

**B.Sc.(Hons.) Semester – VI Examination, 2022**

**Sub.: Biotechnology(Hons.)**

**Paper: DSE 4 (IPR)**

Time:2hrs

Full Marks: 40

**Q.1 Answer *any five* questions:**

2x5=10

- a) What is WTO?
- b) What is TRIPS?
- c) What is Trademark?
- d) What is copyright?
- e) What is Prior art?
- f) What is trade secret?
- g) What is industrial design?
- h) What is IP?

**Q.2 Answer *any two* questions:**

5x2=10

- a) Write about tenure of different forms of patent.
- b) Why GI is important for a product?
- c) Write about involvement of different international organizations for the protection of IP.
- d) Write a short note on PCT.

**Q.3 Answer *any one* question:**

10x2=20

- a) Write about patent filling procedure and steps of granting a patent.
- b) Write about patent infringement and litigation case studies in context of IP
- c) Write a note on patent ownership and transfer.
- d) Write about GATT mentioning its pros and cons.

**OR**

**B.Sc.(Hons.) Semester-VI EXAMINATION, 2022**

**Subject: Biotechnology (Hons)**

**Paper: DSE-4(OR) [Evolutionary Biology]**

Time-2 hrs

Full Marks: 40

**Q.1 Answer any five from the following :**

2x5 =10

- a) In origin of life, what do you mean by pre-biotic condition?
- b) What is the most noticeable effect of evolution of oxygen in cell architecture?
- c) Are stromatolites still alive?
- d) In geological time scale, how does eon differ from era?
- e) Mention two examples of early equids.
- f) What is permineralization process?
- g) Why Cytochrome C is considered as one of the ideal markers to study molecular evolution?
- h) How does a subspecies differ from a species?

**Q.2 Answer any two questions from the following:**

5x2=10

- a) Explain briefly how modern synthetic theory of evolution differs from Darwinian concept of evolution 5
- b) How does coacervates and microspheres thought to evolve into protocell? 5
- c) What are stromatolites? What is their evolutionary significance? 1+4
- d) Explain with suitable examples the events of convergent and parallel evolution 5

**Q.3 Answer any two questions from the following:**

10x2=20

- a) Why 'living fossils' are called so? Name any four vestigial organs of human. Comment on the importance of vestigial organs in evolution study? 2+2+6=10
- b) How does ontogeny differ from phylogeny? Write a note on molecular evolution? 2+8=10
- c) What is Stratigraphy? How does biostratigraphy help in understanding of past evolutionary events? What is gene pool? Comment on the impact of genetic drift on gene pool with a case study? 2+3+2+3=10
- d) What is a subspecies? Does a race differ from a subspecies? What is Hardy-Weinberg concept? Mention the factors that make Hardy-Weinberg equilibrium fluctuate. 2+3+2=3+10

