

Exam Date & Time: 26-Sep-2020 (02:00 PM - 05:30 PM)



PSG COLLEGE OF ARTS AND SCIENCE

Note: Writing 3hrs: Checking & Inserting Image : 30mins

MSc DEGREE EXAMINATION MAY 2020
(Fourth Semester)

Branch - BIOTECHNOLOGY

RESEARCH IPR AND ETHICS IN BIOTECHNOLOGY [18BTP21]

Marks: 75

Duration: 210 mins.

SECTION - A

Answer all the questions.

- 1) Bibliography given in a research report
 - (i) Helps those interested in further research and studying the problem from another angle
 - (ii) Shows the vast knowledge of the researcher (1)
 - (iii) Makes the report authentic
 - (iv) None of the above
- 2) Which of the following best suit for "Action Research"?
 - (i) It is an applied research
 - (ii) It is a quantity research (1)
 - (iii) It is a survey research
 - (iv) It is a population research
- 3) The population census carried out by the Government of India can be an example of
 - (i) Exploratory Research
 - (ii) Causal research (1)
 - (iii) Descriptive research
 - (iv) All of the above
- 4) The best sampling method for sampling a population finite size.
 - (i) Area sampling
 - (ii) Systematic sampling (1)
 - (iii) Purposive sampling
 - (iv) Quota sampling
- 5) A _____ study involves manipulation of one or more variables to determine the effect on another (1)
 - (i) ex post facto
 - (ii) exploratory
 - (iii) experimental
 - (iv) statistical

- 6) Information is _____
(i) Raw Data
(ii) Processed Data (1)
(iii) Input Data
(iv) Organized Data
- 7) Intellectual Property Rights (IPR) protect the use of information and ideas that are of
(i) Ethical value
(ii) Moral value (1)
(iii) Social value
(iv) Commercial value
- 8) Which of the following is not an intellectual property law?
(i) Customs Act, 1962
(ii) Copyright Act, 1957 (1)
(iii) Patent Act, 1970
(iv) Design Act, 2000
- 9) The desire to maintain a safe laboratory environment for all begins with _____
(i) prevention
(ii) ubiquity (1)
(iii) microbiology
(iv) accidents
- 10) Good work practices include
(i) smelling and tasting chemicals
(ii) not washing hands before and after lab (1)
(iii) confining long hair and loose clothing
(iv) using damaged equipment and glassware

SECTION - B

Answer all the questions.

- 11) How will you collect the secondary data? (5)
a)
[OR] What are the different types of research? (5)
b)
- 12) List out the different types of sample design. (5)
a)
[OR] Explain the need of research design. (5)
b)
- 13) (5)

a)

Find the F Test

The young bank manager in Example 1 is still struggling with finding the best way to staff her branch. She knows that she needs to have more tellers on Fridays than on other days, but she is trying to find if the need for tellers is constant across the rest of the week. She collects data for the number of transactions each day for two months.

Here are her data:

Mondays: 276,323,298,256,277,309,312,265,311

Tuesdays 243,279,301,285,274,243,228,298,255

Wednesdays: 288,292,310,267,243,293,255,273

Thursdays: 254,279,241,227,278,276,256,262

[OR]

b)

Comment on tests of significance.

(5)

14)

Describe the patent formalities in research.

(5)

a)

[OR]

b)

What are patent laws?

(5)

15)

Comment on RCGM and MEC.

(5)

a)

[OR]

b)

Explain about primary containment for biohazards.

(5)

SECTION - C

Answer all the questions.

16)

Discuss on research methods and its significance on research.

(8)

a)

[OR]

b)

What are the methods followed in data collection?

(8)

17)

Illustrate the design of experiment for testing animal models.

(8)

a)

[OR]

b)

List out characteristics procedure for good sampling.

(8)

18)

(8)

a)

A statistics instructor at a large western university would like to examine the relationship(if any) between the number of optional homework problems students do during the semester and their final course grade. She randomly selects 12 students for study and asks them to keep track of the number of these problems completed during the course of the semester. At the end of the class each student's total is recorded along with their final grade. The data follow in table. Find the correlation and regression.

Problems	Course grade	Prb*Grd
51	62	3162
58	68	3944
62	66	4092
65	66	4290
68	67	4556
76	72	5472
77	73	5621
78	72	5616
78	78	6084
84	73	6232
85	76	6460
91	75	6835
873	848	62254
Σ Prb	Σ Grd	Σ Prb*Grd

[OR]
b)

A Clinical psychologist has run a between – subjects experiment comparing two treatments for depression(cognitive – behavioral therapy (CBT) and client centered therapy(CCT) against a control condition. Subjects were randomly assigned to the experimental condition. After 12 weeks, the subject's depression scores were measured using the CESD depression scale. The data are summarized as follows:

(8)

	n	Mean	sd
Control	40	21.4	4.5
CBT	40	16.9	5.5
CCT	40	19.1	5.8

Use a one way ANOVA with $\alpha = .01$ for the test.

19) Discuss on protection of traditional knowledge. (8)

a)

[OR] Enumerate patent application, guidelines, fee and application types. (8)
b)

20) Write detailed notes on biosafety levels for specific microorganisms. (8)

a)

[OR] (8)
b)

Give an account on recommended biosafety levels for infectious agents and infected animals.

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