

Name:

Enrolment No:



UPES

End Semester Examination, December 2024

Course : Ethics, Regulations, & IPR

Semester : III

Program : B.Tech-Biomedical Engineering & B.Tech-Biotechnology

Duration : 3 Hours

Course Code: CLIR4007

Max. Marks: 100

Instructions: All questions are compulsory.

Please read the questions carefully. The paper contains four sections.

S. No.	Section A	Marks	COs
	<b>Short answer questions/ MCQ/T&amp;F (20Qx1.5M= 30 Marks)</b>		
Q 1	True or False: "Pink pineapple is a fake fruit, it does not exist."	1.5	CO1
Q 2	Logo is an example of a. Geographical Indication b. Trademark c. Patent d. Copyright	1.5	CO1
Q 3	USPTO stands for _____	1.5	CO1
Q 4	Which nutrient is Golden Rice modified to produce higher levels of?	1.5	CO1
Q 5	In most countries, how long does copyright last? a. 10 years after the creation of the work b. 60 years after the creation of the work c. 10 years after the death of the person who created that work d. 60 years after the death of the person who created that work	1.5	CO1
Q 6	What does the term "impact factor" refer to in academic publishing? a. The amount of funding a research paper receives b. A measure of the number of citations a journal receives in a particular year c. The number of authors involved in the paper d. The time taken for a paper to be published	1.5	CO1
Q 7	_____ IPR protects technical invention/innovation	1.5	CO1
Q 8	Which of these is not a major branch of ethics a. Normative ethics b. Consequentialist ethics c. Metaethics d. Applied ethics	1.5	CO1
Q 9	Which of the following is a moral norm a. Norms of etiquette b. Grammatical norms c. Cheating d. Aesthetic norms	1.5	CO1
Q 10	What is the first step in the patent application process? a. Filing a provisional patent	1.5	CO1

	b. Conducting a patent search c. Submitting the final patent application d. Paying the patent office fee		
Q 11	What does the term "infringement" mean in relation to intellectual property? a. A public announcement of the creator's rights b. Unauthorized use or violation of someone else's intellectual property rights c. The process of licensing intellectual property to others d. The act of filing for a patent or trademark	1.5	CO1
Q 12	Which of the following can be patented? a. A naturally occurring plant b. An abstract idea c. A new chemical compound d. A mathematical equation	1.5	CO1
Q 13	Which of the following is considered a reputable source for academic publishing? a. Social media platforms b. Peer-reviewed journals c. Personal blogs d. News websites	1.5	CO1
Q 14	What is the primary purpose of a patent? a. To protect the aesthetic design of a product b. To grant the inventor exclusive rights to use, sell, or license an invention c. To prevent others from making similar products d. To allow public access to inventions	1.5	CO1
Q 15	Describe how the environment is affected by GMOs.	1.5	CO2
Q 16	What is the significance of the "abstract" in a research paper? a. It provides a detailed explanation of the methodology b. It summarizes the entire paper, including objectives, methods, results, and conclusions c. It contains a list of all the citations in the paper d. It includes only the conclusion of the research	1.5	CO2
Q 17	True or False: "We should respect the human and animal subjects in research studies."	1.5	CO2
Q 18	Write one morally right statement.	1.5	CO2
Q 19	True or False: "Human cloning is not yet allowed"	1.5	CO2
Q 20	True or False: "Abortion is not associated with Bioethics"	1.5	CO2
<b>Section B</b> <b>(4Qx5M=20 Marks)</b>			
Q 21	Mention one IPR that protects the following <b>(1 mark each)</b> a. iPhone's touchscreen technology b. A scientific journal article published by a researcher. c. Jamaican Blue Mountain Coffee d. Google Search Algorithm e. Volkswagen Beetle Car Shape	5	CO1
Q 22	a. Define Patent. <b>(2 mark)</b> b. What is the criterion for patentability? <b>(1*3 = 3 marks)</b>	5	CO2
Q 23	a. What does GMO stand for? <b>(1 mark)</b>	5	CO2

	b. Describe four major steps for creating GMOs <b>(1*4 = 4 marks)</b>		
Q 24	a. Define moral and non-moral norms. <b>(0.5*2 = 1 mark)</b> b. Describe, with example, the four principles that differentiate moral norms from non-moral norms. <b>(1*4 = 4 marks)</b>	5	CO2
<b>Section C</b> <b>(2Qx15M=30 Marks)</b>			
Q 25	<p>“Liam, an aspiring inventor, had spent months working on a new type of solar-powered backpack that could charge phones while on the go. After perfecting the design and functionality, he decided to launch his product online under the name "EcoPack." He also designed a sleek, modern logo featuring a sun and a power symbol. As the popularity of EcoPack grew, Liam wrote a detailed guide/booklet on how he created the solar-powered charging system and included it in an instructional manual that came with every backpack. Additionally, Liam kept his specific manufacturing process, which allowed the backpack to stay lightweight while being durable, a closely guarded secret.”</p> <p>a. Define Intellectual Property Rights. <b>(2 marks)</b></p> <p>b. Draw a line diagram listing various types of IPR. <b>(0.5*6 = 3 marks)</b></p> <p>c. Liam has contacted you to help him identify his intellectual property rights to protect the heart of his business and keep his creative ideas safe from competition. Identify intellectual property rights in the above paragraph and explain each type <b>(2.25*4 = 10 marks)</b></p>	15	CO3
Q 26	<p>As a faculty member at UPES engaged in both teaching and research, a student from your class approaches you, expressing interest in working on a research project within your area of expertise to gain research experience.</p> <p>a. How would you respond to this student’s request? <b>(2 marks)</b></p> <p>b. Briefly describe how you would assess the student's interest in your field. <b>(4 marks)</b></p> <p>c. After evaluating the students' interests, you determined that they are not genuinely interested in your field, yet they remain insistent on joining your lab. Describe two key points you would use to explain to the students why they cannot join your lab. <b>(4 marks)</b></p> <p>d. Assume another scenario that after evaluating the above student, you find they are eager to learn and understand, and you decide to welcome them into your lab. What are three key responsibilities you would have as their mentor? <b>(3 marks)</b></p> <p>e. The student has performed exceptionally well in the allocated research project and is now finishing their undergraduate degree, describe what role you can play as a mentor in their career. <b>(2 marks)</b></p>	15	CO4

**Section D**  
**(2Qx10M=20 Marks)**

Q 27	<p>Dr. Y is a faculty, and their research profile is shared below</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">S.no</th> <th style="width: 60%;">Name of paper</th> <th style="width: 30%;">Number of Citations</th> </tr> </thead> <tbody> <tr><td>1.</td><td>Research Paper 1</td><td>133</td></tr> <tr><td>2.</td><td>Research Paper 2</td><td>79</td></tr> <tr><td>3.</td><td>Research Paper 3</td><td>52</td></tr> <tr><td>4.</td><td>Research Paper 4</td><td>34</td></tr> <tr><td>5.</td><td>Research Paper 5</td><td>28</td></tr> <tr><td>6.</td><td>Research Paper 6</td><td>27</td></tr> <tr><td>7.</td><td>Research Paper 7</td><td>6</td></tr> <tr><td>8.</td><td>Research Paper 8</td><td>4</td></tr> <tr><td>9.</td><td>Research Paper 9</td><td>3</td></tr> <tr><td>10.</td><td>Research Paper 10</td><td>3</td></tr> </tbody> </table> <p>a. Define citation. Calculate the total number of citations of Dr. Y <b>(1+2 = 3 marks)</b>  b. Define i-10 index. Calculate the i-10 index for Dr. Y <b>(1+2 = 3 marks)</b>  c. Define h-index. Calculate the h-index for Dr. Y <b>(1+2 = 3 marks)</b>  d. What is the maximum number of citations in a research papers published by Dr. Y <b>(1 mark)</b></p>	S.no	Name of paper	Number of Citations	1.	Research Paper 1	133	2.	Research Paper 2	79	3.	Research Paper 3	52	4.	Research Paper 4	34	5.	Research Paper 5	28	6.	Research Paper 6	27	7.	Research Paper 7	6	8.	Research Paper 8	4	9.	Research Paper 9	3	10.	Research Paper 10	3	10	CO3
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Q28	<p>You are a scientist working on the Bt-Cotton crop, which is usually grown in the black soil of the Deccan plateau. Your research involves developing a new variety called Bt-Cotton (UK) for the Uttarakhand region.</p> <p>a. Describe two new features that you have added to Bt-cotton (UK). <b>(2*2.5 = 5 marks)</b></p> <p>As part of the field trials, you must travel to villages and convince farmers to grow your new crop. The farmers are hesitant as they are unaware of how these new plant varieties are produced and how they might harm their production. They are also skeptical of how it can affect their land (soil) in the long and short term. They are also unsure if you are fooling them, and this cotton might harm the environment, and the produced cotton fiber might be toxic to humans and the environment.</p> <p>b. Describe two points that you will discuss with farmers to convince them to grow your Bt-Cotton (UK) crop. <b>(2*2.5 = 5 marks)</b></p>	10	CO4																																	