one-word substitutes of the following: [2]

- i. Belonging to the east
- ii. An instrument to measure the intensity of earthquakes

(e) Supply the appropriate prepositional / article in the following sentences: [4]

- i. ——— gold is a precious metal.
- ii. Some young men are habituated ——— evil habits which affect their health.
- iii. Prof Bhatnagar worked as ——— University Professor for some time.
- iv. At last, the Government acceded —— the request of the employees to sanction one more instalment of D.A.
