

University of Ruhuna

Bachelor of Science (General) Level III/(Special) Level I (Semester II)
Examination – January 2018

Time: 2 hours

Course Unit: FSC 3252 – Scientific Writing and Communication

Answer all questions.

Illegible handwriting would be penalized.

1. Read the abstract given below and answer the following questions. (30 minutes)

Abstract

Lead and its compounds are used in paints not only to impart colour but also to make it durable, corrosion resistant and to improve drying. Adverse health impacts of lead especially on children have led countries to restrict or ban its use in paints. While U.S. and other developed countries instituted measures to limit the use of lead in paints, some developing countries including India have failed to regulate their lead content. The present study was undertaken to determine the levels of lead in new latex (water-based) and enamel paints (oil-based) intended for residential use in India. A total of 69 paint samples (38 latex and 31 enamel samples) from six of the most popular brands were analyzed for lead concentrations. While all latex paint samples contained low levels of lead, (i.e., well below 600 ppm as regulated by United States' Consumer Products Safety Commission) the enamel paint samples of all but one brand contained significant concentrations of lead, ranging up to 140,000 ppm. In fact 84% of the enamel paints tested exceeded 600 ppm whereas only 38 % of all samples (including latex and enamel types) exceeded this regulatory level.

- (a) What is the main objective of this study? (20 Marks)
- (b) Comment on the methodology. (15 Marks)
- (c) Point out their main findings. (15 Marks)
- (d) Suggest frequent words and key words for this abstract. (15 Marks)
- (e) Propose two suitable titles by using the keywords. (20 Marks)
- (f) State how one may improve this abstract, if necessary. (15 Marks)

2. Answer all parts.

(45 mins.)

(a) Write following sentences in proper parallel structure using the correct form of each word given in brackets. (15 marks)

- (i) My sister likes (wear) coloured hats, (dress) floral cloths and (go) to classic movies.
- (ii) The judge wrote his report (quick), (accurate) and (thorough).
- (iii) Tom enjoyed (play) football and (explore) the neighbourhood.
- (iv) Activities using (write), (read), (listen) and (speak) ensure mastery of language skills.
- (v) School should lengthen its semester break so that students and teachers (rest), children (take) vacation with parents and teachers (finish) grading.

(b) **Tighten following sentences** by eliminating unnecessary articles, unnecessary words, etc. (You may use your own words to write a proper sentence, still keeping necessary information) (20 marks)

- (i) Inventors have given the world many products of great importance.
- (ii) Throughout the whole course of the entire play, Mary wore a blue coloured dress made out of silk material.
- (iii) As soon as graduation time comes in May, 300 graduating seniors will receive their degrees.
- (iv) History, which is considered one of the social science subjects, is not a requirement for graduation.
- (v) Professor made it a practice never to park his car on the particular side of the street that is in the sun.

(c) Write a **paragraph in correct order** using following sentences. (Choose the topic sentence, then follow up sentences and the closing sentence – no need to make changes to sentences) (15 marks)

- (i) Patients can also print out immunization records and perform other necessary tasks much faster than the old method of paper records.
- (ii) Electronic system allows patients to view their medical records in a password protected on-line environment.
- (iii) Electronic Medical Records promote patient satisfaction in their ease of access.
- (iv) Healthcare professionals can simply transform information via Electronic Medical Record system and save time and money on copying, faxing and printing records.
- (v) This ease of access for patients and medical professionals creates transparency.
- (vi) Electronic Medical Records conveniently helps healthcare professionals to transfer records to other institutes for a patient's medical procedure.

(d) Write a short essay on the topic “Are we too dependent on computers?”
(50 marks)

(Hint: Write **three paragraphs** (about 350 words) with each paragraph (about 8 -10 sentences) having a topic sentence, follow up sentences and a proper closing sentence.)

3. Answer **all** parts. (45 mins.)

(a) “Effective display of quantitative information involves **two** fundamental challenges”
Discuss this statement.

(20 marks)

(b) Mention 10 points that you would consider if you are designing a **good** and interactive table.

(20 marks)

(c) Mention the FIVE important points on “how to design effective figures” as described by *Marco Rolandi* in “a brief guide to designing effective figures for the scientific paper”.

(20 marks)

(d) A student has measured the electricity produced by a solar-cell at every hour starting from 0900 h to 1500 h in three consecutive days having considerably different sunlight intensity.

The measured electricity (in KW) is given below:

Day 1: 0.0310, 0.0412, 0.0814, 0.0216, 0.0217, 0.0028

Day 2: 0.0018, 0.0020, 0.0017, 0.0025, 0.0022, 0.0035

Day 3: 0.0412, 0.0725, 0.0914, 0.1385, 0.0827, 0.0434

(i) Tabulate the above data in a suitable table and label it.

(ii) Sketch the above data series in a suitable plot to be able to highlight the best electricity production day and the hour. (*plot the graph in your answer sheet not needed a graph paper*)

(40 marks)

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