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Question Paper Code: **U4010**

**B.E./B.Tech.Degree Examinations, Nov/Dec 2009
Regulations 2008**

Second Semester

Common to all branches

HS2161 Technical English II

Time: Three Hours

Maximum: 100 marks

Answer ALL Questions

Part A - (10 x 2 = 20 marks)

1. Match *the* words in Column A with their meanings in Column B

(4 × $\frac{1}{2}$ = 2)

A	B
(a) amalgamation	- giving out rays
(b) chip	- bringing together
(c) radiation	- getting completely exhausted
(d) depletion	- device composed of silicon

2. Fill in *the* blanks with suitable preposition.

(4 × $\frac{1}{2}$ = 2)

One of *the* important benefits ————— machine civilization is that our standard of life has improved. There *is* much more variety ————— our lives. We have a wide choice of everything ————— wrist watches to flash lights. Food from any part of *the* world can be obtained ————— any season of *the* year.

3. Make sentences expressing purpose using *the* hints given below :

(2 × 1 = 2)

Example : aerial : receives broadcast signals

Answer : An aerial *is* used to receive broadcast signals

(a) a catalyst : speeds up a chemical process

(b) a clamp : holds two things firmly together.

4. Make sentences using *the* words given as directed :

(4 × $\frac{1}{2}$ = 2)

- book : (as verb)
- book : (as noun)
- record : (as verb)
- record : (as noun)

5. Fill in the blank spaces below with *the* appropriate form of the word :

(4 × $\frac{1}{2}$ = 2)

	Noun	Adjective	Person concerned
(a)	Nature	Natural	_____
(b)	Geology	_____	Geologist
(c)	Botany	Botanical	_____
(d)	Drama	_____	Dramatist

6. Give *the* numerical expressions for *the* following :

(4 × $\frac{1}{2}$ = 2)

e.g. : a bottle with a capacity of 10 litres - a ten-litre capacity bottle.

- (a) a tank with a capacity of 1000 gallons
- (b) a pipe with a length of 10 metres
- (c) a walk of five miles
- (d) a conference lasting for three days.

7. Rewrite *the* following in reported speech :

(2 × 1 = 2)

“Hurrah! I have got first rank,” Raju said.
The teacher said to Ram, “Bring me a piece of chalk”.

8. Give *an* extended definition of a lap-top in four sentences.

(4 × $\frac{1}{2}$ = 2)

9. Add suitable prefixes - sub, super, hyper, ultra, to *the* following words to match the meaning given against them :

(4 × $\frac{1}{2}$ = 2)

- (a) _____ tension – abnormally high blood pressure.
- (b) _____ violet – having wavelength beyond *the* violet end of *the* spectrum.
- (c) _____ zero – less than zero.
- (d) _____ conductivity – *the* property of having zero electrical resistance.

10. Write two instructions to prevent wastage of water in educational institutions.

Part B - (5 x 16 = 80 marks)

11. Read the following passage and answer the questions given at *the* end:

An electron microscope is a sophisticated microscope that can magnify objects up to one million times their original size. Unlike a traditional microscope, an

electron microscope can reveal some details of molecular structure and can be effectively used for chemical analysis. It has become an invaluable analytical tool, widely used in medical and industrial research establishments.

There are two used types of electron microscopes : the Transmission Electron Microscope (TEM) and the Scanning Electron Microscope. Transmission Electron Microscopes have extremely high resolution and can provide detailed information about the structure of organisms most of which are far too small to be seen at all with a normal optical microscope. TEMs can also be used for studying the arrangement of atoms and molecules in metal and other materials. In fact, they are effectively used, both to give information about the microstructure of new materials as they are being designed and also to help in the analysis of failures of materials. Most TEMs operate at accelerating voltages in the range of 50-100,000 V.

On the other hand, Scanning Electron Microscopes (SEM) have very different uses as they are very useful for looking at the surfaces of objects and can provide a completely different range of information. They may produce an extremely fine beam of electron, which is swept to-and fro across the specimen. They are extremely useful in studying the details and contours of different surfaces. They provide many other striking views of plant and animals cells that cannot be obtained by other means. In the microelectronics industry, Scanning Electron Microscopes have proved to be an equally great asset. It is possible to use them to look in detail at the microcircuits that are now constructed on tiny silicon chips, the microscope is also used as an instrument to fabricate circuits by using the electron beam as a 'writing' tool, controlling it by a computer so that the required circuit is produced on a special surface.

Questions :

- (i) Answer the following questions : (5 × 1 = 5)
- (a) What is the most remarkable feature of transmission electron microscope?
 - (b) Can TEM help in achieving improved diagnosis of ailments? How?
 - (c) What are the two important uses of electron microscopes in materials science?
 - (d) Can SEM aid cancer research? How?
 - (e) Can electron microscopes accurately describe the nature of the material under examination?
- (ii) Read the following statements and mark True or False based on the text : (5 × 1 = 5)
- (a) TEM has high resolving power.
 - (b) SEM cannot be used in the microelectronics industry.

- (c) SEM can provide striking views of animal cells.
- (d) In TEM the electron beam is scanned to-and-fro across a specimen.
- (e) Electron microscopes are more useful than optical microscopes.

(iii) Answer the following questions by choosing the best alternative option under each : (6 × 1 = 6)

- (a) Some of the finest details of molecular structure can be revealed by
 - (i) Traditional microscopes
 - (ii) Optical microscopes
 - (iii) Electron microscopes
- (b) In fact, they are effectively used both to give information about the microstructure of new materials as they are being designed. What is being designed?
 - (i) Electron microscopes
 - (ii) TEMs
 - (iii) New materials
- (c) TEMs allow us to see very fine details of specimens because
 - (i) electrons pass right through the specimens
 - (ii) they have extremely high resolving power
 - (iii) the electron beam is scanned to-and-fro the across the specimen
- (d) TEMs can be used to
 - (i) study details and contours of different surfaces
 - (ii) study the arrangement of atoms and molecules in metal
 - (iii) look in detail at the microcircuits that are now constructed
- (e) SEMs are very good for
 - (i) looking at the surfaces of objects
 - (ii) helping in the analysis of failure of materials
 - (iii) providing detailed information about viruses
- (f) SEMs can be used to look in detail at
 - (i) microcircuits that are now constructed on a tiny silicon chip
 - (ii) the normal outer surfaces of cells
 - (iii) both of these

12. (a) Write two coherent paragraphs of 100 words each on the following :

(16)

“English can very well be a Universal medium & communication” - Justify the statement.

OR

12. (b) Write two coherent paragraphs of 100 words each on the following :
“Air pollution and its impact.” (16)

13. (a) Look for the following advertisement in INDIAN EXPRESS dated 10.10.09 and respond : (16)

Jindal Polyester & Steel Ltd., requires a graduate in Chemical Engineering with 2 to 3 years experience in this line.

Apply within 10 days with Bio-Data.

Apply to : Sr. Vice President (Tech)

Jindal Polyester & Steel Ltd.

19, K.M. Hapur, Baslandshatra Road,

P.O. Gulaothi District,

Bulandshasi, U.P.

OR

13. (b) Write a letter to the HRD manager of CMT Infosys, Chennai, applying for the post of Systems Analyst. Enclose your CV along with your letter. (16)

14. (a) Prepare a Check list for going on tour with your family to Kashmir during this vacation. (16)

OR

14. (b) Write a set of 8 instructions of the following : (16)
“To maintain two-wheelers and four-wheelers in good working condition”.

15. (a) Write a report, as submitted by the Site Engineer to the General Manager, of a minor accident that took place at the construction site of a new factory building with your recommendation to avert such mishaps in future. (16)

OR

15. (b) Write a survey report on a project survey you have conducted to find out the preferences of youth to use two wheelers as a mode of transportation. (16)