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**End Semester Examination of Semester-II, 2016**

**Subject : PHYSIOLOGY (PG)**

**Paper : PHYPG-203**

**Group : Unit 17 & Unit 18**

**Full Marks : 40**

**Time : 2 Hrs**

*The figures in the margin indicate the marks corresponding to the question.*

*Candidates are requested to give their answers in their own word as far as practicable.*

*Illustrate the answers wherever necessary.*

**Unit-17 (Marks : 20)**

Answer Q1. and any one out of Q2 and Q3:

Q1. Answer any five questions: 2x5=10

- a) Why ANOVA is more powerful than t-test?
- b) What do you mean by contingency table with example of any one 3x2 fold contingency table?
- c) What is Yates correction?
- d) Define Principal component Analysis.
- e) What are the steps taken into consideration for good research?
- f) What do you mean by Plagiarism?

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- g) Give two historical instances of unethical science.
- h) What do you mean by Ethical review procedure.
- Q2. a) Define Pearson's  $r$ . State the assumptions underlying  $r$ . How do you compute  $r$  from ungrouped data?

1+2+2

- b) To workout, using the critical  $F$  values quoted below, a one way ANOVA for finding whether or not there is a significant difference between the respiratory rate (cycle/min) of the following two groups of adult male from two different habitates.

Group 1( $X_1$ ) : 31, 30, 32, 33, 26, 30, 28, 32, 25, 30.

Group 2 ( $X_2$ ) : 20, 24, 18, 30, 25, 20, 19, 22, 21, 21

Critical 'F' values :

$F_{0.01}(2, 19) = 5.93$ ;  $F_{0.01}(1, 19) = 8.18$ ,

$F_{0.01}(2, 18) = 6.01$ ,  $F_{0.01}(1, 18) = 8.28$ .

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- Q3. a) What are good laboratory practices?
- b) What are the objectives of research? What are the basic types of research?
- c) State the General ethical issues arising in Animal research.
- d) What do you mean by human ethic violation.

2+(2+2)+2+2

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**Unit-18 (Marks : 20)**

**Answer Q1. and any one out of Q2 and Q3:**

**Q1. Answer any five questions: 2x5=10**

- a) Define Operating System.
- b) What is RAM?
- c) Convert  $(235)_{10}$  to hexadecimal number.
- d) Distinguish between LAN and WAN.
- e) \_\_\_\_\_ is a sequence alignment tool.
- f) Explain E value.
- g) What is DNA chip?
- h) 1 Byte = \_\_\_\_\_?

**Q2. a) What do you mean by computer languages. State the difference between Machine language and Assembly language. Name two high level languages. 1+2+2**

**b) What is Flowchart? Name different types of flowchart? Name and describe any two symbols used in flowchart. 1+2+2**

**Q3. a) Describe the salient features of a Structured database. With suitable example describe the difference between Global and local Alignment.**

**b) What is protein sequence database?**

**c) Distinguish between BLAST and FASTA.**

**2+(2+2)+(2+2)**

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