UNIVERSITI TUN HUSSEIN ONN MALAYSIA

FINAL EXAMINATION
SEMESTER II
SESSION 2011/2012

COURSE NAME	:	RESEARCH METHODOLOGY
COURSE CODE	:	BPB 32403
PROGRAMME	:	3 BPB
EXAMINATION DATE	:	JUNE 2012
DURATION	:	3 HOURS
INSTRUCTION	:	ANSWER **ALL** QUESTIONS

THIS QUESTION PAPER CONSISTS OF **FOUR (4)** PAGES

Q1   You are a production manager in-charged of product quality at Avenger Industry Sdn. Bhd, which had 2000 production employees distributed in four major production departments. While reviewing monthly quality reports, you noticed that product defect rate had increased considerably for the past few months. Upon observations and feedbacks received from production supervisors, human errors might be one of the most possible causes.

Literatures on human errors indicate that there are many types of human errors which include slips or lapses, mistakes and violations (Salvendy, 1997). Slips or lapses are unintended actions which occur during a familiar task and include slips (e.g. pressing the wrong button) and lapses (e.g. forgetting to carry out a step in a procedure). Mistakes are errors of judgement or decision-making where the "intended actions are wrong" i.e. where we do the wrong thing believing it to be right. On the other hand, violations (non-compliances, circumventions, shortcuts and work-arounds) differ from the above in that they are intentional but usually well-meaning failures where the person deliberately does not carry out the procedure correctly.

In order to develop more effective controls and reduce the defect rates, you need to further investigate whether these human errors are related to the defects.

(a)   Formulate a research objective for the above study.

(3 marks)

(b)   Propose which variables are independent variables and dependent variable in the above study.

(10 marks)

(c)   Formulate hypothesis null and alternative based on the research objective.

(4 marks)

(d)   Develop operational definitions for slips, lapses, mistakes, violation and defect.

(10 marks)

(e)   Propose the most appropriate research design for this study with justification.

(4 marks)

(f)   Suggest the target population and the sampling frame of this study.

(4 marks)

(g)   Propose the most appropriate sampling technique for this study with justification if you would like to collect the information from the employees.

(5 marks)

Q2 In a study on the effects of training conditions on turnover and productivity, Lefkowitz (1970) chose 208 females employees hired one year as sewing machine operators as subjects. These employees were assigned to four groups which received different training periods. Group I, which was also a control group, received one day training in a training facility. Group II received two days training in the training facility, Group III received three days training in the training facility and Group IV received three days training in both training facility and workplace. Each group's initial performance was measured to ensure similarity. Job turnover was defined as the percentage of workers who quit in their first 40 days on the job while productivity was defined in terms of daily output figures in the first 40 days on the job.

(a) Illustrate the experimental design mentioned above using the design notation as follows;

X : Independent Variable
O : Observation of Dependent Variable
R : Random Assignment

(4 marks)

(b) Identify levels of measurement (nominal, ordinal, interval or ratio), measures of central tendency and dispersion most appropriate for the following variables;

(i) Levels of training
(ii) Productivity

(6 marks)

(c) This study used random assignment to assign the female employees to different groups.

Differentiate between random assignment and random selection.

(4 marks)

(d) Internal validity in experimental designs allows you to rule out potential alternative causes that influences your dependent variable.

Discuss **THREE (3)** threats to internal validity in this experiment.

(6 marks)

Q3 Statistics are powerful tools with two broad purposes: describing the results of a study (descriptive statistics) , and helping us understand the meaning of those results (inferential statistics).

(a) Exam Scores: 8; 6; 4; 3; 9; 5; 7; 8; 5.

(i) Draw a frequency distribution graph based on the data.
(ii) Calculate the mean.
(iii) Calculate the standard deviation.

(6 marks)

(b)   Draw the following curve;

       (i)   A positively skewed curve.
       (ii)   A negatively skewed curve.
       (iii)   A symmetrical curve.

(3 marks)

(c)   Calculate the z scores for the following raw scores where the mean is 50 and the standard deviation is 5.

       (i)   55.
       (ii)   50.
       (iii)   60.
       (iv)   57.
       (v)   40

(5 marks)

(d)   Identify the suitable type of statistical tests (e.g. t-test) for following research objectives:
       (i)   To identify the relationship between weight and innovative behavior.
       (ii)   To examine the skills differences between male and females.
       (iii)   To investigate productivity difference among races.

(6 marks)

Q4   Field research involves direct observation and participation in a natural social setting and produces qualitative data. Ethonography, participation-observation research, informal 'depth' interviews, and focus groups are different kinds of field research.

(a)   Describe **EIGHT (8)** stages of doing a field study.

(12 marks)

(b)   Most of field research data are in a form of field note. A field researcher may used different approaches to take note during data gathering.

Differentiate any **FOUR (4)** different types of field note and their functions.

(8 marks)

END OF QUESTION PAPER