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B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2021.

First Semester

Civil Engineering

HS 2111/HS 11/080020001 — TECHNICAL ENGLISH – I

(Common to all branches)

(Regulations 2008)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Match the words in column A with their meanings in column B: (4 × ½ = 2)

A

B

- | | |
|-------------------|--|
| (a) fantasy | (i) growing in a place where originally from |
| (b) congested | (ii) pollution |
| (c) contamination | (iii) wild imagination |
| (d) indigenous | (iv) overcrowded |
| | (v) unnecessary |

2. Convert the following into passive voice : (2 × 1 = 2)

- (a) We pass electric current through the electrode.
(b) They have opted for new methods of innovation in training.

3. Fill in the blanks with suitable comparative forms of adjectives given in brackets: (2 × 1 = 2)

- (a) Platinum is _____ (expensive) gold.
(b) Trains travel _____ (fast) buses.

4. Define any TWO of the following in a single sentence each : (2 × 1 = 2)
- (a) Scooter (b) Robot
(c) Water heater
5. Expand the following compound nouns: (2 × 1 = 2)
- (a) A round-headed rivet (b) A steel jar.
6. Correct the following sentences as per the rules of concord: (4 × ½ = 2)
- (a) The trousers is in the cupboard.
(b) Your appearance as well as personality are against you.
(c) Apples is in the fridge.
(d) None of them have turned up for the party.
7. Fill in the blanks in the following sentences with the appropriate tense forms of the verbs given in brackets. (4 × ½ = 2)
- (a) They _____ (build) this castle in 1765.
(b) Liz _____ (not finish) her homework yet.
(c) Look! Jane and Joseph _____ (play) tennis.
(d) A heavy wind _____ (blow) when the helicopter landed.
8. Complete the following sentences indicating the conditions in which something will happen: (2 × 1 = 2)
- (a) If I were you, I _____.
(b) If we had gone to London, we _____.
9. Fill in the blanks with appropriate derivative: (4 × ½ = 2)
- | | | | |
|------------|---------|-------------|--------------|
| Noun | Verb | Adjective | Adverb |
| Diminished | _____ | Diminishing | _____ |
| _____ | Reflect | _____ | reflectivity |
10. Fill in the blanks using appropriate cause and effect expressions: (2 × 1 = 2)
- (a) Coal based thermal plant emits sulphurous gases _____ acid rain.
(b) The people of Kochi petitioned the Government _____ the elephant killed four people.

PART B — (5 × 16 = 80 marks)

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

The Art of Healing

Taking part in music and art classes is a well-established form of therapy. It can benefit patients socially, emotionally and physically. But researchers at the Chelsea and Westminster Hospital in England are exploring a different premise—that simply pleasing the eyes and the ears will help people recover. It's not a new idea. Back in 1860, Florence Nightingale wrote in her *Notes on Nursing* that brightly colored flowers and art helped patients recover more quickly. "This is no fancy. People say the effect is all on the mind. It is no such thing. The effect is on the body too". But the truth is that no one knows exactly why patients who listen to music or see paintings should recover quicker, or how to maximize the effect. That's what the new research is hoping to show.

Over the years, a trickle of results has suggested a link between the arts and well-being. But there have been few strictly controlled randomized trials like those that test the effectiveness of a new drug. One classic American study, which shows that architecture can affect recovery times and that patients do respond to their surroundings, is nearly 20 years old. It looked at 46 people who had their gall bladders removed. Half of them were kept in hospital rooms with a pleasant view over some trees. The other half had rooms looking out onto a brick wall. The patients who had a room with a view needed smaller doses of painkillers on average and left the hospital almost a day earlier: a 10 percent shorter hospital stay than those faced with the brick wall. But it isn't so clear whether looking at pleasing pictures will have the same kind of effect.

More research has been done on the effect of music and in 2002, David Evans of the Royal Adelaide Hospital in South Australia reanalyzed data from 19 earlier studies. He concluded that music was a cheap and effective way of relieving patients anxiety. Some of the studies seemed to suggest that music could also lower blood pressure reduce the need for painkillers. But these studies were too small to tell for sure.

At the Chelsea and Westminster, they have analyzed the results from studies of nearly 300 patients so far, and they are turning up some interesting effects. "For the first time, we have established physical and biological evidence for the influence of art on healthcare," says Rosalia Lelchuk Staricoff, who heads the hospital's research team.

The three-year- research program began in 1999. The first phase established that 80 percent in the hospital found art and music helped distract them from their medical problems and raised their spirits. Then in June 2000, the research moved up a gear when the King's Fund, a British charitable foundation, put up £70,000 to measure the clinical effect. The final stages of the research won't be made public for a while, but "the results so far are almost all positive", says Staricoff.

One of the early studies looked at cancer patients who were being given chemotherapy at the hospital. Many were anxious about their treatment and depressed about the possible outcome. “If you can relieve stress then it can help patients to make the most of the time they have to live,” says Debbie Frenlon of Cancer Research UK.

But Fenlon thinks that easing anxiety and depression has physical effects, too. For example, it relieves pain and reduces nausea from chemotherapy. “If you’re tense, you’re more likely to feel pain. It’s fairly straightforward physical thing,” she says. Although the effect is controversial, she thinks that reducing anxiety and depression could spur the body’s immune system to fight cancer, too.

The 83 patients in this study were divided into three groups. One group listened to a 45-minute performance by live musicians during their treatment. A second group was treated in a room that had a selection of pictures hung on the walls. These were changed every week so that patients wouldn’t see the same ones week and after week. Finally, a control group was treated in a standard hospital ward, without any music or art.

Staricoff and her colleagues Jane Duncan used a standard psychological questionnaire to assess anxiety and clinical depression in the patients. They found that both the paintings and the music lowered depression by about a third. However, music was more effective at lowering anxiety than art. On average, the art group had an anxiety score that was 18 percent lower and the music group had a score 32 percent lower than the controls. Is it trivial to worry about what’s hanging on ward walls when there are bed and staff shortages and growing waiting lists to deal with? Staricoff hopes their work will convince funding bodies otherwise. After all, if music or paintings can take the place of a course of antidepressants, it has to be better for everyone.

- (a) Choose the correct answer (5 × 1 = 5)
- (i) What is the main idea in this passage?
- (1) Cancer patients respond positively to music during chemotherapy.
 - (2) Music and art classes are excellent forms of therapy for patients.
 - (3) Music and art in the hospital environment contribute to patient recovery.
 - (4) Research is being carried out at hospitals in England, the U.S., and Australia.
- (ii) How did Staricoff and Duncan determine levels of anxiety and depression in their test subjects?
- (1) By testing their blood pressures often
 - (2) By interviewing them in the hospital
 - (3) By using a psychological questionnaire
 - (4) By measuring their intake of antidepressants.

- (iii) According to paragraph 8, how was the control group treated?
- (1) With a questionnaire
 - (2) With a musical performance
 - (3) Without music or art
 - (4) Without changing the art
- (iv) The author mentions all of the following as advantages of art and music in the hospital environment, EXCEPT
- (1) most hospital staff have a higher level of job satisfaction
 - (2) the patients in some studies leave the hospital sooner
 - (3) some researchers believe the immune system is stimulated
 - (4) fewer pain medications are required by some patients
- (v) It can be inferred that
- (1) the author is skeptical of the research results
 - (2) the researchers expect the final results to be Positive
 - (3) there is very little funding for the current study
 - (4) the patients are not aware that they are in a study
- (b) Mention whether the following statements are TRUE or FALSE. (5 × 1 = 5)
- (i) Surgical patients required larger doses of pain medicator.
 - (ii) Music and art diminished depression by one third.
 - (iii) Patients with a pleasant view recovered sooner.
 - (iv) The first phase of the Chelsea and Westminster studies established that art and music did not have a positive effect on attitudes.
 - (v) Historically, several studies have suggested a relationship between health and the arts.
- (c) Choose the appropriate meaning for the given words as they are used in the text. (6 × 1 = 6)
- (i) Trivial
 - (1) outmoded
 - (2) insignificant
 - (3) disputed
 - (4) extravagant
 - (ii) Controversial
 - (1) having advantages
 - (2) causing disagreement
 - (3) doing damage
 - (4) making improvements

- (iii) Therapy
 - (1) Healing treatment
 - (2) Damage
 - (3) Injury
 - (4) Medicine
- (iv) Depressed
 - (1) Afflicted (2) Raise
 - (3) Damp (4) Worried
- (v) Effective
 - (1) Not important (2) Flimsy
 - (3) Significant (4) Useful
- (vi) Convince
 - (1) Assure (2) Remain
 - (3) Prolong (4) Avoid

12. (a) Write a set of eight instructions that are to be followed by students in the language laboratory. (16)

Or

- (b) Write a set of eight instructions that are to be followed while travelling by bus. (16)

13. (a) Describe the use of human resources in two paragraphs, each in about 100 words. (16)

Or

- (b) Describe how fossil fuels help in the conservation of energy in two paragraphs, each in about 100 words. (16)

14. (a) Write a paragraph in about 200 words analysing the strengths and weakness of the current Indian cricket team and its prospects of winning the world cup. (16)

Or

- (b) Write a paragraph in about 200 words on the merits and demerits of living in a big city. (16)

15. Given below are two passages. Read one of them to draw a flow chart. (16)

- (a) In this wet process of preparing cement, limestone is crushed and sent to the storage soils. Clay which is washed with water and is poured into the storage basin. The crushed limestone and clay are mixed in the proper proportion and are canalized to a grinding mill where they are ground and the formation is known as slowly. In order to grind either ball mill and tube mill is made use of. The slurry is led to correcting basin where the composition of the mixture is checked. The slurry is stirred appropriately to ensure the correct composition of the mixture, after which it is taken to the storage temperature of the kiln and is adjusted from 1500 C to 1700 C to dry the moisture content present in the mixture. Clinker formation is the result of the chemical reaction which takes place in the kiln. The clinkers are then sent to the coolers. The handballs i.e., clinkers are ground and sent to the storage soils from where the finished product in the form of cement is ready for distribution.

Or

- (b) The flow chart describes the steps involved before distributing pure water to the customers. The surface source of water from lakes, rivers, ponds or reservoirs is treated and made ready for supply. The first step which involves in the treatment is screening. Larger floating materials like paper, log, and leaves are removed. Smaller particles are allowed to retain in the tank which is known as plain sedimentation. By adding chemicals, the minute particles which are in suspension are tend to precipitate.

The filtration unit is set in order to get rid of the chemicals added during the process of coagulation. The filtration is aided with the help of microbes. To eradicate the harmful microbes, the water from the filtration unit is allowed to pass through a container containing chlorine. This process is known as chlorination. Now the water obtained is a fully treated and pure on which is then collected in a storage tank and kept ready for consumer distribution. (16)