M.Sc. BIOTECHNOLOGY SECOND SEMESTER BIOSTATISTICS, BIOETHICS & IPR

MBT - 204

(Use Separate Answer Scripts for Objective & Descriptive)

Full Marks: 70 Duration: 3 hrs.

[PART-A: Objective]

Time: 20 min. Marks: 20

Choose the correct answer from the following:

1X20 = 20

- 1. Aminocentesis cannot be used to determine which one of these?
 - a. Chromosome analysis

b. Detecting genetic defects

c. Maturity of fetal lungs

d. None of these

- Chorion is a/an
 - a. Membrane developing around an embryo contributing to the formation of the
 - b. Sack within a pregnant women's uterus containing the amniotic fluid surrounding the
 - c. Organ in the uterus connected to the fetus by the umbilical chord
 - d. None of these
- 3. The full form of PNDT Act is:
 - a. Post natal diagnostic test
- b. Post neural diagnostic test
- c. Prenatal diagnostic test
- d. None of these
- 4. This procedure involves inserting a small flexible plastic tube through the vagina into the uterus
 - a. Alpha feto protein screening
- b. Aminocentesis
- c. Chorionic villi sampling
- d. None of the above
- 5. Euthansia, from the Greek word meaning:
- b. Good death

a. Violatile death c. Bad death

- d. Worst death
- 6. In case of medical negligence a claimant can succeed only if it is established on the balance of probabilities
 - a. That the doctor breached the duty of care owed to the patient
- b. That the breach caused the injury to the patient
- d. All of the above
- c. That the doctor owed a duty of care to the patient
- 7. Bioethics is the philosophical study of ethical controverseries concerned to: a. Life science and biotechnology
 - b. Politics

c. Theology

d. None of these

8. If the CV of a certain distribution is 25%, stathe mean?	ndard deviation is 3, then what is the value of		
a. 15 c. 35	b. 12 d. 40		
9. If the number of independent trials and pro are respectively 10 and 0.45, then the standa a. 2.475 c. 1.57			
10. Let, X be a normal variate, the mean and state a. 0 and 1 c. 1 and 0	ndard deviation of X are respectively b. μ and σ d. None		
 11. Which of the following test statistic is used a. Z c. χ² 	in ANOVA? b. t d. F		
12. If the two regression lines are identical, then the correlation coefficient between the two variables is:			
a. 1 c. ±1	b1 d. 0		
13. Which of the following design-The number of replications is equal to the number of Treatments?			
a. Complete Randomized Design c. Randomized Block Design	b. Latin Square Design d. none		
 14. The statement that is true for Poisson distribution is: a. The number of independent trials is finite and the probability of a success is not small b. The number of independent trials is finite and the probability of a success is small. c. The number of independent trials is infinite and the probability of a success is not small 			
15. Subject matter of copyright is present in Co	nite and the probability of a success is small		
a. 12 c. 13	b. 43 d. 52		
16. Patent is granted for a time span ofa. 60c. 10	years b. 20 d. 30		
17IP has no limitation of time period. a. Patent b. Copyright			
c. Gl	d. Trade secrets		

18. Renewal, removal and res Act 1999.	toration of trademarks comes under sectionof Trademerk
a. 25	b. 52
c. 12	d. 43
19. GATT was replaced by	
a. WIPO	b. TRIPS
c. WTO	d. ITO
20 Articles in TRIPS	Sagreement are related to GI
a. 22 and 23	b. 21 and 22
c. 13 and 14	d. 14 and 15

(PART-B : Descriptive)

Time: 2 hrs. 40 min. Marks: 50

[Answer question no.1 & any four (4) from the rest]

1.	What are Clinical Trials? Describe the different phases of a clinical trial.	2+8=10
2.	What is the PNDT Act? What is Prenatal Screening? What are the most common prenatal screening tests?	3+3+4 =10
3.	Write short notes on: i. Prenatal Screening ii. Aminocentesis	2×5=10
4.	a. Define Poisson distribution. State its properties. b. Assume the mean height of soldiers to be 68 inches with a variance 10 sq inches. How many soldiers in a regiment of 1000 would you expect to in between 5 feet and 6 feet. [Given $\Phi(0.40) = 0.1554$ and $\Phi(0.80) = 0.2881$]	
5.	The following data give yield on 10 plots of land in three samples of 4 plots, 3 plots and 3 plots, under the three varieties of fertilizers A, B and C A B C 25 20 24 22 17 26 24 16 30 21 Test at 5% level of significance whether there is any significant	10
	difference in the average yields of land under the three varieties of fertilizers. [Given, the critical value of F at 5% level of significance and (2, 7) degrees of freedom is 4.74.	
6.	What do you mean by Patent? What are the objects of Patents? Describe the procedure of acquiring patent.	1+3+6 =10
7.	What is trademark? Write down the characteristics of trademark. Also describe how the trademark can be renewed, removed and restored.	
8.	What is GI, give some examples? Why GI is beneficial for the	2+4+4

=10

society? Who can apply for GI?