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**Question Paper Code : 41518**

B.E./B.Tech. DEGREE EXAMINATIONS, JANUARY 2022.

First Semester

HS 3151 — PROFESSIONAL ENGLISH – I

(Common to : All Branches (Except : Marine Engineering))

(Regulations 2021)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Choose the correct word that can substitute the highlighted phrases in the following sentences. (4 ×  $\frac{1}{2}$  = 2)
- (a) Though Roopini was **a person who did not know to read and write**, she ran a very successful flower business.
- (i) Illegible  
(ii) Illiterate  
(iii) Illiberal  
(iv) Illegal
- (b) There were numerous clubs in college, notable among them was the **coin collection club**.
- (i) Numismatics  
(ii) Pneumatics  
(iii) Philanthropy  
(iv) Mathematics
- (c) Since the family had very strict food habits, they always packed a kitchen set **that could easily be carried everywhere**.
- (i) Creditable  
(ii) Potable  
(iii) Notable  
(iv) Portable

(d) The roads are well built with wide footpaths on either side for **those people who go to different places by walk.**

- (i) Industrialist
- (ii) Equestrians
- (iii) Pedestrians
- (iv) Travellers

2. Fill in the blanks with the appropriate tense forms of the verbs given in brackets : (4 ×  $\frac{1}{2}$  = 2)

The college brochure that is being distributed at the information desk to all the applicants who are present \_\_\_\_\_ (be) very colourful and attractive. It \_\_\_\_\_ (provide) information about the college, the programmes and courses offered and the campus. Right now we \_\_\_\_\_ (show) you images of the applicants forming a line in front of the information desk to receive the application forms and brochure. The application form \_\_\_\_\_ (cost) ₹ 1000/- though the brochure is free.

3. Fill in the blanks with the correct form of the verb that agrees with the subject, choosing from the two options given in brackets : (4 ×  $\frac{1}{2}$  = 2)

- (a) The police were very sure that one of the men present in the room \_\_\_\_\_ (were / was) the culprit.
- (b) Neither her brother nor her parents \_\_\_\_\_ (know/knows) about her poor grades in school.
- (c) One of the best things about this hotel \_\_\_\_\_ (is/are) the view from the rooms.
- (d) The smallest words in the language \_\_\_\_\_ (convey/conveys) the greatest of emotions.

4. Fill in the blanks in the following sentences with the most appropriate phrasal verb, choosing from the options given : (4 ×  $\frac{1}{2}$  = 2)

- (a) He found it very difficult to \_\_\_\_\_ his classmates in college.
  - (i) Getup
  - (ii) Get off
  - (iii) Get away to
  - (iv) Get along with
- (b) The investigators are \_\_\_\_\_ the link between the two incidents.
  - (i) Looking up
  - (ii) Looking into
  - (iii) Looking at
  - (iv) Looking away

(c) The candidate \_\_\_\_\_ the offer as she found the terms and conditions unacceptable.

- (i) Turned down
- (ii) Turned up
- (iii) Turned away
- (iv) Turned in

(d) The researcher \_\_\_\_\_ the new species of frog quite by accident.

- (i) Came by
- (ii) Came along
- (iii) Came across
- (iv) Came in

5. Define any two of the following :

(2 × 1 = 2)

- (a) Robot
- (b) Camera
- (c) Mariner's compass
- (d) Satellite

6. Choose the correct word from the options given and fill the blanks to form a compound word with the highlighted words in the following sentences :

(4 ×  $\frac{1}{2}$  = 2)

(a) The soldiers were surprised to see the tank advance on **enemy** \_\_\_\_\_ all by itself with no visible \_\_\_\_\_ **system** in place.

- (i) Terror, Contrary
- (ii) Territory, Control
- (iii) Tunnel, Centrol
- (iv) Territory, Country

(b) The teams that took part in the project used a prebuilt \_\_\_\_\_ **platform** to carry out their **software** \_\_\_\_\_

- (i) Hardware, expression
- (ii) Software, experience
- (iii) Hardware, experimentation
- (iv) Software, exposure

7. Fill in the blanks with the appropriate relative pronoun choosing from the options provided in brackets. (4 ×  $\frac{1}{2}$  = 2)

(a) Here is an advertisement \_\_\_\_\_ (what / which) might interest you.

(b) This is the place \_\_\_\_\_ (where / when) the great king met his end.

(c) She is the girl \_\_\_\_\_ (which / whom) you spoke to over the phone.

(d) The people \_\_\_\_\_ (who / whom) manage this institute are not very efficient.

8. Fill in the blanks with the correct collocation choosing from the words in brackets : ( $4 \times \frac{1}{2} = 2$ )
- (a) Although the teacher agreed with the students' views, she played the devil's \_\_\_\_\_ (champion / advocate / lawyer) and argued against the idea in class just to make the class interesting.
- (b) I tried very hard to convince my eight-year old brother to give me his pencil but he was very adamant. Finally I gave him a chocolate and that \_\_\_\_\_ (made / proved / did) the trick.
- (c) We had to settle the hospital bills on the day we got our friend discharged. That \_\_\_\_\_ (drained / ate / sapped) all our finances.
- (d) There was a tense atmosphere at the meeting. The manager cracked a joke to break the \_\_\_\_\_ (silence / ice / monotony).
9. Rewrite the following sentences in the negative form : ( $2 \times 1 = 2$ )
- (a) Both my friend and I went to the class.
- (b) Are we going to start working on our project today?
10. Combine the causes and their effects into a single sentence using cause effect words / expressions. ( $4 \times \frac{1}{2} = 2$ )
- (a) Agricultural lands have been used for construction. There is a reduction in food production.
- (b) People are digging bore wells indiscriminately. Groundwater levels have been reduced drastically.
- (c) The police force has been slack in the city. There is a sharp rise in crime rates.
- (d) Many educated youth are seeking jobs abroad. The country is facing a brain drain.

PART B — ( $5 \times 16 = 80$  marks)

11. Read the following passage and answer the questions given.

Anybody who doesn't know much about nanotechnology should begin with geckos. These are the lizards that are probably the world's best climbers. Watching them climb upside down on a horizontal pane of glass, you realize that spiderman should really have been called geckoman. These guys outclimb spiders any day.

With perfect ease they can hang from a single toe, and they do so by pure adhesion, not by sticking a toe in a hole or by curling it round something they can grip. With all the toes on the glass scientists **estimate** that if the rest of the body were strong enough it could take the weight of a 100 kg person suspended below it. Although each toe is equipped with a tiny hook-like claw at the end, these are of no use on the glass. What keeps them up there is the amazing structure of the skin of the toe.

Seen under the microscope each toe has around two million tiny hairs on its underside. Under the higher **magnification** of an electron microscope the end of each of these hairs is seen to split into hundreds of even tinier nano-hairs, which scientists have called spatulae. These hairs are so small that they are able to establish contact with the molecular structure of the surface the gecko is walking on. With that near-perfect contact the hairs are stuck to the surface by electromagnetic forces called van der Waals forces. The molecules on the feet and on the surface have areas of slight positive or negative charge that attract each other like mini magnets when they get really close.

Scientists have been working for over 15 years now to try to unlock the secrets of the stickiness of gecko toes and find a way to artificially **reproduce** the same structure of nano-hairs. The hypothesis at the moment is that if any material can be shaped into nano-hairs they will have the same properties as those on gecko toes, so scientists are looking for an **alternative** material with which to manufacture the stickiest synthetic surface ever.

This is one example of research in the field now known as nanotechnology. In this field, the technology being created can be measured in a few nanometres (one nanometre is a millionth of a millimetre). Interest in developing technology at this level was largely inspired by Richard Feynman at the beginning of the 1960s, but the 'nano' catchphrase was coined in the 1990s by Dr. Eric Drexler, who **spurred** scientists on through a series of speeches and a book entitled "Engines of Creation: The Coming Era of Nanotechnology".

The scientists working on the geckos **envisage** an enormously wide range of possible applications for the kind of adhesive nanotechnology that they will develop. The one that will make the biggest splash in the media will be the gloves and the boots that will allow rock-climbers to take their sport to hitherto undreamed of heights. But the technology could also be used in surgery to keep the edges of wounds together without the need for stitches. There will also be a huge potential in the manufacturing sector to stick millions of components together tighter than ever before without glues or screws.

- (I) Choose the correct options to answer the following questions. ( $10 \times 1 = 10$ )
- (a) Why is the gecko cited here as an introduction to nanotechnology?
- (i) To give the reader an idea of nano applications found in nature
  - (ii) To show that the gecko is an example of nanotechnology
  - (iii) To introduce the reader to the scale and size of things that nanotechnology deals with
  - (iv) To make the reader aware of developments in nanotechnology
- (b) A gecko stays on a surface using \_\_\_\_\_
- (i) the principle of adhesion
  - (ii) the holes on the surface
  - (iii) its toes to grip the surface
  - (iv) hook like claws

- (c) The gecko's toes are made up of \_\_\_\_\_ which help it grip the surface.
- (i) Tiny hooks
  - (ii) Millions of tiny hairs
  - (iii) Electrically charged particles
  - (iv) Mini magnets
- (d) What gives the gecko's toes the ability to make contact with the molecular structure of the surface they walk on?
- (i) Their shape
  - (ii) Their numbers
  - (iii) Their size
  - (iv) Their length
- (e) Van der waals forces are \_\_\_\_\_ in nature.
- (i) Mechanical
  - (ii) Electrical
  - (iii) Magnetic
  - (iv) Electromagnetic
- (f) Why do scientists wish to reproduce the structure of the gecko's toes?
- (i) It will help develop applications of adhesive surfaces in various fields.
  - (ii) It will enable them create a clone of a gecko.
  - (iii) It will make activities such as rock climbing much easier.
  - (iv) It will increase bonding between people and nature.
- (g) What is the thrust of research in the field of nanotechnology?
- (i) To create materials similar to gecko feet.
  - (ii) To develop technologies the size of nanometres.
  - (iii) To manufacture synthetic materials.
  - (iv) To fabricate a new engine.
- (h) When did interest in this technology begin?
- (i) 1960s
  - (ii) 1990s
  - (iii) 15 years ago
  - (iv) It is yet to begin



(i) Dr. Eric Drexler named his book “Engines of Creation: The Coming Era of Nanotechnology”. By linking nanotechnology to creation, he implies that \_\_\_\_\_

- (i) This new technology can turn man into God.
- (ii) Nanotechnology is the secret of nature.
- (iii) Nature’s creations are extremely intricate even at the tiniest levels.
- (iv) Humans can achieve the effects of nature’s creations by creating technologies that work at extremely tiny levels.

(j) Which of the following is not an application of nanotechnology as mentioned in the passage?

- (i) Adhesive rock climbing gloves and boots
- (ii) Elimination of surgical sutures
- (iii) Creation of synthetic gecko toes
- (iv) Assembly of components without screws and glues

(II) Choose the option that gives the meaning of the words (highlighted in the passage) as they are used in the passage : (6 × 1 = 6)

(a) Estimate

- (i) Guess
- (ii) Calculate
- (iii) Respect
- (iv) Evaluate

(b) Magnification

- (i) Enlargement
- (ii) Exaggeration
- (iii) Enhancement
- (iv) Excellent

(c) Reproduce

- (i) Breed
- (ii) Impersonate
- (iii) Replicate
- (iv) Multiply

(d) Alternative

- (i) Surrogate
- (ii) Choice
- (iii) Resort
- (iv) Substitute

- (e) Spurred
  - (i) Inspired
  - (ii) Goaded
  - (iii) Instigated
  - (iv) Coerced
- (f) Envisage
  - (i) Prophecy
  - (ii) Imagine
  - (iii) Predict
  - (iv) Anticipate

12. (a) Your department conducted a two day workshop on technical writing skills. You were the leader of the organising team. Prepare a short report in about 250 words on the event. (16)

Or

- (b) You are the President of the Debating Club in your college. You have been asked by the Principal of your college to submit a short report in 250 words on the activities about conducted by the Club in the past three months. (16)

13. (a) Write a set of eight instructions for students who are going to move into the hostel for the first time. (16)

Or

- (b) Write a set of eight instructions for your younger brother /sister who is going to write his / her board exams this year. (16)

14. (a) Write a set of eight recommendations for youth to maintain a healthy lifestyle. (16)

Or

- (b) Write a set of eight recommendations for the general public to protect themselves from internet fraud.

15. (a) Narrate in about 250 words your experiences during the extended lockdown. (16)

Or

- (b) Describe in about 250 words the city / town/ village in which you grew up. (16)