GUJARAT NATIONAL LAW UNIVERSITY
GANDHINAGAR

Course: Law of Biotechnology and Challenges of Traditional Knowledge
Semester-II (Batch: 2018-19)

LL.M. End Semester Examination: May-2019

Date: 10th May, 2019
Duration: 3 hours **Max. Marks: 70**

Instructions:

- Read the questions properly and write the answers in the given answer book.
- The respective marks for each question are indicated in-line.
- Do not write anything on the question paper.
- Indicate correct question numbers in front of the answers.
- No questions or clarifications can be sought during the exam period, answer as it is, giving reason, if any.

Part-A **Marks**

Attempt **any two** questions:

Q.1 A state situated in the EU had a contract with a state in Asia. They have the contract basically to deploy the use of the micronutrients present in the local herb of Asia, called as 'Sadasuhagan'. Both the countries also agreed as per the provisions of ITPGRFA that there would be mutually access to the benefits arising out of the usage of the micronutrients. The states also agreed that the exploitation of this herb would be purely on the philanthropic purposes. After the contract, the companies from EU visited several places of the state in Asia and started its extraction from the herb in contract. This continued for 6 months, after this the EU based countries started the global manufacture of the food out of the micronutrients collected. It was reported that mostly the food was prepared for the patients of heart ailment and were sold at a very high rate. When it was asked by the Asian state, it was informed that every sale is based on the details given in the contract. Aggrieved thereby, Asian state has sought you advice in this matter. Discuss with help of the appropriate provisions of the treaty to reach to an amicable solution. (10)

Q.2 Discuss in short, citing suitable examples, reasons for the growth of Biotech Industry in India. How do you see it to be affecting our economics as well? (10)

Q.3 "IK & TK are one and the same." Discuss citing suitable examples to support or contradict this statement. (10)

Part-B

Q.4 Analyze the evolution and development of patent regime with respect to biotechnological products and processes in the US, Europe, and India. (12)

Q.5 Whether embryos and clones are patentable? Site legal, ethical and moral reasons for your answers. (06)

Part-C

Q.6 The archipelago country of Indonesia contains one of the world's twenty-five "biodiversity hotspots". Such "hotspots" are locations on the planet that are home to exceptional concentrations of a variety of life, particularly in terms of endemic species. Indonesia is also home to a large and growing population of over 350 million people living at a density of 142 people per square kilometer. (For comparison, almost 320 million people live in the United States at a density of 35 people per square kilometer.) To meet the economic and social demands of a dense, large, and growing population, some areas of the Indonesian islands have been developed for urban, industrial, and agricultural uses. Unfortunately, such development is sometimes in close proximity to and threatens the destruction of the ecosystems that constitute Indonesia's biodiversity hotspot. (10)

Kanisha—a recent Ph.D. graduate of a large university in India—has returned to the Indonesian island, Sumatra, where she was born and raised to work for a local chapter of an NGO, Friends of the Earth International. In Sumatra, Friends of the Earth and Kanisha are fighting against the transfer of a portion of state-owned native forest to a palm-oil plantation. Past efforts to halt plantation expansion relied on emphasizing the spiritual and intrinsic (existence) value of the biodiversity in the forest. Plantation owners, employees, and some local villagers argued that the plantation harbors economic benefits that outweigh the non-monetary value of the intact ecosystem.

Although agriculture will bring short-term economic benefits to the community, the long-term costs of lost biodiversity may be severe. Recently, Kanisha learned that destruction of biodiversity could have human health implications. In particular, recent studies have shown that decreasing levels of biodiversity may lead to an increase in outbreaks of vector-borne and parasitic diseases, such as malaria, dengue, zika, and schistosomiasis (all occurring in Indonesia). Outbreaks may necessitate a costly healthcare response. In addition, there are studies linking disease outbreaks to poverty. Furthermore, the endangerment of local lives due to nearby environmental degradation could be considered a violation of environmental justice (the fair treatment of all people with respect to environmental laws, policies, and regulations). Due to the potential public health costs and environmental justice violation, there will be a public vote regarding the expansion of the plantation. In advance of the vote, Kanisha's organization has charged her with putting together a public education forum. However, some of the evidence for disease outbreaks in response to declining biodiversity is conflicting. Kanisha has decided to focus on the academic literature and media that claim biodiversity destruction is likely to lead to disease outbreaks. This way, she believes she is more likely to persuade locals who will feel they are endangered by palm plantation expansion. Perhaps she will initiate a local environmental justice movement.

Based on the afore-stated facts, answer **any one** of the following questions:

(a) Should Kanisha use the evidence of biodiversity's relationship to human health to argue that biodiversity should be protected? Why or why not?

(b) What are the strengths and weaknesses of an economic value vs. intrinsic value argument for environmental protection? Which argument do you think will have more sway with plantation developers and government regulators? Why?

Q.7 The Whitakers used PGD, in combination with IVF, to select an embryo that matched Charlie's blood type. Their son, Jamie, was born nine months later. Jamie is labeled as a "savior sibling" as one of the main purposes for his birth was to save his brother. Charlie (05)

received a stem cell transplant, using stem cells obtained from Jamie's umbilical cord, when he was 12, and was finally relieved from this pain.

Mrs. Whitaker said: "We have been open with both the boys. Jamie knows why he was born but knows we would have loved him whether he was a savior sibling or not. He is a bit of a miracle and he did a great thing. The boys will always have a bond because of it." The whole family is very grateful for Jamie, and all of the Whitakers are now healthy and happy. Jamie is said to be happy to have helped his brother and is proud to have saved him, however, he has also said that "I know I was born to do that instead of being just born for me." Thus, he can be incredibly proud for being able to save his brother's life, but he has grown up with a mindset that he was born in order to accomplish something specific, not just to be himself.

Based on the afore-stated facts, answer the following question:

What is genetic selection and engineering? Is it okay for parents to select their child's traits? Explain the concept of selecting v designing with the help of one tool.

Part-D

Q.8 What is *Protection of Plant Variety and Farmers Right Act, (*PPVFR Act) 2001? Briefly discuss the criteria for deciding the protection of plant varieties? What is the duration of protection of a registered plant variety? (09)

Q.9 What is Budapest treaty? If an invention uses biological material, what are the obligations that have to be fulfilled under this treaty? What are the timelines to comply with those? (08)

****