

Chattogram Veterinary and Animal Sciences University, Chattogram
Faculty of Fisheries
 B.Sc. Fisheries (Hons.) Year -1 Semester -2 (July-December), Final Examination, 2020
 Course No: ASS 102 (T), Course Title: Aquatic Soil Science (Theory)
 Full Marks: 70; Time: 3 hours

*Answer **any 5 (five)** questions from each section. Figures in the right margin indicate full marks. Use separate answer script for each section.*

Section-A

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|----|----|--|-----|
| 1. | a) | Define soil and soil science. | 3.0 |
| | b) | How will you utilize the knowledge of aquatic soil science in fisheries. | 4.0 |
| 2. | a) | Differentiate between soil productivity and fertility. | 3.0 |
| | b) | What criteria should you consider for choosing a soil suitable for fish culture? | 4.0 |
| 3. | a) | What is cation exchange capacity? | 1.0 |
| | b) | Why cation exchange is usually higher than anion exchange in soil? | 2.0 |
| | c) | Show diagrammatically the cation and anion exchange by plant root hair. | 4.0 |
| 4. | a) | Why clay particle has a net negative charge? Explain with proper justification. | 2.0 |
| | b) | Explain buffering in soils with examples. | 2.0 |
| | c) | How does soil-water interaction influence the properties of a water body? | 3.0 |
| 5. | a) | Classify salt-affected soils with appropriate chart. | 2.0 |
| | b) | Write down the development mechanism of salt-affected soils. | 2.0 |
| | c) | Discuss the three general rules for reclaiming salty soils. | 3.0 |
| 6. | a) | Define bioturbators. | 2.0 |
| | b) | “The chemical effects of bioturbation are highly interlinked with each other”-Explain. | 2.0 |
| | c) | Write down the role of ‘bioturbators’ in nitrogen cycling. | 3.0 |
| 7. | a) | Draw and label a typical humus compound. | 2.0 |
| | b) | Define ‘balanced nutrition’ and ‘balanced fertilization’. | 2.0 |
| | c) | Name the most important two nutrients along with their deficiency symptoms and fertilizer sources. | 3.0 |

Section B

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|-----|----|---|-----------|
| 8. | a) | “The knowledge of ‘bulk density’ of a soil is more useful than that of ‘particle density’ in facing practical needs.”-Explain. | 2.0 |
| | b) | Draw and label a schematic diagram of a soil profile. | 2.0 |
| | c) | How the alterations of physical properties of a soil can influence the normal development of aquaculture and fisheries? | 3.0 |
| 9. | a) | Enlist the problems facing with clay soils in constructing a fish pond in Bangladesh. | 2.0 |
| | b) | Describe the appropriate management techniques of clay soils. | 5.0 |
| 10. | a) | “Cation exchange capacity controls the buffering capacity of a soil.”-Explain | 2.0 |
| | b) | Differentiate between “Soil Clay” and “Humus”. | 2.0 |
| | c) | A 40g sample of soil is leached with 2N NH ₄ Cl. The adsorbed NH ₄ ⁺ is displaced in 800mL of 1N KCl solution. The NH ₄ concentration in the leachate is 70mg/L. Now calculate the CEC. | 3.0 |
| 11. | a) | “Bottom mud is the store-house of nutrients.”- Justify the statement. | 3.0 |
| | b) | What are the challenges of open water sediment management and how can you overcome those? | 4.0 |
| 12. | a) | “The biological properties of soil are an integral part in maintaining balanced aquatic ecosystem”- Justify. | 2.0 |
| | b) | Differentiate between ‘decomposition’ and ‘mineralization’. | 2.0 |
| | c) | How can you enhance beneficial microbes in soils? | 3.0 |
| 13. | a) | What is Acid Sulphate Soil (ASS)? | 1.0 |
| | b) | Mention some demerits of ASS. | 2.0 |
| | c) | Write down the chemistry of ASS. | 4.0 |
| 14. | | Write short note on any 02 (two) of the following: | 3.5x2=7.0 |
| | | a) Soil Textural Classes; b) Soil-water interaction; c) Immobilization and d) Probiotics | |

Chattogram Veterinary and Animal Sciences University, Chattogram
Faculty of Fisheries

B.Sc. Fisheries (Hons.) Year -1 Semester -2 (July-December), Final Examination, 2020

Course No: WQM 102 (T), Course Title: Water Quality Management (Theory)

Full Marks: 70; Time: 3 hours

*Answer **any 5 (five)** questions from each section. Figures in the right margin indicate full marks. Use separate answer script for each section.*

Section-A

1. a) What do you mean by water quality? 2.0
b) Why is water quality important in aquaculture? 2.0
c) How will you detect poor water quality in fish ponds? 3.0
2. a) What are the effects of high pH and acidity on aquatic life? 3.0
b) What are the differences between alkalinity and hardness? 2.0
c) Explain the diurnal changes of CO₂ in waterbody. 2.0
3. a) What are hypoxia and anoxia? 1.0
b) What are the major sources of DO in an aquatic environment? 3.0
c) Why is oxygen depletion in waterbody most troublesome in summer? 3.0
4. a) What do you mean by 'TAN'? 1.0
b) Which forms of nitrogenous substances are toxic for fish? 2.0
c) Explain the effects of pH and temperature on ammonia toxicity. 4.0
5. a) Write down the characteristics of POPs? 3.0
b) How does polluted water disrupt food chains? 2.0
c) What are the differences between bioaccumulation and biomagnifications? 2.0
6. a) How do you decide whether to lime and fertilize a pond? 3.0
b) When should you not fertilize in pond? 2.0
c) What are the effects of phytoplankton bloom on the water quality parameters in fish pond? 2.0
7. Write short note on any 02 (two) of the following: 3.5x2=7.0
a) Eutrophication; b) Causes of water pollution; c) Feeding management to maintain water quality; and d) Carbon buffer system.

Section B

8. a) Write down the relationship among DO, CO₂, pH and photosynthesis in a pond? 3.0
b) What are the significances of temperature on fish production? 2.0
c) How will you identify and solve H₂S gas problem in pond? 2.0
9. a) Why does dissolve oxygen deplete in aquatic waterbody? 3.0
b) How does oxygen dissolve in water? 2.0
c) How can you enrich dissolve oxygen in pond? 2.0
10. a) What are the effects of clay turbidity on other water quality parameters? 3.0
b) Explain flocculation and coagulation. 2.0
c) "Alum is the most effective coagulant" – justify. 2.0
11. a) How will you manage ammonia problem in fish pond? 4.0
b) "Ammonia concentration tends to be greater in fish pond during winter than during summer" – justify. 3.0
12. a) Briefly describe different types of water pollution. 3.0
b) "Among liming materials, limestone is recommended for aquaculture" – justify. 2.0
c) "Lime is considered to be more than fertilizer in aquaculture" – explain. 2.0
13. a) How does overfeeding create water quality problem in aquaculture? 3.0
b) How can you maximize fish feeding efficiency in an aquaculture system? 4.0
14. Write short note on any 02 (two) of the following: 3.5x2=7.0
a) Phytoplankton bloom; b) Fertilization management; c) Water pollutants; and d) Control of aquatic vascular plants

Chattogram Veterinary and Animal Sciences University, Chattogram

Faculty of Fisheries

B.Sc. Fisheries (Hons.) Year -1 Semester -2 (July-December), Final Examination, 2020

Course No: **HPF 102 (T)**, Course Title: **Handling and Preservation of Fish (Theory)**

Full Marks: 70; Time: 3 hours

Answer **any 5 (five)** questions from each section. Figures in the right margin indicate full marks. Use separate answer script for each section.

Section-A

1. a) Define commercial handling of fish and shellfish. 1
b) Outline briefly about good handling practices of harvested fish on the deck of a fishing vessel. 3
c) Discuss briefly the principles of fish preservation. 3
2. a) What do you know about the proximate composition of fish? 1
b) Classify fish proteins based on the solubility. 3
c) Why the knowledge of proximate composition of fish is important? 3
3. a) Describe the physical structure of fish muscle with diagram. 4
b) Discuss briefly the nutritional aspects of protein, lipid, vitamins and minerals of fish. 3
4. a) Identify the major points need to be considered in planning and designing the fish working premises. 2
b) Draw and layout of a typical shrimp processing plant. 5
5. a) Define thermal arrest point. Explain briefly about fish freezing curve. 3
b) Explain briefly the effects of delayed icing on the quality of fish. 2
c) Define chilling of fish. Why fish is regarded as more perishable item than any other flesh foods? 2
6. a) Define fish packaging. Write down the function of fish packaging. 3
b) Discuss in brief about different types of packaging materials used for fish and fishery products. 4
7. a) Name the types of methods used in live fish transportation. 2
b) Write down the causes of mortality during transportation of live fish. 2
c) Describe the factors influencing successful transportation of live fish. 3

Section-B

8. a) Define fish spoilage. 1
b) Explain the causes of fish spoilage. 3
c) Describe the factors influencing kind and rate of fish spoilage. 3
9. a) What do you know about rigor mortis? 2
b) Draw a flow diagram on post-mortem changes of fish. 3
c) Discuss the factors influences the rigor mortis of fish. 2
10. a) What do you know about cross contamination? 1
b) How to avoid or minimize cross contamination during handling of fish? 2
c) Write in brief the steps of cleaning program practiced in fish processing plant. 4
11. a) Differentiate between chilling and freezing. Which method of freezing do you consider the best in achieving the quality of fish for long term preservation? Explain. 4
b) Explain briefly what kind of quality problems are occurred in fish during freezing and subsequent storage. 3
12. a) Differentiate between slow and quick freezing. 2
b) Why fish is frozen at -40 °C but stored at -18 °C? 2
c) Discuss briefly about the methods of fish preservation. 3
13. a) Why freezing point for fish is far lower than freezing point of pure water? 1
b) Define glazing. Write down the importance of glazing for IQF products. 3
c) Draw a typical diagram for unit operations in catch handling of pelagic and demersal fish. 3
14. Write short notes on 2 (two) of the following: 3.5 x 2 = 7
a) Fish supply chain;
b) Gapping and
c) Air freight packaging.

Chattogram Veterinary and Animal Sciences University, Chattogram
Faculty of Fisheries
 B.Sc. Fisheries (Hons.) Year -1 Semester -2 (July-December), Final Examination, 2020
 Course No: EME-102 (T), Course Title: Estuarine and Marine Ecology (Theory)
 Total Marks: 70, Time: 3 hours

Answer **any 5 (five)** questions from each section. Figures in the right margin indicate full marks. Use separate answer script for each section.

Section A

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|----|--|------------|
| 1. | a) Define estuary with examples. | 2.0 |
| | b) Outline the major morphological features of an estuary. | 2.0 |
| | c) Classify estuary on the basis of water circulation. | 3.0 |
| 2. | a) Differentiate between estuarine and marine ecosystems. | 2.0 |
| | b) Draw a typical marine food web. | 2.0 |
| | c) "Estuary can be classified according to salt gradient" –explain. | 3.0 |
| 3. | a) Draw and describe marine bottom topography. | 3.0 |
| | b) Illustrate marine province/habitat including its major features. | 4.0 |
| 4. | a) How does a coral live? | 2.0 |
| | b) Explain Darwin's subsidence theory on the origin of coral reef. | 3.0 |
| | c) Describe shortly the coral reef ecology from St. Martin's Island aspect. | 2.0 |
| 5. | a) What are the sources of coastal influx? | 1.0 |
| | b) Write down the role of biogeochemical cycles in coastal nutrient cycling. | 2.0 |
| | c) Discuss two important nutrient cycling processes that occur in estuarine ecosystem. | 4.0 |
| 6. | a) Differentiate temperate and polar zone. | 2.0 |
| | b) Can the distribution of marine fishes differ along the earth latitudes? | 2.0 |
| | c) Describe the geographical distribution of two commercial fish species of the world. | 3.0 |
| 7. | Write short notes any 2 (two) of the followings: | 3.5×2= 7.0 |
| | a) Ecological niche; b) Natural selection and c) Ecosystem-reef formation | |

Section B

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|-----|--|------------|
| 8. | a) Explain the forms of estuaries that develop through sea-level rise and glaciation process. | 3.0 |
| | b) Do you think delta and estuary are morphologically different? | 2.0 |
| | c) "Estuarine ecosystem is more productive than others" - explain the statement. | 2.0 |
| 9. | a) Divide estuarine habitat based on tidal influence? | 3.0 |
| | b) "Intertidal zones support an extensive number of habitats and food webs that assist a wide range of biodiversity"- explain. | 4.0 |
| 10. | a) Enlist intertidal aquatic organisms. | 2.0 |
| | b) Differentiate habitat and niche. | 2.0 |
| | c) Illustrate an estuarine and a mangrove food web. | 3.0 |
| 11. | a) Classify marine communities based on zonation. | 4.0 |
| | b) Describe biotic and abiotic factors that have impact on the distribution of marine communities. | 3.0 |
| 12. | a) Discuss on salt marsh and seagrass habitat. | 3.0 |
| | b) Why the epipelagic zone is rich in biodiversity? | 1.0 |
| | c) Enlist the special adaptations observed in bathyal and abyssal organisms. | 3.0 |
| 13. | a) Define evolution from ecological perspective? What are the types of evolution? | 3.0 |
| | b) What are the Darwin's propositions for explaining the theory on natural selection? | 2.0 |
| | c) Give some examples of natural selection in fish. | 2.0 |
| 14. | Write short notes any 2 (two) of the followings: | 3.5×2= 7.0 |
| | a) ENSO; b) Continental margin and c) Coastal landforms | |

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B.Sc. Fisheries (Hons.) Year-01, Semester-02 (July-December); Final Examination, 2020

Course Code: ICH-102(T), Course Title: Ichthyology (Theory)

Full marks: 70

Time: 3 hours

Answer **any 05 (five)** questions from each section. Figures in the right margin indicate full marks. Use separate answer script for each section.

Section-A

1. a) Define ichthyology. What are the fundamental applications of ichthyology in the context of Bangladesh? 2.0
b) Define, draw and label a typical fish. 2.0
c) Differentiate between osteichthyes & chondrichthyes. 3.0
2. a) Compare and contrast between lamprey and hagfish. 3.0
b) Write the respective order name and general features of i) Hippocampus ii) Flying fish and iii) Saw shark. 4.0
3. a) Classify fish scales. How will you count the age of fish by examining scales? 3.0
b) 'Fishes have various body appendages and openings' - Discuss. 4.0
4. a) State the Thayer's principle of coloration with examples. 2.0
b) Name the special cells giving colour to fishes. 1.0
c) Illustrate the 'obliterate shading' and 'countershading' coloration of fish. 4.0
5. a) What do you mean by pseudobranch, hemibranch and holobranch of a teleostean gill? 3.0
b) Give an account of the main respiratory organ of a teleost. 4.0
6. a) What do you mean by 'food habit' and 'feeding habit' of fish? 2.0
b) What are the natural foods of fishes? 1.0
c) Outline the modifications of digestive system of various groups of fishes. 4.0
7. Make brief notes on **any 02 (two)** from the following: 3.5×2=7.0
i) Clasper organ; ii) Electric eel and iii) Fish integument

Section B

8. a) Write down the functions of rete-mirabile and reabsorbing capillaries. 2.0
b) Despite the lack of swim bladder, how do chondrichthyans maintain their buoyancy? 2.0
c) Give an account of swim bladder as a respiratory organ. 3.0
9. a) Classify fish muscles. 2.0
b) Describe the basic structure of fish muscle. 5.0
10. a) What do you mean by ammotelic, ureotelic and uricotelic animals? 3.0
b) Discuss the Ogawa's configurationally classification of teleost kidney. 4.0
11. a) What are exocrine and endocrine glands? Differentiate between them. 2.0
b) Show the locations of the endocrine glands of fish. 2.0
c) Prepare a list of abducens and vagus nerves of bony fish with their location and functions. 3.0
12. a) Write down the functions of lateral line. 1.0
b) Draw a labeled diagram of typical trunk vertebra and first caudal vertebra of teleost. 2.0
c) Illustrate the pelvic fin and girdle with the support of the *Labeobata*. 4.0
13. a) Draw a labelled diagram of light organ found in fishes. 2.0
b) How luciferin produce extracellular bioluminescence in fish? 2.0
c) Briefly describe the different body shape pattern found in fish with appropriate illustrations. 3.0
14. Make brief notes on **any 02 (two)** from the following: 3.5×2=7.0
i) Branchial diverticula; ii) Osmoregulation and iii) Adaptive radiation in fishes

Chattogram Veterinary and Animal Sciences University, Chattogram
Faculty of Fisheries

B.Sc. Fisheries (Hons.) Year - 1 Semester -2 (July-December), Final Examination, 2020

Course No: FWA 102 (T), Course Title: Freshwater Aquaculture (Theory)

Full Marks: 70; Time: 3 hours

*Answer **any 5 (five)** questions from each section. Figures in the right margin indicate full marks. Use separate answer script for each section.*

Section-A

1. a. Define aquaculture. Write down the types of aquaculture suitable in Bangladesh. 5
b. Composite fish culture is advantageous over monoculture- do you agree or not? 2
Justify your answer.
2. a. How do you determine the size of a pond for fish farming? 2
b. Describe briefly extensive, semi-intensive and intensive aquaculture system. 5
3. a. Write down the site selection criteria for aquaculture. 3
b. Illustrate the process of compost preparation for aquaculture use. 4
4. a. What are the main factors that influence fish transportation? 2
b. Why conditioning of fish fry is necessary before transportation? Write down the 5
causes of mortality during fish transportation.
5. a. What do mean by induced breeding? What are the main benefits of hatchery 4
production over natural seed production?
b. Write down the three major principles for hatchery operation. 3
6. a. What is broodstock management? What are the major issues need to be considered 3
for broodstock management? 4
b. Discuss the common problems in rearing of hatchery seeds in Bangladesh.
7. Write short notes on **any 02 (two)** of the following: 3.5x2=7
i) Organic aquaculture; ii) Integrated fish farming and iii) Biosafety

Section B

8. a. Differentiate between composite and integrated fish farming. 2
b. Write down the advantages and disadvantages of organic aquaculture. 3
c. What are the causes of harmful algal blooms in fish pond? 2
9. a. Discuss the function and uses of water filtration in shrimp hatchery. 3
b. Write down the physical, chemical and biological water quality parameters of 4
aquaculture pond.
10. a. What type of management aspects required for pre and post stocking pond 5
management? 2
b. Formulate a generalized feeding schedule for aquaculture.
11. a. What are the impacts of natural seed collection in context of Bangladesh? 4
b. Write down the principle of Integrated Multi-Trophic Aquaculture (IMTA). 3
12. a. Discuss freshwater prawn culture technique with their specific management 7
measures.
13. a. List down 5 indigenous ornamental fish of Bangladesh with common and 2
scientific name.
b. Illustrate the marketing channels of commercially important fish in Bangladesh. 3
c. What are the general ornamental fish breeding considerations? 2
14. Write short notes on **any 02 (two)** of the following: 3.5x2=7
i) Aquatic weeds; ii) Pen culture and iii) Cage culture

Chattogram Veterinary and Animal Sciences University, Chattogram
Faculty of Fisheries

B.Sc. Fisheries (Hons.) Year -1 Semester -2 (July-December), Final Examination, 2020

Course No: LAN-102(T), Course Title: Communicative English (Theory)

Full Marks: 35; Time: 2 hours

Answer All questions from each section. Figures in the right margin indicate full marks. Use separate answer script for each section.

Section-A

1. Correct the following sentences if they are incorrect. If a sentence is correct, just copy it. 5.0
 - a) Facebook is one of those apps that is commonly used by teenagers.
 - b) By whom the dog was let out?
 - c) Only half of the students beliefs that the book is wroth reading.
 - d) Had I know he would be coming, I would make all the arrangements.
 - e) It is you who is responsible for the action.

2. Complete the following sentences. 5.0
 - a) As the use of social media is increasing, _____.
 - b) _____ is a matter of debate.
 - c) No sooner had he reached the station than _____.
 - d) _____ provided that you lead a healthy life.
 - e) _____ before it's too late.

3. Our world is heating up at an unprecedented rate due to environmental pollutions. While world leaders are trying to find solutions to this fatal problem, there are things that can be done at the individual level; for example, getting to know about and being aware of climate change and its effects, raising awareness among people regarding environmental protection as well as doing different things to save the environment from various kinds of pollutions. Suppose, you are concerned about climate change and its effects. Write a letter to the editor of an English daily stating your concern. 7.0

Section-B

4. Change the following sentences as directed: 5.0
 - a) All his friends looked down at him. (Change the voice.)
 - b) The poem was written. (Change the voice.)
 - c) I always carry an extra pen. My intention is to avoid trouble if I lose my regular pen. (Join the sentences into a complex one.)
 - d) "If I work harder, will I achieve more?", said the student to the teacher. (Change the speech.)
 - e) I went to the gym before the sunset,(Make it complex)

5. Write a paragraph of about 150 words on " Ways to improve personality". 5.0

6. Read the passage carefully and answer the questions that follow. 8.0

Chronobiology might sound a little futuristic – like something from a science fiction novel, perhaps – but it's actually a field of study that concerns one of the oldest processes life on this planet has ever known: short-term rhythms of time and their effect on flora and fauna.

This can take many forms. Marine life, for example, is influenced by tidal patterns. Animals tend to be active or inactive depending on the position of the sun or moon. Numerous creatures, humans included, are largely diurnal – that is, they like to come out during the hours of sunlight. Nocturnal animals, such as bats and possums, prefer to forage by night. A third group are known as crepuscular: they thrive in the low-light of dawn and dusk and remain inactive at other hours.

When it comes to humans, chronobiologists are interested in what is known as the circadian

rhythm. This is the complete cycle our bodies are naturally geared to undergo within the passage of a twenty-four hour day. Aside from sleeping at night and waking during the day, each cycle involves many other factors such as changes in blood pressure and body temperature. Not everyone has an identical circadian rhythm. 'Night people', for example, often describe how they find it very hard to operate during the morning, but become alert and focused by evening. This is a benign variation within circadian rhythms known as a chronotype.

Scientists have limited abilities to create durable modifications of chronobiological demands. Recent therapeutic developments for humans such as artificial light machines and melatonin administration can reset our circadian rhythms, for example, but our bodies can tell the difference and health suffers when we breach these natural rhythms for extended periods of time. Plants appear no more malleable in this respect; studies demonstrate that vegetables grown in season and ripened on the tree are far higher in essential nutrients than those grown in greenhouses and ripened by laser.

Knowledge of chronobiological patterns can have many pragmatic implications for our day-to-day lives. While contemporary living can sometimes appear to subjugate biology – after all, who needs circadian rhythms when we have caffeine pills, energy drinks, shift work and cities that never sleep? – keeping in synch with our body clock is important.

The average urban resident, for example, rouses at the eye-blearing time of 6.04 a.m., which researchers believe to be far too early. One study found that even rising at 7.00 a.m. has deleterious effects on health unless exercise is performed for 30 minutes afterward. The optimum moment has been whittled down to 7.22 a.m.; muscle aches, headaches and moodiness were reported to be lowest by participants in the study who awoke then.

Once you're up and ready to go, what then? If you're trying to shed some extra pounds, dieticians are adamant: never skip breakfast. This disorients your circadian rhythm and puts your body in starvation mode. The recommended course of action is to follow an intense workout with a carbohydrate-rich breakfast; the other way round and weight loss results are not as pronounced.

Morning is also great for breaking out the vitamins. Supplement absorption by the body is not temporal-dependent, but naturopath Pam Stone notes that the extra boost at breakfast helps us get energised for the day ahead. For improved absorption, Stone suggests pairing supplements with a food in which they are soluble and steering clear of caffeinated beverages. Finally, Stone warns to take care with storage; high potency is best for absorption, and warmth and humidity are known to deplete the potency of a supplement.

After-dinner espressos are becoming more of a tradition – we have the Italians to thank for that – but to prepare for a good night's sleep we are better off putting the brakes on caffeine consumption as early as 3 p.m. With a seven hour half-life, a cup of coffee containing 90 mg of caffeine taken at this hour could still leave 45 mg of caffeine in your nervous system at ten o'clock that evening. It is essential that, by the time you are ready to sleep, your body is rid of all traces.

Evenings are important for winding down before sleep; however, dietician Geraldine Georgeou warns that an after-five carbohydrate-fast is more cultural myth than chronobiological demand. This will deprive your body of vital energy needs. Overloading your gut could lead to indigestion, though. Our digestive tracts do not shut down for the night entirely, but their work slows to a crawl as our bodies prepare for sleep. Consuming a modest snack should be entirely sufficient.

Do the following statements agree with the information given in the passage?

Write:

TRUE: if the statement agrees with the information

FALSE: if the statement contradicts the information

NOT GIVEN: if there is no information on this

Statements:

- A) The rise and fall of sea levels affect how sea creatures behave.
- B) Most animals are active during the daytime.
- C) A 'night person' can still have a healthy circadian rhythm.
- D) New therapies can permanently change circadian rhythms without harm.

~~42~~ **Chose the correct letter, a, b, c or d.**

- E. In order to lose weight, we should
 - a) Avoid eating breakfast
 - b) Eat a low carbohydrate breakfast
 - c) Exercise before breakfast
 - d) Exercise after breakfast
- F. Which is NOT mentioned as a way to improve supplement absorption?
 - a) Avoiding drinks containing caffeine while taking supplements
 - b) Taking supplements at breakfast
 - c) Taking supplements with foods that can dissolve them
 - d) Storing supplements in a cool, dry environment
- G. In the evening we should:
 - a) Stay away from carbohydrates
 - b) Stop exercising
 - c) Eat as much as possible
 - d) Eat a light meal
- H. Which of the following best describes the main aim of the passage?
 - a) To suggest healthier ways of eating, sleeping and exercising
 - b) To describe how modern life has made chronobiology largely irrelevant
 - c) To introduce chronobiology and describe some practical applications
 - d) To plan a daily schedule that can alter our natural chronobiological rhythms