

Question Paper Code : 77178

B.E./B.Tech. DEGREE EXAMINATION, APRIL/MAY 2015.

Second Semester

Civil Engineering

HS 6251 — TECHNICAL ENGLISH — II

(Common to all Branches except Marine Engineering)

(Regulation 2013)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Rewrite the following as numerical expressions : (4 × $\frac{1}{2}$ = 2)
 - (a) A workshop for 5 days
 - (b) A project worth 25 lakhs .
 - (c) A pole that is 15 metres high
 - (d) A programme running for three days.

2. Complete the 'If clauses' using correct tense of the verbs : (4 × $\frac{1}{2}$ = 2)
 - (a) If the child goes out in the rain, it _____ (catch) cold.
 - (b) If I were an astronaut, I _____ (visit) the space station.
 - (c) If the boys do not practice, they _____ (lose) in the finals.
 - (d) If there had been good rains, the crops _____ (grow) well.

3. Fill in the blanks with the correct homophone from the words given : $(4 \times \frac{1}{2} = 2)$

- (a) The _____ (leak/leek) in the tank is repaired.
- (b) The farmer grows _____ (maze/maize) in his fields.
- (c) The furniture has _____ (duel/dual) purpose as a sofa and bed.
- (d) The _____ (scene/seen) at the country side is very beautiful.

4. Rewrite the following sentences in the passive form : $(2 \times 1 = 2)$

The hockey team won a gold medal in the national event. The chief minister appreciated their efforts.

5. Fill in the blanks with the most appropriate Modal verb from the list given. Change the form according to the meaning : (*Could, must, shall, would, should, might, need*) $(4 \times \frac{1}{2} = 2)$

- (a) The manager _____ visit the company tomorrow.
- (b) I _____ to tell him about the problems here.
- (c) He _____ come forward to offer solutions.
- (d) The company _____ show progress after that.

6. Frame sentences using any TWO of the phrasal verbs : $(2 \times 1 = 2)$

- (a) get over
- (b) back off
- (c) breakdown
- (d) look up

7. Combine the two sentences by using an appropriate clause : (2 × 1 = 2)

(a) The IT company is started in Bangalore. It will offer jobs to the young professionals.

(b) The man drove the car very fast on the highway. He met with an accident

8. Use the following idioms by choosing the correct one for the blanks given. Make necessary changes in tenses : (4 × $\frac{1}{2}$ = 2)

(a) *make up one's mind*

(b) *at the eleventh hour*

(c) *catch up*

(d) *move to tears*

(i) Seeing the crying child the mother was _____

(ii) Ravi always prepares for the exams only _____

(iii) Hearing the news that Kiran was not selected in the National team, he _____ to work harder.

(iv) The workers have to _____ since the company was closed down for some days.

9. Complete the collocation in the sentence by choosing the correct words :

(4 × $\frac{1}{2}$ = 2)

(a) The officer _____ (pay/had) sympathy on the manager and offered financial aid.

(b) The dog in our house _____ (went/get) missing when we moved to a new place.

(c) The champion _____ (broke/made) his own record in the Olympics.

(d) The company _____ (made/launched) a new product in the market last month.

10. Frame sentences by using any TWO of the following words both as a noun and a verb : (4 × $\frac{1}{2}$ = 2)
- (a) fight
 - (b) long
 - (c) produce
 - (d) fly

PART B — (5 × 16 = 80 marks)

11. Attempt both (i) and (ii) :
- (i) Read the following passage and answer the questions given below :

For skydivers, the sky isn't the limit. It's just the beginning. Thousands of people each year try the sport of skydiving. Some only jump once, while others go on to experience lifelong adventures, maneuvering and flipping through the air. "Skydiving is not for everyone. But, if you enjoy the challenge of learning to perform in a completely new environment, are willing to make the effort to do it safely, and can overcome your fears to make the first few jumps – the rewards can be tremendous," says skydiver Bill von Novak. He has jumped around 5,500 times, is a full-time instructor at Perris Valley Skydiving in California, and sometimes teaches a free fall course to Navy SEALS at Tac-Air.

There are three options for your first jump. However, before you can make any attempts at skydiving, a ground course on safety and equipment is required. The length and complexity of the course depends on the jump you choose. The most popular first-jump technique is tandem. Tandem has the shortest ground course, and is the easiest to complete. You and the instructor are strapped together in a double harness (the instructor behind, with you in front). Your instructor wears

the tandem rig, which contains a main and a reserve parachute. You jump out of the plane together, and the instructor takes care of opening the parachute at the appropriate altitude. The second technique is accelerated free fall or AFF. Accelerated refers to the learning process. You jump out of the plane while being held by two instructors, one on either side. They hold onto you until you open your parachute. The third technique is called Static line. The static line is connected to the rip cord on your parachute and to the plane. After jumping out, you will experience free fall for a second or two. Then the weight of your body will pull the line tight, opening the canopy. For each of these three methods, an instructor is there to coach you in the air with hand signals or with a radio.

When someone says parachute, huge round circles might come to mind. It's more common today to use a rectangle canopy called a Ram-air. When they are opened, the forward speed fills cells in the parachute with air, keeping it stable. Skydivers also wear jump suits, helmets, and gloves to help protect other areas of their bodies. Face shields or goggles are also commonly worn. This helps with visibility, an important consideration, since you are falling toward the Earth at the rate of 120-200 mph.

If you decide to try skydiving, just remember that there are very real risks involved. For some, the risk is the draw. When I asked Bill von Novak what his favorite thing about skydiving is, he said, "The freedom. For a few minutes there is absolutely nothing holding you to a spot on the planet, or in an airplane. You're completely free to fly around the sky and to choose your own orientation, speed, and trajectory."

Since skydiving is a risky sport, you must be eighteen years old to jump out of a plane at skydiving schools or areas called drop zones. But, there is an alternative if you are not yet of age — vertical wind tunnels. Vertical wind tunnels simulate the feeling of free fall. They are used by professional skydivers and competitors to practice their routines or tricks. Bill von Novak says, “The wind tunnel is a great way for younger aspiring jumpers to see what free fall is like.”

If you decide after your first jump or a visit to a vertical wind tunnel that skydiving is a sport you would enjoy, you might want to look into the various types of sky sports and competitions. Each sport and competition has its own set of rules, and challenges. There is also a long list of people who have set or broken records. Bill von Novak is one of these people. His first world record was as part of a 300-person formation in Arizona in 2002. He was also one of the people that set the world records in Thailand for formations. In 2004, they made a formation of 357 people, then went back in 2006 to break that record with a formation of 400.

On August 16, 1960, a man named Joseph Kittinger did something that no one would ever dream was possible. He went up in a polyethylene plastic helium filled balloon called, Excelsior III. He reached an altitude of 102,800 feet. From there, he leapt out of the balloon's gondola, to free fall for 80,000 feet. He fell for four minutes and thirty-six seconds, reaching a speed of around 614 mph, before opening his parachute. Kittinger set records that still stand today. These records include: the highest balloon ascent; the highest parachute jump; the longest free fall; and the fastest speed by a man through the atmosphere of 614 mph.

With new innovations of equipment and knowledge, there are endless possibilities to where the future of skydiving will lead. If you are eager to try something challenging and would love to feel the freedom of flying, skydiving might be an adventure for you. Who knows? With risk and excitement mixed together, skydiving might just change your life.

(a) Choose the correct answers for the questions : (4 × 1 = 4)

(1) What is not true of Bill von Novak?

- (i) He set a world record in Thailand
- (ii) A full time instructor in a skydiving institute
- (iii) First world record was a formation with 300 divers
- (iv) He holds a record for the highest parachute jump.

(2) Who was Joseph Kittinger?

- (i) the first person to parachute from an airplane
- (ii) the person who organized the record 300-person skydiving formation in Arizona
- (iii) the person who holds the record for parachuting from the lowest altitude
- (iv) the person who made the highest ascent in a balloon

(3) When would a skydiver pull the rip cord?

- (i) when he or she wants the parachute to open
- (ii) when the main parachute fails to open
- (iii) when he or she reaches the ground
- (iv) when he or she first puts on a parachute

(4) What is a vertical wind tunnel?

- (i) a wind storm that skydivers jump into
- (ii) a machine that produces wind to make people feel like they are skydiving
- (iii) an area below the airplane that skydivers should avoid
- (iv) a place where skydivers store their gear

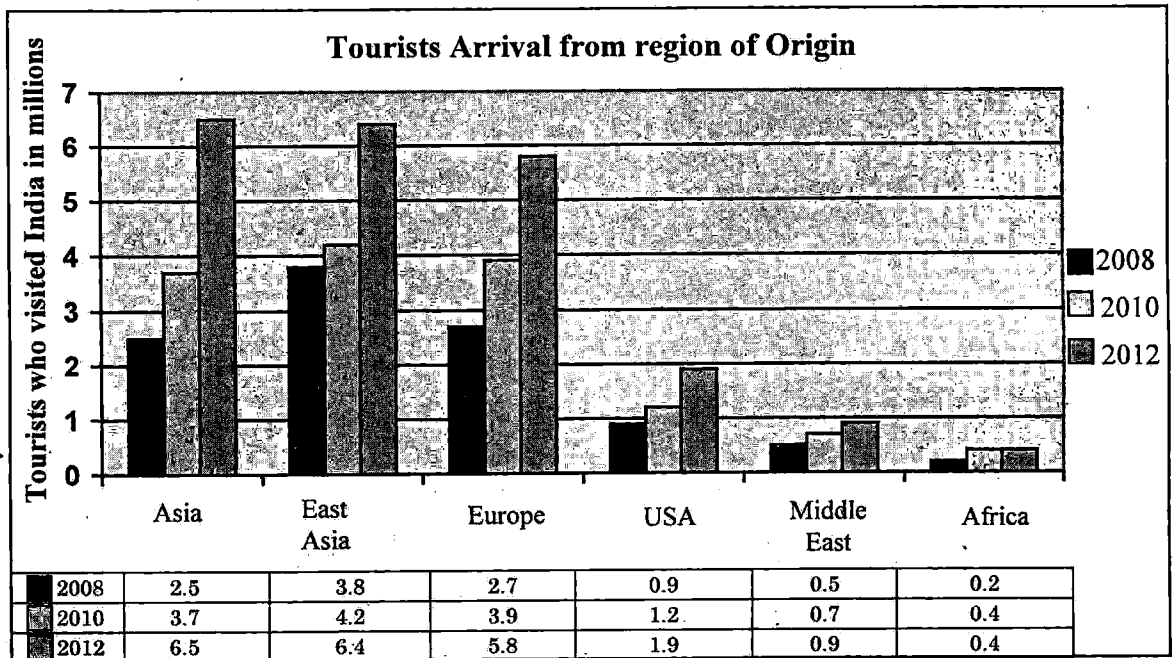
(b) Give short answers : (2 × 2 = 4)

(1) Describe a tandem parachute jump.

(2) How is an Accelerated Free Fall different from Static line?

(c) Prepare a check list of FOUR pieces of equipment that a diver should take for sky diving. (4)

(ii) The following chart represents the arrival of tourists from different regions. Analyze the given data and write a paragraph of 150 words : (4)



12. (a) Read the following passage and answer the questions below :

The principal application of radium is the use for therapeutic purposes of the biological action of the rays. The biological action is a selective destruction of certain cells and can have very dangerous consequences, but can also be directed against some tissue, as for instance in the case of cancer. For medical use radium is put into tubes of glass or in platinum needles, sometimes also on flat surfaces recovered by a varnish, for the irradiation of the skin. Another form of use is to keep radium in solution and to extract from time to time the accumulated radon which, introduced into small tubes, has the same efficiency as radium till its

activity has disappeared. The use of radium for pharmaceutical preparations has been frequently tried. The scientific basis, however, in this case is far from being well established. Experimentation on the improvement of the soil by small quantities of radium has been till now very limited and some favourable results in this direction have been claimed.

By incorporating radium with phosphorescent zinc sulphide it is possible to obtain luminous paints giving a weak light visible in darkness. The most important use of this paint is for watches. The quantity necessary is of the order of one-tenth of a milligram per gram of zinc sulphide. After several years, the phosphorescent product is altered by the action of the rays and becomes less luminous, though the quantity of radium has not changed appreciably.

Radium in Nature—Radium exists in minute proportion in every kind of soil and water; the extraordinary sensitiveness of the methods of analysis has made it possible to ascertain this fact. If some inactive element is present in the same proportions, we are not able to detect it. The quantity of radium contained in the ordinary soil is of the order of 10^{-12} or 10^{-11} gr. of radium per gram while a good radioactive ore contains about 10^{-7} gr. of radium per gram of mineral.

Radium existing in the depths of the earth is sometimes dissolved by water and affects springs. Other springs dissolve principally the radon liberated by the radium and their activity dies out with the radon. This would explain why certain mineral waters are reputed to be efficient for curative effect only when used directly at the source. Some radio-active waters contain amounts of radium up to 10^{-10} gr. per litre; the amount of radon can attain 10^{-7} curies per litre.

The radium in the soil is the origin of the small quantity of radon present in the air and is partly responsible for the natural ionization of the air which is known to be an important factor in the meteorological conditions of the atmosphere. Radium and radioactive elements in general have played an important part in the evolution of terrestrial heat. It is not improbable that the radium present at the surface of the earth in a very dilute state has some connection with the evolution of life on our planet.

(1) Complete the following sentences by filling in with THREE to FIVE correct words : (4 × 1 = 4)

- (i) The biological action of the rays of radium is the _____.
- (ii) Mixing radium with phosphorescent zinc sulphide will give _____.
- (iii) Presence of small quantity of radium in the soil will result in _____.
- (iv) The water springs get affected when _____.

(2) Answer the following questions in two sentences : (3 × 2 = 6)

- (i) How is radium used for medical purposes?
- (ii) What happens to the phosphorescent product after some years?
- (iii) How is the presence of a small quantity of radium in soil found out?

(3) Write a summary of the passage in about 100 words : (6)

Or

(b) Read the following passage and answer the questions given below :

By "biofuels" I mean fuels for vehicles, such as "biodiesel" and "bioethanol" - although you can also use the term "biofuel" to cover any kind of fuel made from living materials or their waste. Biofuels are made from two main sources :

- (i) Growing crops such as corn, sugar cane, soya or rapeseed; or from palm oil
- (ii) Growing algae for powering vehicles, the product is usually bioethanol or biodiesel. Bioethanol is mixed with petrol, whilst biodiesel can be used on its own. Biofuels are potentially carbon-neutral, because although carbon dioxide is released when we burn them, carbon dioxide is taken in by the plants as they grow. However, energy is needed to grow the crops, harvest them, and to process the results into usable products - and most of this energy will be from fossil fuels for farm machinery and power stations.

Biofuels from crops : Crops such as rapeseed contain oils that can be processed into biodiesel. Crops such as sugar cane contain sugars that can be fermented into bioethanol. Producing biofuels from crops means using large amounts of land to grow those crops - that means less land for food production. We must be careful to strike a balance between crops for fuel and crops for food.

Biofuels from algae: Algae - that's pond scum - are microscopic water plants. They reproduce and photosynthesise fast, and the algae are then filtered out of the water and the lipids (oils) are used to make biodiesel. They can grow in transparent plastic tubes, arranged vertically so we can maximise the area available for photosynthesis without taking up too much land.

It is claimed that biofuels will help us to reduce our reliance on fossil-fuel oil, and that this is a good thing. On the other hand, it is also claimed that it takes a huge amount of land to grow enough crops to make the amount of biofuels we'd need, so much so that it makes a big dent in the amount of land available for growing food.

Who is right? Should we be using more biofuels and less fossil fuels? Think about the carbon dioxide - there are similar CO₂ emissions from biofuel-powered vehicles as from petrol-powered ones. It is claimed that growing plants to make biofuels will take in that carbon dioxide again. But biologists tell us that forests are not 'the lungs of the planet' after all - they give out as much CO₂ as they absorb as the plants respire. It seems that it's plant plankton in the oceans that takes in most CO₂ and gives out most oxygen. Biofuels are renewable, we can plant more of the crops or grow more of the algae.

- (1) Complete the sentences by filling the blanks with correct words : (4)
- (i) The two products used to power vehicles are _____ and _____.
 - (ii) Sugar from sugarcane has to be _____ in order to make bioethanol.
 - (iii) Biofuels shall help to reduce relying on _____.
 - (iv) Majority of the CO₂ is absorbed by _____.
- (2) Answer the following questions : (3 × 2 = 6)
- (i) Why are bio fuels called 'carbon neutral'?
 - (ii) Why should the algae be grown in transparent plastic tubes?
 - (iii) What does it mean 'trees are not the lung of the planet'?
- (3) Write THREE advantages and disadvantages of biofuels as you read from the passage. (6)

13. (a) You have come across the following advertisement in the newspaper on 12th June 2014. Write a letter of application and a detailed CV to one of the posts selected :

A leading private sector company in India needs the following engineers for the various projects in India.

- 1) CIVIL / MECHANICAL ENGINEERS**
- 2) ELECTRICAL / MANUFACTURING ENGINEERS**
- 3) CHEMICAL ENGINEERS**
- 4) COMPUTER SCIENCE ENGINEERS**

- 1 to 3 years of experience
- Should be able to work in a team
- Good communication skills

Apply to

**The Managing Director,
L and T Ltd.
Bangalore - 5**

Email id: landt14@gmail.com

Or

- (b) You come across the following advertisement in a website www.careers.ma

Company Name	Role
Ammwaiy Staffing	<ul style="list-style-type: none"> • Technical Support Engineer • Civil Engineer
Locations	<ul style="list-style-type: none"> • Electrical Engineer • Mechanical Engineer
Thane, Pune	
Nationality	Industry
India	Engineering, Procurement, Construction
Experience	Salary
3 - 3 years	6.50 - 8.50 lacs
Education	Posted On
B.E/B.Tech	30 th Aug 2014
<ul style="list-style-type: none"> • IT • Manufacturing/ Engineering/ R and D 	

Prepare a detailed CV to be uploaded in the website.

14. (a) You are working in a textile company and your company is planning to install a waste water recycling plant. How would you conduct the study? Prepare a **Feasibility Report**. This report should contain among other things the background, method or methodology, feasibility of the project, conclusion and recommendation.

Or

- (b) You along with two of your friends underwent a short training during your summer vacation in a company and you were involved in a mini Project. Prepare a **Project Report** to be submitted to your HOD. This report should contain

- (i) managing the project
- (ii) objectives/ purpose
- (iii) outcome
- (iv) solution and action
- (v) key findings
- (vi) recommendations etc.

15. (a) Aravind had been shortlisted for an interview by a multi-national company in Chennai. What are the questions likely to be asked by the Placement officer and how would he respond to them. Make a minimum of **eight** exchanges.(16 sentences) The first one is done for you.

P.O. : Hello Aravind, Can you tell us why you had applied to this company?

Aravind: It had been my dream to work in a multi-national company like yours.

Or

- (b) You want to buy a new mobile phone and you visit the showroom. What kind of dialogue would take place between you and the marketing personal? You finally decide to go for a particular brand. Make at least **eight** exchanges, highlighting the marketing strategies used by the executive.

Marketing Executive: Hello sir, May I help you?

You: I'm on the lookout for a mobile phone.
