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**FRANCIS XAVIER ENGINEERING COLLEGE**  
**(An Autonomous Institution)**  
**Tirunelveli-627003**  
**Department of Computer Science and Engineering**  
**CONTINUOUS ASSESSMENT TEST -I**  
**Third Year/ Fifth Semester**  
**19ME5501 - PROFESSIONAL ETHICS FOR ENGINEERS**  
**(Regulation 2019)**

Time: Three hours

Maximum: 100 Marks

Answer ALL Questions

**PART – A (10 x 2 = 20 Marks)**

Q.No	Question	RBT - LEV EL	CO	PI	Mar ks
1.	Define human values.  Values decide the standard of behavior. Some universally accepted values are freedom, justice and equality. Other principles of values are love, care, honesty, integrity, self respect. On the whole it is known as Human Values	Rem emb er	CO1	8.3.1	2
2.	State work ethics.  By one's work, one cannot harm others. Any worker cannot escape accountability. Worker has the moral responsibility to see that no other person's right, private or freedom is impaired or transgressed. This is known as Work Ethics	Rem emb er	CO1	9.5.4	2
3.	What is service learning?  Service learning tells that one has moral responsibility to increase the desirable effects and to decrease the harmful effects in the community. Any service should increase the desirable result in the society.	Rem emb er	CO1	8.4.2	2
4.	List out some civic virtues that we can implement in our city. <ul style="list-style-type: none"><li>• Being a good participant in a system of government</li><li>• Having personal qualities that help for the effective functioning of the Civil Policies</li></ul>	Rem emb er	CO1	8.4.2	2

	<ul style="list-style-type: none"> <li>Obeying or following the political order</li> <li>Preserving Government's values and principles.</li> </ul>				
5.	<p>"Moral Autonomy is needed for life" – Justify.</p> <p>Moral Autonomy means the skill and habit of thinking rationally on ethical issues based on moral concern. So with Moral Autonomy one can live a life with freedom of doing what he thinks is right. So Moral Autonomy is needed for life.</p>	Evaluate	CO2	9.5.4	2
6.	<p>"Models of professional roles" – Discuss and explain where it can be useful.</p> <p>(1) Savior(2)</p> <p>The engineers are responsible for creating an utopian society in which everything is possible.</p> <p>(2) Guardian(2)</p> <p>Engineers only know the directions through which technology will be developed.</p> <p>(3) Bureaucratic Servant(3)</p> <p>Engineers' role in the management is to be the servant who receives and translates the directive of management into better achievements.</p> <p>(4) Social servant(3)</p> <p>The role of engineers is not only providing service to others but also their responsibility to the society.</p> <p>(5) Social enabler and catalyst(3)</p> <p>The engineer has to play a role of creating a better society and should be the cause of making social changes.</p>	Create	CO2	8.4.1	2
7.	<p>Identify the importance of Self Interest.</p> <ul style="list-style-type: none"> <li>➤ Self-interest is being good and acceptable to oneself.</li> <li>➤ It is pursuing what is good for oneself.</li> <li>➤ It is very ethical to possess self-interest.</li> <li>➤ As per utilitarian theory, this interest should provide for the respect of others also.</li> </ul>	Apply	CO2	8.4.2	2
8.	<p>Illustrate the various types of Inquiries available.</p> <ul style="list-style-type: none"> <li>Normative inquires</li> <li>Conceptual inquires</li> </ul>	Understand	CO2	9.4.1	2

	<ul style="list-style-type: none"> <li>Factual inquires</li> </ul>				
9.	<p>Give the general features of morally responsible engineers.</p> <p><input type="checkbox"/> Conscientiousness.</p> <p><input type="checkbox"/> Comprehensive perspective.</p> <p><input type="checkbox"/> Autonomy.</p> <p><input type="checkbox"/> Accountability</p>	Understand	CO3	9.4.1	2
10.	<p>Differentiate scientific experiments and engineering projects.</p> <p>Scientific experiments are conducted to gain new knowledge, while “engineering projects are experiments that are not necessarily designed to produce very much knowledge”.</p>	Analyze	CO3	9.4.1	2

**PART – B (5 x 13 = 65 Marks)**

Q.No	Question	RBT - LEVEL	CO	PI	Marks
11 (a)	<p>Assume that you are working in a company and explain how you express the integrity and importance of Work Ethics in your work place?</p> <p>Integrity is the unity of character based on moral values. Consistency in attitudes, emotions and conduct in relations to morally justified actions and values are also the part of integrity of individual. It implies honesty, trustworthiness.(3)</p> <p>-Example(5)</p> <p>Work Ethics - By one's work one cannot harm others. Any worker cannot escape accountability. Worker has the moral responsibility to see that no other person's right, private or freedom is impaired or transgressed.</p> <p>-Example(5)</p>	Analyze	CO1	9.5.4	13
(Or)					
(b)	<p>Discuss about how respect for others play important role in ethics and list some people on how you show respect for them in your life and also Discuss about the art of living peacefully in this critical world.</p> <p>-Respect for others-(7)</p> <p>-Living Peacefully(6)</p>	Create	CO1	9.5.2	13

<b>12 (a)</b>	Summarize the importance of sharing and the impact it produces in the downtrodden people in this society by caring them.  – Caring(7) – Sharing(6)	Understand	CO1	8.3.1	13
(Or)					
<b>(b)</b>	Discuss the importance of courage in detail and emphasize that how it is not only important for soldiers but also for normal living and also explain how honest is important in life?  -Honesty(6) -Courage(7)	Create	CO1	8.3.1	13
<b>13(a)</b>	Examine the importance of empathy and differentiate it from sympathy.  <ul style="list-style-type: none"> <li>• Definition (2)</li> <li>• Elements of empathy (4)</li> <li>• Comparison of empathy with sympathy (4)</li> <li>• Benefits of empathy (3)</li> </ul>	Analyze	CO1	9.6.1	13
(Or)					
<b>(b)</b>	“If wealth is lost something is lost,  If health is lost something is lost,  But if character is lost, everything is lost” - Explain the above quote by giving importance to character.  <ul style="list-style-type: none"> <li>• Introduction (3)</li> <li>• Virtue and character (4)</li> <li>• Nature and Character (4)</li> <li>• Man’s will and Character (2)</li> </ul>	Understand	CO1	8.4.2	13
<b>14a)</b>	Can you depict the senses of Engineering Ethics in connection with the society we are living in?  <ul style="list-style-type: none"> <li>• Stimulating the moral imagination(2)</li> <li>• Recognizing ethical Issues(2)</li> <li>• Developing Analytical skills(1)</li> <li>• Drawing out a sense of responsibility(1)</li> </ul>	Understand	CO2	8.3.1	76

	<ul style="list-style-type: none"> <li>Addressing Unclearly, Uncertainty, and disagreement.(1)</li> </ul> <p>“Engineering Ethics” – Can you explain how it relates to our profession?</p> <p>Engineering ethics is concerned with(6)</p> <p>i) The study of the moral issues and decisions confronting individuals and organizations engaged in engineering field.</p> <p>ii) The study of related issues about the moral ideas, characters, policies and relationships of people and corporations involved in technological activity.</p>				
(Or)					
(b)	<p>Assume that you are working in a Multi National corporation in a foreign country and explain the types of Moral issues happen in that work place?</p> <ul style="list-style-type: none"> <li>Organization oriented issues. (2)</li> <li>Clients or customers oriented issues. (2)</li> <li>Competitors oriented issues. (2)</li> <li>Law, government and public agencies oriented issues. (2)</li> <li>Social and environmental oriented issues. (2)</li> <li>Family oriented issues. (3)</li> </ul>	Analyze	CO2	8.4.2	15
15 (a)	<p>“Kohlberg’s theory had a strong male bias”</p> <p>- With the above context explain the Gilligan's Theory in contrast with that.</p> <p>Levels of Moral Development</p> <ul style="list-style-type: none"> <li>Pre-conventional level(4)</li> <li>Conventional level(4)</li> <li>Post-conventional level(5)</li> </ul>	Understand	CO2	8.4.2	13
(Or)					
(b)	<ul style="list-style-type: none"> <li>Pre-conventional level</li> <li>conventional level</li> <li>post-conventional level –</li> </ul> <p>Analyse all the above levels and summarize all in connection with the Kohlberg Theory.</p> <ul style="list-style-type: none"> <li>Pre-conventional level(4)</li> </ul>	Understand	CO2	8.4.2	13

	<ul style="list-style-type: none"> <li>Conventional level(4)</li> <li>Post-conventional level(5).</li> </ul>				
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**PART – C (1 x 15 = 15 marks)**

<b>Q.No</b>	<b>Question</b>	<b>RBT - LEVEL</b>	<b>CO</b>	<b>PI</b>	<b>Marks</b>
<b>16 (a)</b>	<p>Explain about Challenger disaster case study and discuss the issues on it.</p> <p>The space shuttle that carried astronauts to the moon had three stage rockets safety point of view. A similar design was suggested in case of Challenger, but it was rejected by the government sincere it was too expensive. The crew had no escape mechanism.</p> <p>The shuttle programme was an experimental and a research undertaking. Challenger astronauts were not informed about the problems such as the field joints. They were not asked for their consent towards unsafe condition.</p> <p>Another cause for the failure of the Challenger was the NASA's scientists were unwilling to wait for proper weather condition. Weather was partially responsible for Challenger's disaster.</p> <p>Because, a strong wind shear may result in rupturing of the weak O-rings.</p> <p>The safety concerns were ignored by the management. One engineer said this "A small amount of professional safety effort and the support of the management will cause an enormous quantum safety improvement with little expenses". The important role of the management is for safety first and the schedules second.(5)</p> <p>-Explanation(10)</p>	Evaluate	CO3	8.4.2	15
(Or)					
<b>(b)</b>	<p>Assume that you are working in a Software Firm as an Engineer and explain how you can act as a responsible experimenter there? Explain the general responsibilities and also the general features of responsible Engineer.</p> <ul style="list-style-type: none"> <li>Definition (2)</li> <li>Conscientiousness (3)</li> <li>Relevant Information (3)</li> <li>Moral Autonomy (3)</li> <li>Accountability (2)</li> <li>Examples(2)</li> </ul>	Analyze	CO3	9.4.1	15