|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| S. NO |  | **Question** | Right Answer |  |
|  |  | Biofloc demands  |  |  |
| addition of carbon sources |  |  |
| heavy and constant aeration |  |  |
| lining |  |  |
| All the above | Yes |  |
|  |  | basic technology was developed by  |  |  |
|  | Professor Yoram Avnimelech (Israel)  | Yes |  |
| Professor Robert khurram |  |  |
| Professor Robbin |  |  |
| None of the above |  |  |
|  |  | Drainage in a biofloc pond |  |  |
| Located on the sides |  |  |
| Located on the centre | Yes |  |
| No drainage |  |  |
| Pumping out to remove floc |  |  |
|  |  | Content of inorganic matter in biofloc |  |  |
| 2-20% |  |  |
| 20-30% |  |  |
| 30-40% | Yes |  |
| 60-70% |  |  |
|  |  | Typical size of biofloc pond for intensive rearing of shrimps |  |  |
| 1,000 – 20,000 m2 | Yes  |  |
| 1-20 ha |  |  |
| 100-1000 m2 |  |  |
| 0.01-0.1 ha |  |  |
|  |  | Particular organic matter in biofloc |  |  |
| 2-20% |  |  |
| 20-30% |  |  |
| 30-40% |  |  |
| 60-70% | Yes |  |
|  |  | Fishes are reared in the biofloc system itself is called  |  |  |
| Green water biofloc |  |  |
| Brownwater biofloc |  |  |
| *In-situ* biofloc | Yes |  |
| *Ex-situ* biofloc |  |  |
|  |  | *Heteropneustes fossilis* is commonly called |  |  |
|  | Indian catfish  |  |  |
| African catfish  |  |  |
| Singhi | Yes |  |
| Channel Catfish |  |  |
|  |  | Fabricated tanks for biofloc  |  |  |
| Is very common in India |  |  |
| Is usually large  |  |  |
| Can be placed in green-house | Yes |  |
| All the above |  |  |
|  |  | Commonly used substrate for periphyton farming  |  |  |
| Bamboo mat/stick | Yes |  |
| Rock |  |  |
| Leafy substrates |  |  |
| None of the above |  |  |
|  |  | Size of a prefabricated tank for biofloc is usually up to |  |  |
|  | 150 m2 | Yes |  |
| 350 m2 |  |  |
| 550 m2 |  |  |
| 1150 m2 |  |  |
|  |  | Anaerobic bottom of biofloc pond can be resolved by  |  |  |
| Feeding |  |  |
| Water exchange |  |  |
| Lining | Yes |  |
| Liming |  |  |
|  |  | Which among the following do not use for pond lining? |  |  |
| laterite crushed stone |  |  |
| Plywood |  |  |
| Alumnium plate | Yes |  |
| Fiberglass |  |  |
|  |  | Most commonly used carbon source in biofloc |  |  |
| Jaggery |  |  |
| Corn starch  |  |  |
| a and b | Yes |  |
| None |  |  |
|  |  | Advantage(s) of deeper biofloc ponds is/are  |  |  |
| Induce breeding |  |  |
| Heat buffering | Yes |  |
| Reduce energy requirement |  |  |
| Both a and b |  |  |
|  |  | Carbohydrates are linked with its monomer unit by |  |  |
| Peptide bond |  |  |
| Glycosidic bond | Yes |  |
| Glycolytic bond |  |  |
| Glycogen bond |  |  |
|  |  | Which among the following used for lining of a biofloc pond?  |  |  |
| HDPE |  |  |
| PVC |  |  |
| Soil cement mix |  |  |
| All the above | Yes |  |
|  |  | Biofloc has ………….properties) |  |  |
| Antibiotic  |  |  |
| Immunostimulant  |  |  |
| probiotic |  |  |
| Both b and c | Yes |  |
|  |  | Circular pond for biofloc system have |  |  |
| Parallel water flow |  |  |
| Radial water flow | Yes |  |
| Accumulation of biofloc |  |  |
| None of the above |  |  |
|  |  | Which among the following best defines the ‘biofloc’ |  |  |
| Homogenous macro-aggregates of microorganism and suspended organic and inorganic particles  |  |  |
| Heterogeneous macro-aggregates of microorganism and suspended organic and inorganic particles | Yes |  |
| Heterogeneous macro-aggregates of microorganism and dissolved organic and inorganic particles |  |  |
| Heterogeneous macro-aggregates of only algae and suspended organic and inorganic particles |  |  |
|  |  | Biofloc quantity is measured using |  |  |
| Imhoff cone | Yes |  |
| Volumetric flask |  |  |
| haffkine flask |  |  |
| Standard flask |  |  |
|  |  | Circular ponds are usually designed for  |  |  |
| Large commercial ponds |  |  |
| Small ponds for hatchery | Yes |  |
| Flow through system |  |  |
| Not used in biofloc |  |  |
|  |  | Yeast is comes under……….. |  |  |
| protista |  |  |
| Prokaryote |  |  |
| Eukaryote | Yes |  |
| Bacteria |  |  |
|  |  | Microbial role in a biofloc system include |  |  |
| Train fish to feed |  |  |
| Automatically estimate biomass |  |  |
| Reduce inorganic nitrogen  | Yes |  |
| Increase surface area for grazing |  |  |
|  |  | Biological mineralization is the process through which microbes |  |  |
| removes pollution | Yes |  |
| produce minerals |  |  |
| reduce ammonia  |  |  |
| All the above |  |  |
|  |  | Which among the following biofloc expose to sunlight directly |  |  |
| Green water | Yes |  |
| Brown water |  |  |
| Red water |  |  |
| None of the above |  |  |
|  |  | Which among the following used for lining of a biofloc pond?  |  |  |
| HDPE |  |  |
| PVC |  |  |
| Soil cement mix |  |  |
| All the above | Yes |  |
|  |  | Carbon : Nitrogen ratio for the initial production of biofloc for tilapia culture  |  |  |
| 1:20 |  |  |
| 20:1 | Yes |  |
| 1:6 |  |  |
| 6:1 |  |  |
|  |  | Usual size floc in a biofloc system is  |  |  |
| Less than 1 micron |  |  |
| 1-10 micron |  |  |
| 50-200 micron | Yes |  |
| 1000-2000 micron |  |  |
|  |  | Which among the following species are suitable to culture in biofloc?  |  |  |
| Anabas |  |  |
| Common carp |  |  |
| Singhi |  |  |
| All the above | Yes |  |
|  |  | Biofloc technology is not popular for culturing |  |  |
| Mahseer | Yes |  |
| Tilapia |  |  |
| *P. vannamei* |  |  |
| None of these |  |  |
|  |  | Which among the following is not a part of biofloc? |  |  |
| Bacteria |  |  |
| Bacteriophage |  |  |
| Paramecium | Yes |  |
| Round worms |  |  |
|  |  | The element that is usually not a part of protein  |  |  |
| Carbon |  |  |
| Nitrogen |  |  |
| Sulfur |  |  |
| Potassium | Yes |  |
|  |  | Protein content of biofloc in dry weight basis  |  |  |
| 15-20 % |  |  |
| 15-30 % |  |  |
| 25-30 % |  |  |
| 25-50 % | Yes |  |
|  |  | Which among the following is not an advantage of culturing fish in biofloc system? |  |  |
| Judicial use of land and water |  |  |
| Fish reared in clear water | Yes |  |
| Reduces environmental impact |  |  |
| Reduces utilization of protein rich feed |  |  |
|  |  | The building block of proteins |  |  |
| Fatty acid |  |  |
| Prions |  |  |
| Amino acid | Yes |  |
| peptidoglycans |  |  |
|  |  | Which among the following species are suitable to culture in biofloc?  |  |  |
| Anabas |  |  |
| Common carp |  |  |
| Both  | Yes |  |
| None |  |  |
|  |  | Which among the following best defines the ‘biofloc’ |  |  |
| Homogenous macro-aggregates of microorganism and suspended organic and inorganic particles  |  |  |
| Heterogeneous macro-aggregates of microorganism and suspended organic and inorganic particles | Yes |  |
| Heterogeneous macro-aggregates of microorganism and dissolved organic and inorganic particles |  |  |
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|  |  | Usual size floc in a biofloc system is  |  |  |
| Less than 1 micron |  |  |
| 1-10 micron |  |  |
| 50-200 micron | Yes |  |
| 1000-2000 micron |  |  |
|  |  | Biofloc quantity is measured using |  |  |
| Imhoff Cone | Yes |  |
| Conical Flask |  |  |
| Beaker |  |  |
| Standard flask |  |  |
|  |  | Scientific name of climbing perch |  |  |
| *Anabas testudins* |  |  |
| *Anabas testudinum* |  |  |
| *Anabas testudineus* | Yes |  |
| *Anabas testudinensis* |  |  |
|  |  | Importance of aeration in a biofloc system |  |  |
| For pathogen removal |  |  |
| For ammonia removal |  |  |
| To increase BOD |  |  |
| For particle suspension | Yes |  |
|  |  | Carbon : Nitrogen ratio for the initial production of biofloc for tilapia culture  |  |  |
| 1:20 |  |  |
| 20:1 | Yes |  |
| 1:6 |  |  |
| 6:1 |  |  |
|  |  | Lipid content of biofloc  |  |  |
| 0.5-1% |  |  |
| 10-25% |  |  |
| 0.5-10% | Yes |  |
| 15-20% |  |  |
|  |  | Carbon : Nitrogen ratio for the maintenance of biofloc in a well-developed biofloc system  |  |  |
| 1:20 |  |  |
| 20:1 |  |  |
| 1:6 |  |  |
| 6:1 | Yes |  |
|  |  | Example of probiotic bacteria |  |  |
| *Lactobacillus* | Yes |  |
| *Pseudomonas* |  |  |
| *Vibrio alginolyticus* |  |  |
| Yeast |  |  |
|  |  | Which among the following is/are true about periphyton |  |  |
| Increase surface area if used in biofloc |  |  |
| Complex mixture of algae and heterotrophs on a submerged substrate  |  |  |
| Both of these | Yes |  |
| None of these |  |  |
|  |  | Content of inorganic matter in biofloc |  |  |
| 2-20% |  |  |
| 20-30% |  |  |
| 30-40% | Yes |  |
| 60-70% |  |  |
|  |  | Living microbial cell contribution in biofloc |  |  |
| 2-20% | Yes |  |
| 20-30% |  |  |
| 30-40% |  |  |
| 60-70% |  |  |
|  |  | Circular ponds are usually designed for  |  |  |
| Large commercial ponds |  |  |
| Small ponds for hatchery | Yes |  |
| Flow through system |  |  |
| Not used in biofloc |  |  |
|  |  | Microbial role in a biofloc system include |  |  |
| Train fish to feed |  |  |
| Automatically estimate biomass |  |  |
| Improve water quality | Yes |  |
| Increase surface area for grazing |  |  |
|  |  | Types of bacteria present in biofloc |  |  |
| Obligatory autotrophs |  |  |
| Heterotrophs | Yes |  |
| Nitrifying bacteria |  |  |
| All the above |  |  |
|  |  | How microbial cells remove environmental pollution? |  |  |
| Biological oxidation |  |  |
| Biological leaching |  |  |
| Biological mineralization |  |  |
|  | All the above | Yes |  |
|  |  | Biofloc lack of  |  |  |
| Vitamins |  |  |
| Protein |  |  |
| Phosphorous |  |  |
| None of the above | Yes |  |
|  |  | Biofloc in culture system act as |  |  |
| Probiotic | Yes |  |
| Antibiotic |  |  |
| Antioxidants |  |  |
| Anticoagulant |  |  |
|  |  | Biofloc is generally implemented in |  |  |
| Pen culture |  |  |
| Cage culture |  |  |
| Flow through culture  |  |  |
| Pond | Yes |  |
|  |  | Which among the following is/are true about Green water biofloc system?  |  |  |
| Commonly used for commercial culture | Yes |  |
| Include indoor tank and raceways |  |  |
| Only bacterial process control water quality |  |  |
| None of the above |  |  |
|  |  | Which among the following is true for *ex-situ* biofloc system?  |  |  |
| Exert high oxygen demand  |  |  |
| Do not use ammonia directly from animal |  |  |
| Better control of floc nutritional profile |  |  |
| Both b and c | Yes |  |
|  |  | Deeper ponds for biofloc is  |  |  |
| Expensive | Yes |  |
| Easy to harvest |  |  |
| Easy to feed |  |  |
| All the above |  |  |
|  |  | Which among the following used for lining of a biofloc pond?  |  |  |
| HDPE |  |  |
| PVC |  |  |
| Soil cement mix |  |  |
| All the above | Yes |  |