

19 AUG 2020

M. Sc C Life Sc.) Sem-4 : નોંધ :

Sub code: 3704

૧. દરેક પ્રશ્નનો [a] અથવા [a(i)] અને [a(ii)] ન લખવાના રહેશે.

૨. પ્રશ્ન : ૧[a] અથવા ૧[a(i)] અને ૧[a(ii)] તથા ૨[a] અથવા ૨[a(i)] અને ૨[a(ii)] ના 14 માર્ક્સ ના બદલે ૧૮ માર્ક્સ રહેશે.

૩. પ્રશ્ન : ૩[a] અથવા ૩[a(i)] અને ૩[a(ii)] તથા ૪[a] અથવા ૪[a(i)] અને ૪[a(ii)] ના 14 માર્ક્સ ના બદલે ૧૭ માર્ક્સ રહેશે.

૪. દરેક પ્રશ્નનો પ્રશ્ન નં ૧(b), પ્રશ્ન નં ૨(b), પ્રશ્ન નં ૩(b) તથા પ્રશ્ન નં ૪(b) (ટુંકા પ્રશ્નો) વિદ્યાર્થીએ લખવાના નથી.

Instructions: (1) All questions carry equal marks.

(2) Draw labeled diagram where necessary.

Q 1 (A) : Give an account of organic matter in the marine environment. (14)

OR

Write on : (a) Sea as a biological environment (07)

(b) Tides and their effects on marine life (07)

Q 1 (B) : Answer the following (Any four) : (04)

(1) What is the relationship between pressure and depth of ocean?

(2) Give full form of SOFAR.

(3) Name the largest ocean.

(4) What is photic zone?

(5) What is compensation depth?

(6) What is the importance of currents in marine environment?

Q 2 (A) : Discuss industrial wastes as major marine pollutants. (14)

OR

Write on : (a) Biofilm formation (07)

(b) Biodeterioration (07)

Q 2 (B) : Answer the following (Any four) : (04)

(1) What is eutrophication?

(2) What is Biofouling?

(3) Which of the following can exert carcinogenic effects?

(a) Arsenic (b) Chromium (c) Both (d) None

(4) What is the effect of thermal pollution on marine biota?

(5) State two effects of oil pollution on marine life.

(6) Minamata disease is a result of poisoning due to

(a) Mercury (b) Chromium (c) Lead (d) cadmium

Q 3 (A) : Discuss quorum sensing in *Vibrio harveyi* and *vibrio fischeri*. (14)

OR

Write on:(a) Structural adaptation of marine microorganisms (07)

(b) Culture based method for enumeration of marine microbes (07)

Q 3 (B) : Answer the following (Any three) : (03)

(1) What are magnetosomes?

(2) What is syntrophy?

(3) Which is the largest bacterium known so far?

(4) What is the importance of metagenomic study in marine environment?

(5) Marine bacteria are found in

(a) Surface waters (b) Benthic realm (c) top layer of sediments (d) All of these

(PTO)

Q 4 (A) : Discuss applications of the thermophilic and psychrophilic bacteria and factors responsible for stability of their proteins. (14)

OR

Write on : (a) polyextremophiles (07)

(b) Economic importance of marine fungi in decomposition of complex materials in coastal habitats (07)

Q 4 (B): Answer the following (Any three) : (03)

- (1) What are metallophiles? Give an example.
 - (2) Define microbial loop.
 - (3) Give full form of DHA and state its usefulness.
 - (4) Give examples of cyanobacteria associated viruses.
 - (5) What are radiophiles? Give an example.
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