



AUTUMN END SEMESTER EXAMINATION-2023

3rd Semester B.Tech

SCIENTIFIC & TECHNICAL WRITING

EX20003

(For 2023 (L.E), 2022 & Previous Admitted Batches)

Time: 3 Hours

Full Marks: 50

Answer ALL questions.

The figures in the margin indicate full marks.

All parts of a question should be answered at one place only.

1. (a) Mention two major characteristics of creative writing. [2+1+2]
Is an autobiography an example of creative writing?
Why?

- (b) The user guide for the latest smart phone model will be read by a mixed audience. Who might be the possible members of a mixed audience? Explain each category briefly, with examples. [2.5+2.5]

OR

- (a) Do you think that creative writing is allowed in science writing? Justify your answer. [1+2+2]

Mention at least three characteristics of science writing where it may need to utilise creative writing.

- (b) Is an IKEA furniture assembly manual suitable for a non-expert audience? Explain how it is suitable, with reference to the knowledge level of the audience and the language used. [1+4]

2. (a) What is the reason for using italics in writing? When does scientific writing use italics? Illustrate your answer with two examples. [1+2+2]

(b) Answer as directed: [2.5+2.5]

(i) Insert appropriate punctuation marks in the following sentence to create a single, grammatically correct sentence:

Outstanding athletes use their time wisely this trait makes them highly sought-after by many employers

(ii) Change the following passive-voice sentence into an active-voice sentence:

Aeration experiments were conducted by a group of scientists in a brick masonry tank of 10 m³ capacity to study the design characteristics of circular stepped cascade (PCSC) aeration system.

OR

(a) What is self-plagiarism? Mention three steps to avoid self-plagiarism. [2+3]

(b) Answer as directed: [3+2]

(i) Replace the three nominalizations in the following sentences with appropriate verbs:

The police conducted an investigation of the murder.

A comparison was made of the effects of inflation on the stock market by Smith and Jones.

People have the belief that black cats bring bad luck.

(ii) Locate the Latin term in the following sentence and write its meaning:

The post mortem revealed that the man had been murdered.

3. (a) Rewrite the following paragraph using four transition words/ phrases: [5]

Drawing is all about taking the time to master each step. Mastering the art of drawing does not happen in a day. It is a skill that takes daily practice. It is a skill that takes dedication. Drawing needs patience. You must not let your hand or your mind be impatient. It is important not to burn yourself out. You need to stick with it.

- (b) (i) Write the list of materials in the table of contents in a sequential order for a B. Tech. Thesis. [2.5+2.5]
(ii) List the contents of prefatory material in a sequential order for a Thesis.

OR

- (a) Rearrange the following sentences to create a 'narrative' paragraph. Please do not copy the sentences. Write the serial numbers of the sentences in the correct order: [5]

- (i) A seat in the Illinois legislature had opened up, and several friends suggested that I run, thinking that my work as a civil rights lawyer, and contacts from my days as a community organizer, would make me a viable candidate.
- (ii) I was thirty-five at the time, four years out of law school, recently married, and generally impatient with life.
- (iii) I went to block club meetings and church socials, beauty shops and barbershops.
- (iv) And everywhere I went, I'd get some version of the same two questions.
- (v) After discussing it with my wife, I entered the race and proceeded to do what every first-time candidate does: I talked to anyone who would listen.
- (vi) If two guys were standing on a corner, I would cross the street to hand them campaign literature.
- (vii) It's been almost ten years since I first ran for political office.

- (b) The following data are available for a journal. What is its impact factor of the journal in the year 2020? [5]

Year	No of Papers Published	Number of Citations		
		2017	2018	2019
2017	30	20	100	40
2018	30	—	100	20
2019	15	—	—	12

4. (a) Write an abstract of the below-mentioned passage. [2+2+1]
Suggest an appropriate title. And give five keywords in proper format.

In recorded history, the tsunami due to the Great Sumatra earthquake of 26 December 2004 has been the most devastating, causing the loss of over 230,000 lives besides extensive damage to most of the coastal provinces bordering the Indian Ocean. Real-time predictions of tsunami wave heights and resultant inundation of inland coastal areas are essential to safeguard the life and property of the coastal community.

Dr. P. L. N. Murty and his team designed finite-element-based Advanced Circulation (ADCIRC) model (widely used for storm surge simulations) to compute tsunami wave height and associated coastal inundation due to the 2004 event. The prime focus is on the Cuddalore coast along the east coast of India, which was heavily affected due to the tsunami. A grid resolution of around 50 m was used in the Cuddalore region to simulate the inundation in the area. Computed results are validated against the available observations by Dr. Murty's team. The authors noticed that the model computations are in good agreement with the observations. Simulation results depict that because of its computational efficiency and accuracy, the ADCIRC can be used for near real-time prediction across the tsunami warning centers.

- (b) List the different referencing styles used in research documentation. How a research article is introduced as in-text citation and as reference while writing a scientific research paper. [5]

OR

- (a) List and explain the approaches through which literature review can be organized. [5]

- (b) Draw a bar graph based on the information given in Table 1 indicating the variation of BP, BSFC, and BTE with changes in CR. Label the graph with figure number, caption, X-axis and Y-axis variables, and legend in appropriate format. [5]

Table 1: Effect of CR on BP, BSFC and BTE

CR	Maximum BP	Minimum BSFC	Maximum BTE
	(kW)	(kg/kWh)	(%)
10	3.4	0.94	22.5
11	3.8	0.85	24.8
12	4.0	0.82	25.8
13	4.4	0.76	27.9
14	4.7	0.71	29.8

5. (a) Represent the data of Fig.1 in a Table in appropriate format. Read off the data from the figure up to two places of decimal. Label the Table with appropriate caption and write the data and units of the given parameters in proper format. [5]

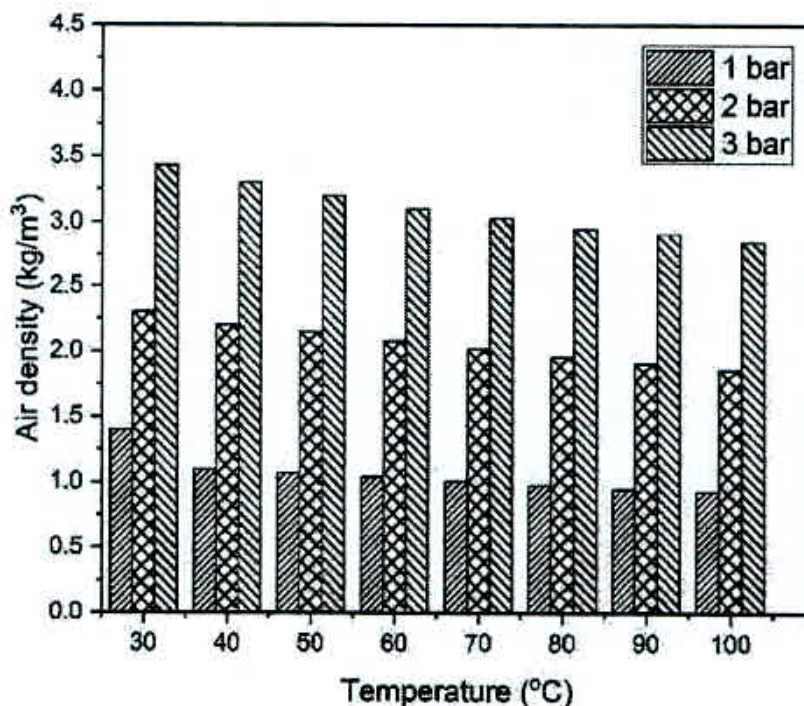


Fig.1 Effect of pressure and temperature on the density of dry air

- (b) The history of science, and indeed the philosophy of the social sciences, has taught us that we should regard ‘facts’ with some scepticism. Yet in auto/biography there is often evidence of a relatively simplistic attitude to, and use of, facts. Biographers collect ‘facts’ about their subjects, authors remember ‘facts’ about themselves and what is forgotten is that these ‘facts’ arose out of particular circumstances and particular exchanges. [5]

The above-stated text was written by Mary Evans of London School of Economics on page 45 of the second edition of a book titled *Research Methods for English Studies*, which was edited by Gabriele Griffin and published by Edinburgh University Press in the year 2005.

You are required to block-quote the text, given above, with the reference details. Start your sentence as follows:

Mary Evans of London School of Economics gives an interesting explanation to “facts” of life in the context of auto/biography.

While block-quoting, (i) highlight the word “simplistic attitude” and (ii) omit the second sentence.

OR

- (a) A research student conducted four rounds of Delphi questionnaire. For Question number 1 in the questionnaires, she obtained the median and the interquartile range for each round. They are as follows: Round 1: 85.2, 10.525; Round 2: 87.25, 5.42; Round 3: 87, 2.2; Round 4: 86.92, 2.19 [5]

Tabulate the results. Give a suitable table heading. Write footnotes indicating that (a) the questionnaire was conducted during April–June 2020 and (b) 10 panellists participated in Round 1, but they were 5 in the next three rounds.

- (b) Kalinga Institute of Medical Sciences (KIMS) allows its patients to access their blood test reports through Internet. When a patient makes a payment for the blood test, the system creates a unique user ID and password which are printed on the payment receipt. The patient is allowed to log on to KIMS website on or after the specified date, to access the report. After logging on to the website the customer is required to input his/her email address after which the system automatically sends the test report to that email address. [5]

After sending the email, the system automatically signs off the patient and displays the message: "Your report has been sent to your email address."

If the patient tries to log on before the report receiving date, the system displays the message:

"Your report would be available on the date specified on your payment receipt."

The user ID and password are valid only for fifteen days after the date on which the report becomes available.

Draw a logic flowchart to depict the above process from patient sign in to automatic sign off.
