BP4-ELSC: ENGLISH FOR LIFE SCIENCES

INTERNAL EXAMINATION

Questions Paper Pattern

BP4-ELSCMQ

I Listening (15 marks)

Three passages - all passages to include a question on vocabulary. 5x3=15

a. Instruction / process description/ domain specific passage followed by info gap activities to include questions on vocabulary.
b. Listen and complete a flow chart.
c. Listen and compose a paragraph.

II Speaking (15 marks)

Three speaking activities – Individual, pair and Group. All activities to include use of domain specific vocabulary 5x3 = 15

a. Individual – short talk (OR)
b. presentation with PPT
c. Pair – mind mapping - brain storming with Role play / Interview
d. Group – Group discussion

III Reading (10 marks)

Two passages – fact and opinion (simple content from domain with/ without questions pertaining to understanding and analysis (Critical Thinking). **5x2=10**

a. Passage to distinguish fact and opinion
b. Describe a process based on inputs from a passage or a picture.

IV Writing. All activities to include use of domain specific vocabulary.
5x2=10

a. Develop a story from pictures
b. Passage describing products / gadgets / process

ENGLISH FOR LIFE SCIENCES

INTERNAL EXAMINATION

Model Question Paper

I. Listen to the passage and complete the tasks that follow. (5 marks)

Mosquito Menace

Mosquito control can be very difficult but must be attempted to not only get rid our homes and business of annoying bites but also to stop the spread of certain mosquito borne health problems. But even if we eliminate all possible breeding sites on our property, mosquitoes born in other areas will still fly to your part of the world. Therefore vector control measures work well when taken at community level. There are some methods that the experienced pest control operator may utilize to reduce mosquitoes pest problem.

The best control mechanism is prevention. Eliminating all possible mosquito breeding sources - standing water, piles of cut grass and fallen leaves, cleaning fence rows of wild grasses and weeds, keeping rain gutters free of litter and other vegetation- is indeed your starting point in an integrated pest management program targeting disease carrying pests. Larvae breed wherever suitable water is available. To control the larvae, either the water has to be removed or insecticides to be used. Oils are also used to kill larvae. However, the larvicide measures done in the water source take care of only the mosquito larvae and not the eggs and pupae already present in the water body. If we have an indoor mosquito problem, the best solution is to seal them out by repairing doors, screens, windows, etc. In addition, screen like mesh wires obstruct their entry. If for some reason this is not always possible, we can use a space spray to kill flying pests.

Fogging is a method of outdoor mosquito control and flies control and other such pests is temporary but is indeed necessary in many instances. The best time to kill adult mosquitoes by fogging is at dusk, when they are most active and looking for food (mosquitoes feed on human or animal blood). The aerosol fog primarily targets flying mosquitoes, which is why the timing of the spray is critical. A thermal fogger (as opposed to a cold fogger) produces a thick pesticide fog or smoke by heating the fogging solution. It produces a nice insect fog that is directed to areas where it would like to kill mosquitoes, and other biting pests. During the fogging, flying mosquitoes within the treated area are killed. Although the local mosquito population is reduced for a few days, fogging does not prevent mosquitoes from re-entering the area. Cold fogging treatment do not require insecticides to burn in order to create a mist or fog. This type of fog is considered cleaner and can be used indoors and outdoors to kill unwanted flying or biting pests.

Mosquitoes control measures always give better results in an integrated approach of prevention, control and source elimination. Any one of this in isolation provides only partial results.

a) **Match the following.** (1)

i.	Fallen leaves	-	thermal fogger
ii.	Thick smoke	-	flying mosquitoes
iii.	Cold fogger	-	mosquito breeding source
iv.	Aerosol fog	-	can be used indoors

b) _____ stands for the connection between the Church and the administration. (1)

c) The word dusk means_____ (1)

i. evening ii. dust iii. pest

d) Mention two ways you follow to control mosquitoes at your place. (2)

2. Listen to the following and explain the process using flow chart (5x1=5)

Here is a simple way to make mosquito repellent at home. Take ¼ cup of lemon juice in a spray bottle. Add 15 drops of lavender oil.
Pour 3 tablespoon of vanilla extract. Mix 10 drops of citronella oil. Combine all the ingredients & fill remainder of bottle with water. Spray it around the areas that you wish to keep mosquito free.

3. Listen to the passage, take notes as you listen and compose them into a paragraph.

Sir Jagadish Chandra Bose, was born on November 30, 1858. An Indian plant physiologist and physicist he is noted for his invention of highly sensitive instruments for the detection of minute responses by living organisms to external stimuli. This invention enabled him to anticipate the parallelism between animal and plant tissues noted by later biophysicists. Bose's experiments on the quasi-optical properties of very short radio waves (1895) led him to make improvements on the coherer, an early form of radio detector, which have contributed to the development of solid-state physics.

After earning a degree from the University of Cambridge (1884), Bose served as professor of physical science (1885–1915) at Presidency College, Calcutta, which he left to found and direct (1917–37) the Bose Research Institute (now Bose Institute) in Calcutta.
To facilitate his research, he constructed automatic recorders capable of registering extremely slight movements; these instruments produced some striking results, such as Bose's demonstration of an apparent power of feeling in plants, exemplified by the quivering of injured plants. His books include *Response in the Living and Non-Living* (1902) and *The Nervous Mechanism of Plants* (1926). He died on November 23, 1937.

II. Speaking **5x3 = 15**

a. What is a Pandemic? How are the lives of different people affected during this time? Share your thoughts on this. You can use the words in the help box.

Lockdown	infection	covid 19	migrant workers	virus	epass
transport	vaccine	immunity	washing	sanitiser	steam

(OR)

b. Give a short presentation on our favourite artist/ literary figure/ historical personality/ social activist/ economist. You can use a PPT to supplement your Presentation.

c. You are invited for a Youth Chat show on online shopping / mobile apps for shopping. Prepare a mind map or brain storm our thoughts on the benefits and dangers of such shopping with your friend and role play the chat show.

d. Reading as a habit has declined. Even those who read prefer to read online. Have a group discussion on the changing scenario of reading books.

III Reading **5x2=10**

a. Read he following passage and segregate the facts from opinion about medicinal plants.

Medicinal Plants and Their Uses

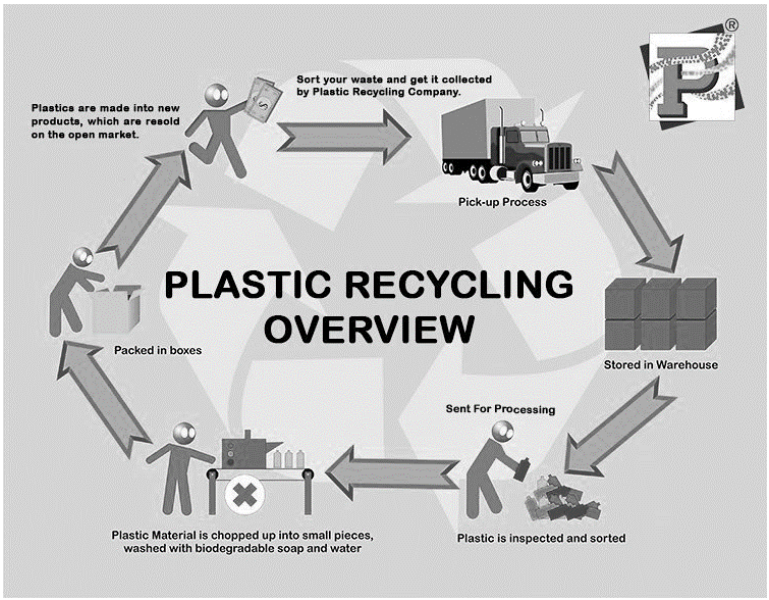
These medicinal plants have been a part of our lives since our existence and used for various medicinal purposes since ancient times. Advanced medicines and pills have become such an important part of people's lives that Ayurveda seems to have vanished from the picture completely. But Ayurveda contains some medicinal plants and herbs which can effectively treat and cure multiple health problems and can be great for your overall health. These plants have been a part of our lives since our existence and have been used for various medicinal purposes since ancient times. Medicinal plants and herbs like turmeric, ginger, basil leaves, mint and cinnamon are commonly used in Indian dishes and they offer several health benefits. Cold and flu, relieve stress, better digestion, strong immune system and the list is simply endless.

In this renaissance of medicinal plants, let's take a look at the 7 best plants which can be used for a wide variety of purposes.

Aloe vera is the king of medicinal plants. It is the best natural skin protector. The next in line is Tulasi or the Queen of medicinal plants. This plant holds immense significance in the traditional Indian household. The strong aroma of Tulasi is good enough to keep bacterial growth at bay. It is known for its healing properties, and all it requires for growth is water. It gives you strength to fight stress, promotes a longer life, treats cough, treats indigestion, anti-cancer properties, good for hair loss, heart diseases, diabetes, etc. Mint or Pudina is a freshly fragrant medicinal plant that serves a wide variety of purposes. From enhancing your mood to treating indigestion, mint can do it all. This plant requires a lot of water to grow. So you must sow its seeds and keep watering it. The best part about mint is its ability to repel pest and insects so your home will be a clean environment. It helps keeps the digestive system running, boosts immunity, expels cough from the body, and benefits respiratory health, keeps mosquitoes away. Vendhayam or fenugreek is a wonder amongst other medicinal plants, and all because of its properties. It is an evergreen plant and both the leaves and the seeds are useful. It controls cholesterol levels, curbs hair loss, increases appetite, boosts your excretory system, purifies blood, lowers blood pressure, beneficial for joint pains and diabetes. Fennel or saunf is a

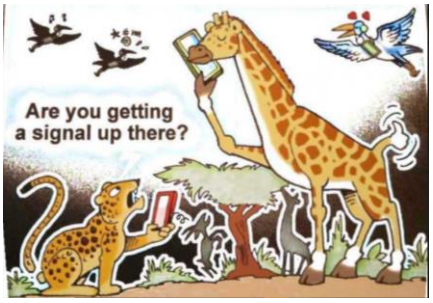
flavorful and aromatic plant which is useful for a wide variety of health problems. In India, people are accustomed to chewing fennel seeds after every meal. It can be grown easily in your garden and does not require much care. It treats cough, controls cholesterol, improves eyesight, cures acidity, prevents bad breath, and improves breast milk supply in lactating women. Coriander or dhania is an important ingredient of an Indian kitchen. Its leaves, seeds and powder of the seeds, everything is beneficial for your health. It adds a distinct flavour to your food and has a wide variety of medicinal properties. It prevents the food from spoiling, it is rich in antioxidants, cures urine retention, improves digestion, it regulates menstrual cycles, treats acne. You name the problem and ginger is the answer. It is the root solution for a wide variety of health problems. All you need to do is sow the ginger root in your garden and it a few days it will grow it in a few days. It does not require much care. It is an important ingredient of Indian food due to its distinct flavour, and of course, its benefits for your overall health. It treats indigestion, eases headaches, controls blood pressure, treats cold, cough, flu and asthma, and relieves menstrual pains and cramps. These plants are not just food or medicine but often a combination of both.

b. Do you know how plastic is recycled? Here is a picture describing the process. Use them to compose a paragraph.



IV Writing. **5x2=10**

a. Develop a story with this picture.



b. Write a short paragraph based on the hints given below.

Earthworms - farmers' best friends - multitude of services - provide -improve soil health - plant health-density - - soil - good indicator - healthy soil - improve – structure- water – capacity- moisture content - increase - nutrient availability -degrade - pesticide residues- 'ecosystem services' – earthworms-discover - earthworm-farmer friendship – deeper- soil, - habitat for crops, - nurtures – organisms- - cause devastating - diseases to plants - earthworm-composted - organic matter- vermicompost - disease suppressive - properties – suppress - soil-borne diseases - vegetables - 50-70 % - ability of earthworms - increase -activity - beneficial microorganisms – some - reduces - fungal biomass - DON concentration - infected - wheat straw, - useful - minimally tilled wheat fields - infected straw - soil surface - long time. -farmers' friends -directly reduce - disease outbreaks – reducing -source - disease - infected crop residue.

3. ENGLISH FOR LIFE SCIENCES

END SEMESTER EXAMINATION - 50 MARKS

Question Paper Pattern

I. VOCABULARY (MCQ, Info-gap questions – domain specific vocabulary)
(Q. No. A,B) **(10 Marks)**

II READING **10x2=20**

C. One long passage (simple content from domain with questions pertaining to understanding and analysis (Critical Thinking).

D. Compare and contrast essay based on an infograph – pie chart/ bar graph etc

III WRITING **10x2= 20**

E. Long Passage for Note making and summarising

F. Free writing

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3. ENGLISH FOR LIFE SCIENCES

END SEMESTER EXAMINATION - 50 MARKS

Model Question Paper

I VOCABULARY (10 marks)

A. Choose the correct meaning and write one sentence on our own using the word. (5)

(i) Parasite
   a. A dead organism
   b. a living organism which survives by feeding on another living creature, usually while living inside or on the host
   c. A virus that affect bacteria

(ii) Toxic
   a. something that is poisonous and harmful
   b. a substance that contains essential nutrients
   c. a perishable substance

(iii)secretion
   a. a secondary creation
   b. a secret code
   c. the process of sucking something like liquid, gas or any other substance

(iv)absorption
   a. the act or process of storing a substance
   b. made of asbestos
   c. a substance that can burn

(v) adaptation

a. ability to live
b. the process of adjusting oneself to a new situation or climatic conditions
c. a place of living

B. Fill in the blanks with words given in the box. (5)

Eutrophication		transformation	Explosives
binary	fission	Inorganic	metamorphosis
Compost	fertilize	nutrients	

(i) _____ should be kept out of reach of children.
(ii) Substances such as stone and metal that do not come from living things are known as _____ substances.
(iii) The process by which a body of water becomes enriched in dissolved nutrients is called _____.
(iv) Reproduction in bacteria takes place through _____ _____ .
(v) The _____ of a tadpole into an adult frog is called _____.
(vi) _____ is an organic matter added to _____ the soil naturally.
(vii) _____ are substances that plants or animals need in order to live and grow.

II READING **10x2=20**

C. Read the following passage and answer the questions that follow.

Plants are the major source of life on earth. They provide us with food, oxygen and a variety of raw materials for various industrial and domestic purposes. That is why humans have always been interested in plants since time immemorial.

The Greek scholar **Theophrastus** was one of the early Botanists of the world. He is also known as the **"Father of Botany"** due to his major writings on plants. One of his books called "Enquiry into Plants" classified the plants based on the geographical ranges, sizes, uses and growth patterns. The other work called "On the Causes of Plants" explained the economics of growing plants. Dioscorides was another Greek physician from 90-40 A.D. who wrote an encyclopedia about herbal medicines known as "De Materia Medica". This book was used as an important medicinal guidebook for over 1500 years until the invention of the compound microscope.

The invention of the compound microscope by Robert Hooke in 1665 marked the advancement of scientific knowledge in the field of Botany. It helped in the study of the anatomy and physiology of plants. The discovery of chlorophyll helped in understanding the process of photosynthesis. Gregor Mendel studied the genetic inheritance in plants through his experiments on pea plants.

With the advent of biotechnology and genetic engineering, scientists are able to understand the plant structure in a better way and have devised better ways of improving crop yield and crop health.

Plants are an integral part of human life. They are used in various aspects of day to day lives. Botany studies the characteristics and uses of these plants and hence are very important.

The importance of Botany can be understood by looking at how they impact us in our everyday lives. Botany deals with the study of different kinds of plants, its uses and characteristics to influence the fields of science, medicine and cosmetics. Botany is the key to the development of biofuels such as biomass and methane gas that are used as alternatives to fossil fuels. Botany is important in the area of economic productivity because it is involved in the study of crops and ideal growing techniques that helps farmers increase crop yield. The study of plants is also important in environment protection. The Botanists list the different types of plants present on earth and can sense when the plant populations start declining. The earth's biological diversity**,** or the kinds of organisms that populate the earth, is decreasing. As humans change the environment for their own purposes, plants and animals living in these areas become increasingly endangered. Plant taxonomists and plant ecologists work to identify and understand new plant species, especially in such biologically rich areas as tropical rain forests. Plants of the rain forests are important in their own right, but they could be major new resources for people as well. Perhaps a plant as yet undiscovered will become an important food crop. There are probably many undiscovered plants that produce useful drugs to cure or treat human diseases. Biological diversity also provides an important source of new genes to improve the plants we now use. As techniques of genetic engineering improve, so will our ability to improve our domestic plants.

(i) Answer the following questions. (8)

a. How were plants classified by the Greek scholars? (2)
b. What prompted the study of plant anatomy? (2)
c. How are modern scientists able to improve crop health and crop yield? (2)
d. How does the study of Botany impact economic productivity? (2)

(ii) Complete the following (2)

(i) Biofuels such as _____ and _____are used as alternatives to fossil fuels.

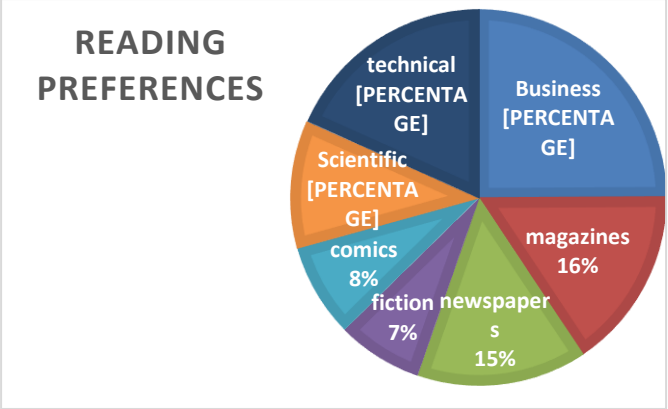
(ii) As humans change the environment for their own purposes, plants and animals living in these areas become increasingly _____.

(iii)_____ also provides an important source of new genes to improve the plants we now use.

(iv)_____ and _____ are plant researchers who identify new plant species.

(v) The _____ _____ refers to the kinds of organisms that populate the earth.

D. In a survey done in a college recently, it was found that the students had varied preferences of reading. The result of the survey is given in the pie chart below. Why do you think students preferences are so varied in modern times? Elaborate your reasons.



III. WRITING **10x2= 20**

E. Read the following passage, make notes and summarise the information in two or three paragraphs. (10)

The Concept of Adaptation Animals can adapt to a change in their surroundings by altering their behaviour or seeking a different type of food. This form of adaptation is similar to acclimatization. In summer, people wear light clothes to keep themselves cool and in winter they wear thicker clothes to keep them warm. This is an example of a behavioural adaptation to changes in the weather. Evolutionarily, adaptation is more permanent. Individual animals that possess some feature that makes them more successful than others at finding food or mates are likely to produce more offspring than their rivals who lack that feature. If the offspring inherits that feature, it will also be successful, and the feature will occur in its descendants. The feature, whatever it may be, allows the animal possessing it to survive in good stead in its environment. It improves their adaptation to their surroundings. Domestic cats have sharp claws that retract into folds of skin in the paws. Retractable claws allow cats to walk silently across hard surfaces, increasing their efficiency at stalking prey. Retraction also protects the claws from wear and tear and allows cats to climb swiftly in pursuit of prey, and their sharp claws help them grip their prey securely. The possession of retractable claws is an example of adaptation. Dogs, in contrast, cannot retract their claws. Their claws are blunt through friction with the ground. They are useless for seizing prey or for climbing, and when a dog walks across a hard surface its footsteps are clearly audible. A dog's narrow paws equip it for running fast, however, and its ability to run down its prey is one of its methods of adaptation. Woodpeckers have very strong beaks and very long tongues. They use their beaks to open up crevices in the bark of trees and their tongues to extract the insect larvae living beneath the surface. They also use their beaks to excavate holes in trees in which to build their nests. The woodpecker's beak is another instance of adaptation. Tigers have very conspicuous stripes. However, in their natural habitat, the vertical stripes make them very difficult to be seen against a background of slender tree trunks and dappled light. The stripes are a camouflage which is a form of adaptation. Every living organism possesses features that adapt it to its environment. It is not always simple to identify

those features that are genuinely adaptive, but adaptation is a consequence of natural selection. It is the way evolution proceeds.

F. Write an essay on any ONE (10)

a) What are your views on online education? Do you think it will become the norm in the future?
b) What do you plan to do in the next ten years? What career would you want to choose? Explain your views in three or four paragraphs.