

# **PAST PAPERS**

AND
Department / Section/Division
Learning Resource Centre

# Past Papers

Faculty of Management, Humanities & social Sciences
Department of Education & Language

BSc. (Hons) Bachelor of Art (English ) Degree (Year 3 – Semester II ) 2022

Document	Control	& Approv	ing Authority	
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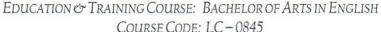






CODE - QP

Approved for Quality Management System



COURSE CODE: LC = U845 YEAR III = SEMESTER II

# ACADEMIC WRITING-ELAN 3202

Faculty	Department / Section/Division
Humanities and Education	English
Instructions to Candidates	Date of the examination: 2022.07.31
This paper has three (03) questions.	Duration of the examination = 03 hours
Answer all three (03) questions.	Total Marks = 80
	Candidates are not allowed to communicate with and disturb fellow candidates during the examination.
×	Candidates could be disqualified if you violate examination rules.

- This paper has three (03) questions.
- Answer all three (03) questions.

#### **QUESTION 01**

(30 marks)

Re-write the passage below so that it is more suitable to appear in an academic discourse.

*Note: You can also revise the title and subheadings if required.* 

# UK heatwave: Why is it so hot?

#### Why are we seeing such brutal temperatures?

Climate scientists say the answer is climate change.

The Met Office estimates that the extreme heat we are seeing has been made ten times more likely because of it.

We are being warned it can pose a life-threatening risk to even normally healthy people, and just look at the impact it is having in our hospitals, schools and transport systems.

Now remember, this is happening when the average world temperatures have only risen just over 1C beyond levels seen before many parts of the world became industrialised.

One degree doesn't sound much, does it? But we're living in the hottest period for 125,000 years. That is what the UN's climate science body, the Intergovernmental Panel on Climate Change (IPCC) says.

We know what's behind this - the greenhouse gas emissions caused by our burning of fossil fuels like coal, oil and gas, which trap heat in our atmosphere. They have helped push the concentration of carbon dioxide in the atmosphere to the highest levels seen for 2 million years, according to the IPCC.

So where is our climate headed?

The target set by the UN is to limit global temperature increases to 1.5C higher than preindustrial levels. It says that should avoid the most dangerous impacts of climate change.

To do that, emissions need to have peaked by 2025 - yes, in only two and half years.

CO2 emissions from energy increased by 6% in 2021 to 36.3 billion tons - the highest ever level, the International Energy Agency estimates.

They need to virtually halve by 2030 - we need a minimum 43% reduction by the end of this decade, according to the IPCC.

Then the world needs to scale back emissions to net zero by 2050. That means cutting greenhouse gases as much as possible and finding ways to draw CO2 out of the atmosphere to make up for any that remain.

It is a huge challenge - many people believe the greatest challenge humanity has ever faced.

Remember that big UN conference in Glasgow last year? If all the promises governments made there were implemented actually, then we'd be looking at temperatures rising by something like 2.4C from pre-industrial levels by the end of the century.

But the truth is even if we do succeed in reducing emissions to that really ambitious 1.5C target, UK summers will continue to get hotter.

"In a few decades this might actually be a quite a cool summer," says Professor Friederike Otto. He is a climate scientist at Imperial College London.

We should expect more and longer heatwaves in the future, says Professor Nigel Arnell.

We will be seeing more heat-health alerts, more heat-stress days - days when it is too hot to work - and damaging heat extremes to increase, he warns.

So what is the UK doing about it?

Nowhere near enough, is the stark conclusion of the Climate Change Committee (CCC), the government's advisors on climate change.

Prime Minister Boris Johnson warned the world was at "one minute to midnight" on climate change in his speech opening the Glasgow climate conference.

QUESTION 02 (25 marks)

Read the passage and answer the given questions.

Food selectivity is the most frequently documented and well-researched feeding problem associated with autism spectrum disorder (ASD). It most often involves strong preferences for starches and snack foods, coinciding with a bias against fruits and vegetables. Associated mealtime difficulties include disruptive mealtime behavior (e.g., tantrums, crying), rigidity surrounding eating (e.g., only eating in a specific location, requiring certain utensils), and avoidance of certain food items based on the sensory characteristic (e.g., texture). Severe food selectivity in ASD most often involves deficits in dietary variety, not volume, and children with ASD typically consume enough food to meet gross energy needs. Because children with ASD typically consume an adequate volume of food, this may explain why, historically, feeding concerns in ASD have been overlooked in relation to other areas of clinical concern.

# Source information

- Document type: Journal Article
- Journal title: Parent training for food selectivity in autism spectrum disorder
- Authors: T. Lindsey Burrell, William Sharp, Cristina Whitehouse, and Cynthia R. Johnson
- Publication year: 2019
- Page number of the extract: 173
- a) Quote the line in bold using a parenthetical citation. (4 marks)
- b) Quote the line in bold using a narrative citation. (4 marks)
- c) Paraphrase the above passage. (17 marks)

Note: Include a parenthetical or narrative citation to acknowledge the original source.

**QUESTION 03** 

(25 marks)

Write a data commentary on the table provided. The graph will make it easier for you to interpret the table. (Word Limit: 200-250 words)

Table 1: Grade 5 Scholarship Examinations 2016 - 2021
Performance of Candidates

Year		2016	2017	2018	2019	2020	2021
No. Sat		343,757	350,462	350,191	332,168	326,264	335,158
Obtained marks 70 or above (35 or	No.	260,130	243,236	276,978	259,445	283,305	258,481
above for each paper)	%	75.67	69.40	79.09	78.11	86.83	77.12
Obtained marks 100 or above (50 or	No.				190,151	215,696	161,202
above for each paper)	%				57.25	66.11	48.10
Equal or above the Cut-Off (Qualified to receive bursaries and apply for	No.	32,646	33,163	36,144	47,667	47,193	47,536
schools)	%	9.50	9.46	10.32	14.35	14.46	14.18
Mean of Marks		107.86	106.43	117.98	114.38	125.65	109.31
Standard Deviation of Marks		35.17	38.23	37.58	36.85	36.42	34.75

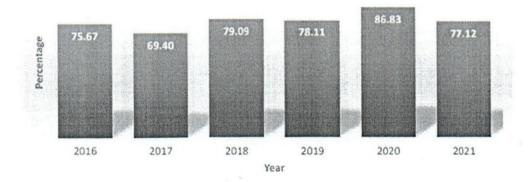


Figure 1: Grade 5 Scholarship Examinations 2016 - 2021
Percentage of Candidates who Obtained Marks 70 or above (35 or Above for Each Paper)

-----END OF THE QUESTION PAPER-----







# END SEMESTER EXAMINATION QUESTION PAPER

CODE-QP

Approved for Quality Management System

EDUCATION & TRAINING COURSE: BACHELOR OF ARTS IN ENGLISH

COURSE CODE: LC – 0845 YEAR III – SEMESTER II

# LANGUAGE AND SPEECH DISABILITIES-ELAN 3201

Faculty	Department / Section/Division
Humanities and Education	English
Instructions to Candidates	Date of the examination: 2022.07.31
This paper has two (02) sections and ten (10) questions.	Duration of the examination = 03 hours
Select at least two questions from each section.	Total Marks = 80
Answer four (04) questions.	Candidates are not allowed to communicate with and disturb fellow candidates during the examination.
	Candidates could be disqualified if you violate examination rules.

- This paper has two (02) sections and ten (10) questions.
- Answer 04 questions selecting at least two questions from each section.

### **SECTION A**

**QUESTION 01** 

(20 marks)

Read the situations below and answer the questions given.

- i. Jorge is 4 years old. It is hard to understand him when he talks. He is quiet when he speaks, and his sounds are not clear.
- ii. Maryam had a stroke. She can only say one or two words at a time. She cannot tell her son what she wants and needs. She also has trouble following simple directions.
- a) Identify the types of communication disorders experienced by Jorge and Maryam.

(4 marks)

b) Explain the difference between the disorders you have mentioned in (a).

(10 marks)

c) What is the difference between an acquired condition and an inborn/genetic condition? Provide examples for each. (6 marks)

QUESTION 02 (20 marks)

a) How does stuttering differ from cluttering? Explain with examples. (8 marks)

- b) What factors should an ESL teacher consider when teaching children with stuttering and/or cluttering disorders? (7 marks)
- c) Explain the role parents play in the treatment process of children with stuttering.

(5 marks)

QUESTION 03 (20 marks)

- a) "No two people are alike, and no two brain injuries are alike." Extend this argument further with reference to the levels of severity in Traumatic Brain Injury (TBI). (10 marks)
- b) "Traumatic Brain Injury (TBI) can be identified as a language only disorder." Do you agree? Substantiate your answer with examples. (10 marks)

QUESTION 04 (20 marks)

"Aphasia is an impairment of language, affecting the production or comprehension of speech and the ability to read or write." Evaluate this statement with reference to the areas affected and types of Aphasia. Provide speech samples where necessary.

QUESTION 05 (5x4=20 marks)

Write short notes on all the topics:

- a) Different types of injuries in TBI.
- b) Disfluencies in 'machine-gun' speech
- c) Velopharyngeal Dysfunction
- d) Receptive language impairments

#### SECTION B

# QUESTION 06 (Answer either I or II)

(I) (20 marks)

- a) In dysarthria patients, what are the perceptual speech characteristics that can be seen in each speech subsystem? Name and describe **one** (01) perceptual speech characteristic per subsystem. Use your own words.

  (5 marks)
- b) Name and explain three (03) reasons why a speech-language pathologist conducts a dysarthria assessment. (6 marks)
- c) Describe three (03) typical components of a dysarthria assessment. Provide examples where necessary. (9 marks)

#### OR

(II) (20 marks)

- a) When treating dysarthria, what are the treatments used by the SLP that target each subsystem? Explain each treatment in your own words. (10 marks)
- b) In addition to treating each subsystem, what other measures does an SLP use to treat dysarthria patients? Substantiate your answer. (10 marks)

QUESTION 07 (20 marks)

- a) Define the phrases joint attention, social communication and repetitive behaviours in your own words. (6 marks)
- b) In people with autism, what are the signs that indicate that their joint attention and social communication are impaired? (8 marks)
- c) Write a description of the treatment strategies used by a speech-language pathologist to treat autism. (6 marks)

QUESTION 08 (20 marks)

a) Define the term 'craniofacial anomaly.'

(4 marks)

- b) Identify and describe **two (02)** similarities and **one (01)** difference between craniosynostosis and cleft lip and/or palate. You may focus on the causes and symptoms of the two disorders. (8 marks)
- c) Describe four (04) roles and responsibilities of a Speech-Language Pathologist in relation to one craniofacial anomaly of your choice. (8 marks)

QUESTION 09 (20 marks)

When a person has a craniofacial anomaly, structural differences and negative social reaction can cause communication disorders. Elaborate this statement with reference to a craniofacial anomaly of your choice.

QUESTION 10 (5x4=20 marks)

Write short notes on any four (04) of the following topics.

- a) Intelligibility and naturalness of speech
- b) Psychosocial impact
- c) Augmentative and Alternative Communication (AAC)
- d) Pierre-Robin and Stickler Syndromes
- e) Risk factors in cleft lip and/or palate

-----END OF THE QUESTION PAPER-----

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#### END SEMESTER EXAMINATION QUESTION PAPER

CODE - QP

Approved for Quality Management System

EDUCATION & TRAINING COURSE: BACHELOR OF ARTS IN ENGLISH

COURSE CODE: LC – 0845 YEAR III – SEMESTER II

#### WORLD LITERATURE IN TRANSLATION-ELIT 3201

Faculty	Department / Section/Division
Humanities and Education	English
Instructions to Candidates	Date of the examination: 2022.07.30
This paper has four (04) sections and seven (07) questions.	Duration of the examination = 03 hours
Select at least one question from each section.	Total Marks = 80
Answer four (04) questions.	Candidates are not allowed to communicate with and disturb fellow candidates during the examination.
	Candidates could be disqualified if you violate examination rules.

- This paper has four (04) sections and seven (07) questions.
- Answer 04 questions selecting at least one question from each section.

# SECTION A

#### **QUESTION 01**

(20 marks)

"The characters in *The Ramayana* by R. K. Narayan exemplify **perfect** virtues". Do you agree with this statement? Discuss with reference to at least <u>two</u> characters from the text.

# **QUESTION 02**

(20 marks)

"The incredible battles between Rama and various wicked demons/ demonesses in *The Ramayana* by R.K. Narayan represent the combat between Good and Evil." Critically evaluate this statement by referring to the text.

#### SECTION B

QUESTION 03 (20 marks)

Compare and contrast the character traits of Mother Courage and Kattrin in Brecht's drama Mother Courage and her Children.

QUESTION 04 (20 marks)

In *Mother Courage and her Children*, Brecht portrays the depreciation of human virtues in a war context. To what extent do you agree with this statement? Give reasons for your answer.

# SECTION C

QUESTION 05 (20 marks)

*Uprooted* by Martin Wickramasinghe is a ground- breaking Sri Lankan fiction that highlights the fall of feudal class and the rise of capitalist class. Discuss.

QUESTION 06 (20 marks)

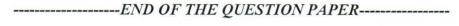
Comment on the symbols and insinuative events employed in *Uprooted* to reinforce the socio-political message embedded in the novel.

# SECTION D

QUESTION 07 (5x4=20 marks)

Write short notes on all 04 topics:

- 1. Character analyses on Laisa and Sada
- 2. "The Song of the Great Capitulation" in Bertolt Brecht's Mother Courage and her Children
- 3. The contribution of Sasha and Natasha in winning the rights of the working class people
- 4. The role of the female protagonist, Sita, in The Ramayana



Library



#### END SEMESTER EXAMINATION QUESTION PAPER

CODE - QP

Approved for Quality Management System



COURSE CODE: LC – 0845 YEAR III – SEMESTER II

### PSYCHOLINGUISTICS-ELAN 3203

Faculty	Department / Section/Division
Humanities and Education	English
Instructions to Candidates	Date of the examination: 2022.07.30
This paper has eight (08) questions.	Duration of the examination = 03 hours
Answer any four (04) questions.	Total Marks = 80
	Candidates are not allowed to communicate with and disturb fellow candidates during the examination.  Candidates could be disqualified if you violate examination rules.

- This paper has **eight (08)** questions.
- Answer any four (04) questions.

QUESTION 01 (20 marks)

Neuroplasticity is the change in the neural structure and function in response to experience or environmental stimuli. Discuss critical period, sensitive period and neuroplasticity with reference to first/second language development.

QUESTION 02 (20 marks)

Psycholinguistic studies of bilingualism are diverse. Reviewing Grosjean (2012) discuss 04 factors given below providing examples through your experience as a bilingual.

- a) The wax and wane of languages
- b) Language mode
- c) Domains of life
- d) Code-mixing: Code-switching and borrowing
- e) Biculturalism

(20 marks) **QUESTION 03** Discuss infant speech perception and production based on the following: Historical theories (10 marks) a) Pre-birth to one year: Demonstrations of learning (05 marks) b) Infant-Directed Speech (IDS) (05 marks) c) **QUESTION 04** (20 marks) (5 marks) a) Define the term 'mental lexicon.' b) Drafting an illustration discuss brain activation during monolingual word retrieval when given the following task. • *Name the picture in English.*' (Avoid using *dog/cheese/table* in the picture.) • Include conceptual/semantic and lexical level activation, phonological encoding and articulation. c) Write a narrative describing the illustration drafted. (5 marks) **QUESTION 05** (20 marks) The human brain processes information in two-tracks: conscious level and unconscious awareness. Discuss conscious and unconscious knowledge using the Global Workspace Model. (20 marks) **QUESTION 06** The cohort model in Psycholinguistics is a model of lexical retrieval first proposed by Marslen Wilson in the late 1980s. Discuss the model based on the following processes. a) Visual input of a sentence: Lexical Decision for a word in context. (10 marks) b) Auditory Lexical Decision. (10 marks) **QUESTION 07** (20 marks) Many psycholinguists have investigated language use by the human species. Stamatakis et al. (2022) state that the ability to accumulate and build information through complex networks across the brain is different between humans and other primates. Discuss giving reasons. (5x4=20 marks)**QUESTION 08** Write detailed descriptions on four (04) of the topics given below. a) Broca's and Wernicke's Areas b) Neuron impulses c) Speech production and comprehension d) Wernicke-Geschwind Model: Speaking a heard word e) A short review of Sakai (2005)



# END SEMESTER EXAMINATION QUESTION PAPER

CODE- OP

Approved for Quality Management System

EDUCATION & TRAINING COURSE: BACHELOR OF ARTS IN ENGLISH

COURSE CODE: LC – 0845 YEAR III – SEMESTER II

# TESTING AND EVALUATION-ELAN 3202

Faculty	Department / Section/Division
Humanities and Education	English
Instructions to Candidates	Date of the examination: 2022.08.06
This paper has seven (07) questions.	Duration of the examination = 03 hours
Answer any four (04) questions.	Total Marks = 80
	Candidates are not allowed to communicate with and disturb fellow candidates during the examination.
	Candidates could be disqualified if you violate examination rules.

- This paper has seven (07) questions.
- Answer any four (04) questions.

#### **QUESTION 01**

(20 marks)

A. You have been asked to construct the year-end test paper by the Zonal Education Office for Grade Eight classes in that zone. Describe in detail the measures you would take to ensure the reliability of the test.

(12 marks)

B. Given below are two test items from the G.C.E. A/L General English test paper. Examine them carefully and comment on them with reference to the following:

- a) Aim(s) of the test items
- b) Scorer reliability
- c) Washback effect

(08 marks)

#### Item I (10 marks)

Give the meaning of the words in bold print as they appear in the text.

On May 25<sup>th</sup>, 1961, President John Kennedy of the United States announced that his country would **attempt** to land men on the surface of the moon. He hoped to **achieve** this before the year 1970.

First, the American scientists built a **gigantic** rocket, the Saturn V, to **launch** the space-craft on its two-and-a-half-day **voyage**. They also **chose** a landing **site** on one of the moon's wide **plains** called the Sea of Tranquility. Then in preparation for the greatest **adventure** men had undertaken, three **astronauts** traveled to the moon and back without landing.

#### Item II (05 marks)

Read the following situations. How would you respond in each situation? Write ONE sentence for each, beginning with the words given.

a)	A friend of yours asks you some favour, but you are unable to help him.  I wish
b)	A friend of yours complains of a sudden pain in his chest and you ask him to see a doctor immediately.  You'd better
c)	You are a Manager of a private firm and your Assistant Manager has suddenly decided to leave the job and you can't understand why.  I'd like to know why
d)	You have been served coffee in a restaurant but you haven't been given any sugar and you would like to request the waiter.  Could I
e)	You have come to Colombo. You hope to get a certificate from the Department of Examinations. But you don't know how you get there. You speak to a person on the road.

#### **QUESTION 02**

(4x5=20 marks)

Write short notes on four (04) of the following:

- a) Class Progress Test
- b) Proficiency Test
- c) Selection Test
- d) Standardized Test
- e) Objective Test and Subjective Test
- f) Norm-referenced Test and Criterion-referenced Test
- g) Direct Test and Indirect Test

**QUESTION 03** (20 marks) "Testing speaking as a language skill is quite challenging for the teacher." Do you agree with this statement? Substantiate your answer with reference to testing speaking. **QUESTION 04** (20 marks) A cloze test can be counted as a test item which is used to test the overall ability in English. a. Briefly describe what a cloze test is, and the aims of conducting cloze tests. (5 marks) b. What are the different types of cloze tests? Write short notes on two of them, giving an example for each test item. (7 marks) c. Discuss in detail the steps of constructing a cloze test. (8 marks) **QUESTION 05** (20 marks) Discuss in detail the requirements of communicative language testing as defined by Brown

QUESTION 06 (20 marks)

"Testing literature differs from testing other language areas and skills."

- a. Discuss the different types of questions based on literary texts. (10 marks)
- b. Discuss the issues in testing literature. (10 marks)

QUESTION 07 (20 marks)

Grammar is an integral part in a language test paper.

- a. What are the areas to be tested in grammar? (8 marks)
- b. Discuss 05 techniques to test grammar with an example activity for each technique.

(12 marks)

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# FINAL EXAMINATION QUESTION PAPER

CODE-QP

Approved for Quality Management System

EDUCATION & TRAINING COURSE: BACHELOR OF ARTS IN ENGLISH COURSE CODE: LC – 0845

# SUBJECT: TESTING AND EVALUATION (TESL 3201)

Faculty	Department / Section/Division
Humanities and Education	English

Instructions to Candidates	2021.11.10
There are eight (08) questions in this paper. Answer any four (04) questions	Duration of the examination = 03 hours
Each question carries 15 marks.	Candidates could be disqualified if you violate examination rules
Read the questions carefully and answer to the point. Write what you are asked to write and not what you want to write.	Candidates are not allowed to communicate with and disturb fellow candidates during the examination.
Marks will be deducted for spelling and grammatical errors.	

- Answer any four (04) questions
- Each question carries 15 marks.
- ❖ Read the questions carefully and answer to the point. Write what you are asked to write and not what you want to write.
- Marks will be deducted for spelling and grammatical errors.

#### **QUESTION 01**

- A. Achieving a beneficial back wash should be an important aim of an Achievement Test.

  Discuss. (09 marks)
- B. Given below are three test items from the G.C.E. O/L test paper. Analyze these items in terms of skill or language area tested, aim, validity and scorer reliability. (06 marks)

i)	Complete the following sentences by putting the words in brackets in the correct order. (05 marks)
1.	Water
	(in/cheapest/is/the/world/the/drink)
2.	The Minister
	(holiday/next/declared/day/a/the)
3.	An accountant
	(who knows/ the value/ is/ of/ someone/ the cost/ nothing/ everything/and/of)
4.	Electronic mail
	(by /was started/ in / the armed forces/the United States of America/ called e-mail/
	the late 1960's/ of)
5.	We are
	(irresponsible behaviour/but/are backing/sick/their/of/the media/them)
ii)	Your house is located at 23, Shrama Shakthi Mawatha, Kosgama, Rathnapura. When you get home from school, you discover that your house has been burgled. You telephone the nearest police station. Use the given guidelines and complete the dialogue between you and the police officer. (05 marks)
	Police officer: Rathnapura Police Station. Can I help you?
	You:
	(Inform what has happened.) Police:
	(Inquires about the location of your house.)
	You:(Give relevant information.)
	Police:
	(Inquires about the time of the incident.)
	You:(Give relevant information.)
	Police: Was anything stolen?
	You: Yes. All our jewellery's gone, and my computer too.
	Police: Right. Our officers will be round in fifteen minutes. Please don't touch
	anything.

# iii) Write a paragraph beginning with the following sentence. (05 marks)

"That was the worst accident I had ever seen"
Use about 75 – 100 words. Do not exceed this word limit.

#### Writing descriptor

Description	Mark Bands
Content interesting and relevant to the given topic sentence. Sentences are in a logical sequence. Has used specified word length. Has produced a good paragraph.	0 - 2
Has used grammatically correct sentences and appropriate vocabulary. No spelling or punctuation errors.	0 - 3
	Content interesting and relevant to the given topic sentence. Sentences are in a logical sequence. Has used specified word length. Has produced a good paragraph.  Has used grammatically correct sentences and appropriate vocabulary. No spelling or punctuation

#### **QUESTION 02**

Write short notes on **three** (03) of the following:

(3X5 = 15 marks)

- a) Discrimination
- b) Reliability
- c) Selection Test
- d) Direct Test and Indirect Test
- e) Norm-referenced Test and Criterion-referenced Test
- f) Assessment for Learning (Formative Assessment)

#### **QUESTION 03**

Self-assessment can be a good indicator for an important learning activity and is able to deliver incredible feedback to the learners regarding their learning". (Falchikov and Boud - 1989) Do you agree? Give your reasons.

#### **QUESTION 04**

A. Why is Speaking the most difficult skill to test?

(09 marks)

B. Describe three tests of Speaking – one individual test, one pair test and one group test. You should state the aim(s) and techniques of these tests. (06 marks)

Page 3 of 6

#### **QUESTION 05**

- A. What aspects of vocabulary should be focused on when testing Vocabulary?

  Illustrate with suitable examples. (09 marks)
- B. Comment on the following test items with reference to their aim and scorer reliability.

  (06 marks)

# Item I Underline the most appropriate word from those given in brackets. (05 marks)

- I am doing well in life now because my parents and teachers (told, advised, gave) me proper guidance.
- ii) He (treated, did, considered) animals cruelly.
- iii) The chairman (finished, adjourned, completed) the meeting at five.
- iv) My uncle is (beautiful, pretty, handsome). Many women admire him.
- v) I feel very sorry for his pathetic (site, plight, placement). I wonder how he will come out of it.

# Item II Underline the correct word ending selecting from those given in brackets. (05 marks)

- 1. A new treat...... (ed, ing, ment) is being tried for cancer.
- 2. Immediate help was sent to the surviv ...... (ors, al, ing) of the plane crash.
- 3. We can stop a train in an emerg ....... (ent, ency, ging) by pulling the communication cord.
- 4. He told me that he had met his aunt the prev...... (ious, iously, iew) week.
- 5. The match was very excit...... (ement, ed, ing) towards the end.

Item III

Read the following text and give the meaning of the words in bold print as they appear in the text.
(10 marks)

The "Aeneid" is a legendary (1) narrative about the imagined (2) origin of the Roman nation. It is an epic poem. An epic is a long narrative poem, full of action, which tells about human life and makes us (3) wonder about the relationship between man and the gods. The main characters in epics are heroes. Very often, epics show (4) clashes between heroes and gods.

The "Aeneid" tells of the Trojan prince who was said to have (5) escaped during the sack of Troy and sailed, with other Trojans, to the west coast of Italy where they (6) founded early Rome. The epic describes the many (7) trials they had to face before they finally arrived at their (8) destiny. This story is (9) significant for the role the gods take in men's (10) affair.

#### **QUESTION 06**

Write an essay on Cloze Test with reference to the sample cloze test given below (refer page 6).

You should include the following points in your answer:

- 1) What a Cloze Test is.
- 2) How it is constructed.
- 3) Deletion rate.
- 4) Aims of the Cloze Test

#### Sample Cloze Test

In the following text some of the words have been left out. First read the whole passage and try to understand what it is about. Then, try to fill in the blanks. Each word should be filled with only one word. Contractions like 'can't' or words written with a hyphen like well-being are counted as single words. If you are not sure of the word that has been left out, guess.

#### **QUESTION 07**

You have been asked to conduct a seminar to a group of teachers on "How to construct a good English Language Test". Write the guidelines you will give them.

#### **QUESTION 08**

"Achieving scorer reliability in a literature test is a difficult task since test the items are subjective rather than objective." Discuss in detail how this issue could be overcome.

.....END OF THE QUESTION PAPER.....







#### END SEMESTER EXAMINATION QUESTION PAPER

CODE - 2P

Approved for Quality Management System

# Education & Training Course: Bachelor of Arts (English) Degree Course Code: LC – 0845

### YEAR III - SEMESTER II

#### WORLD LITERATURE IN TRANSLATION-ELIT 3201

Faculty	Department / Section/Division
Humanities and Education	English

Instructions to Candidates	Date of the examination: 2021.11.08
This paper has four (4) sections and seven (07) questions.	Duration of the examination = 03 hours
Answer four (04) questions Answer three (03) questions selecting one from Sections A, B and C. Section D is compulsory.	Total Marks = 60
Each question carries fifteen (15) marks.	
Candidates could be disqualified if you violate examination rules.	
Candidates are not allowed to communicate with and disturb fellow candidates during the examination.	

- ❖ Answer four (04) questions
- Answer three (3) questions selecting one (1) from sections A, B, & C.
- Section D is compulsory.
- \* Each question carries fifteen (15) marks.

#### **SECTION A**

#### **QUESTION 1**

In the drama *Mother Courage and her Children*, Bertolt Brecht has portrayed more than one courageous character. To what extent do you agree with this statement? Give reasons for your answer.

#### **QUESTION 2**

In your opinion, what does Kattrin represent in *Mother Courage and her Children*? Give reasons for your answer.

#### **SECTION B**

#### **QUESTION 3**

The Ramayana is often interpreted as a meditation upon the Hindu value of dharma. Comment.

#### **QUESTION 4**

Rama, the hero in *The Ramayana*, displays great qualities such as devotion, bravery, and honor. Critically evaluate this statement by referring to the text.

#### SECTION C

#### **QUESTION 5**

Loyalty and bravery are human virtues that are important in a war context. To what extent do you agree with this statement? Substantiate your answer with quotations from *Mother Courage and her Children*.

#### **QUESTION 6**

The Ramayana by R.K Narayan is a morality tale of good versus evil. Do you agree with this statement? Substantiate your answer

#### SECTION D - Compulsory

#### **QUESTION 7**

Write short notes on any three of the following.

- I. Describe briefly the evolution of Pavel's character in Mother from an immature boy in a poor family to a visionary leader, who became an inspiration to the proletariat movement.
- II. What aspects in the mother's character make her an accepted and a loved community front-runner? Discuss briefly with quotations.
- III. Discuss briefly *Gamperaliya* as a romantic classic that exemplifies various aspects of opposite-sex relationships.
- IV. Comment on the contribution and significance of minor characters: Tissa and Kathirina in *Gamperaliya* by Martin Wickramasinghe.



#### END SEMESTER EXAMINATION QUESTION PAPER

CODE - QP

Approved for Quality Management System

Education & Training Course: Bachelor of Arts in English

COURSE CODE: LC - 0845

SUBJECT: LANGUAGE AND SPEECH DISABILITIES – ELAN 3201 YEAR 3- SEMESTER 2



Instructions to Candidates	
There are two (02) parts and eight (08) questions in this paper.	Duration of the examination = 03 hours
Answer four (04) Questions selecting (02) two from each part.	Date: 2021.11.12
Each question carries 15 marks.	Candidates are not allowed to communicate with and disturb fellow candidates during the examination.
	Candidates could be disqualified if you violate examination rules.

- ❖ There are two (02) parts and eight (08) questions in this paper.
- \* Answer four (04) questions selecting two (02) from each part.

# PART 1

#### **QUESTION 01**

- a. Describe in detail the characteristics of Autism Spectrum Disorder (ASD). (7 marks)
- b. Select four factors that are included in a speech and language assessment of ASD, and explain each. (8 marks)

#### **OUESTION 02**

 $(3 \times 5 = 15 \text{ marks})$ 

Write short notes on the following:

- a. Psychosocial impact of Cleft Lip and/ or Palate (CLP)
- b. Early speech and language characteristics
- c. Two roles and responsibilities of a Speech-Language Pathologist (SLP) with regard to CLP.

#### **QUESTION 03**

Write a note regarding craniosynostosis, focusing on any three points related to this topic.

# **QUESTION 04**

Write short notes on **three** of the following:

 $(3 \times 5 = 15 \text{ marks})$ 

- a. Five speech subsystems
- b. Augmentative and Alternative Communication (AAC)
- c. Restorative and compensatory treatment approaches
- d. Treatment strategies related to Autism Spectrum Disorder (ASD)
- e. Craniofacial anomalies (CFA)

#### PART 2

#### **QUESTION 05**

Describe the speech and language difficulties associated with Anomic Aphasia, Broca's Aphasia, Wernicke's Aphasia.

#### **QUESTION 06**

"Stuttering is a communication disorder characterized by involuntary disruptions in the smooth forward flow of speech" (Arenas et al., 2017).

- a) Discuss the two main types of stuttering. (05 marks)
- b) Describe the difference between stuttering and cluttering. (10 marks)

#### **QUESTION 07**

Discuss the treatment methods that are used to treat patients with traumatic brain injuries (TBI).

#### **QUESTION 08**

Describe the signs and symptoms related to motor skills, speech production and language, especially of patients with Developmental Verbal Dyspraxia (DVD) or Childhood Apraxia of Speech (CAS).

 END	OF	THE	OUES	TION	PAP	ER	 
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# END SEMESTER EXAMINATION QUESTION PAPER CODE - QP

Approved for Quality Management System



EDUCATION & TRAINING COURSE: BACHELOR OF ARTS IN ENGLISH
COURSE CODE: LC – 0845

ACADEMIC WRITING – ELAN 3202
YEAR 3- SEMESTER 2

INSTRUCTIONS TO CANDIDATES	
There are three (03) questions in this paper.	Duration of the examination = $03$ hours
Answer all questions.	Date: 2021.11.12
Each question carries 20 marks.	Candidates are not allowed to communicate with and disturb fellow candidates during the examination.
Total Marks – 60%	Candidates could be disqualified if you violate examination rules.

- There are three (03) questions in this paper.
- \* Answer all questions.

QUESTION 01 (20 Marks)

Write a summary of the following passage in about 75 words:

People act a little strangely when a television camera comes their way. Some people behave as if a crazy puppeteer were pulling their strings. Their arms jerk wildly about, and they begin jumping up and down for no apparent reason. Often they accompany their body movements with loud screams, squeals, and yelps. Another group of people engage in an activity known as the cover-up. They will be calmly watching a sports game or other televised event when they realize the camera is focused on them. The camera operator can't resist zooming in for a close-up of these people. Then there are those who practice their funny faces on the unsuspecting public. They take advantage of the television time to show off their talents, hoping to get that big break that will carry them to stardom. Finally, there are those who pretend they are above reacting for the camera. They wipe an expression from their faces and appear to be interested in something else. Yet if the camera stays on them long enough, they will slyly check to see if they are still being watched. Everybody's behavior seems to be slightly strange in front of a TV camera.

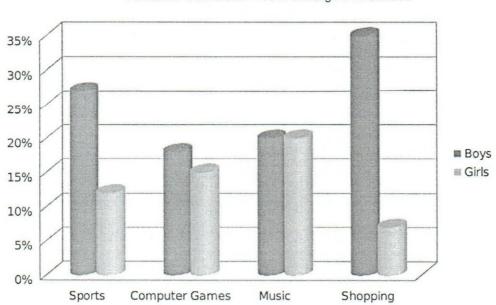
QUESTION 02  $(10 \times 2 = 20 \text{ Marks})$ 

# Paraphrase each of the following texts:

- a. If you consider a word such as *rebuild*, you will note that there are two distinct elements of meaning in it: *re* and *build* that is 'to build again'. The same applies to *disbelieve*, which may be paraphrased as 'not to believe'. Elements of meaning which are represented by several orthographic words in one language, say English, may be represented by one orthographic word in another and vice versa. For instance, tennis player is written as one word in Turkish, *tenisçi*, and *if it is cheap* as one word in Japanese, *yasukattara*, but the verb *type* is rendered by three words in Spanish: *pasar a maquina*.
- b. There are two main types of training that a profession can provide for its members: vocational training and academic training. Vocational courses provide training in practical skills but do not include a strong theoretical component. A good example would be a course in plumbing or typing. At the end of a typing course, a student is able to type accurately and at speed and has a piece of paper to prove it. But that is the end of the story; what the student acquires is a purely practical skill which is recognized by society as 'skilled work' but is not generally elevated to the level of a profession.

QUESTION 03 (20 Marks)

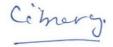
Write a data commentary on the bar graph provided below. Use between 200-250 words.



Favourite leisure activities of teenagers in Canada

..... END OF THE QUESTION PAPER .....

Page 2 of 2







# FINAL EXAMINATION QUESTION PAPER

CODE - QP

Approved for Quality Management System

Education & Training Course: Bachelor of Arts in English

COURSE CODE: LC – 0845

SUBJECT: PSYCHOLINGUISTICS - ELAN 3203

Faculty	Department / Section/Division
Humanities and Education	English
EDUCATION & TRAINING COURSE: BA	ACHELOR OF ARTS (ENGLISH) DEGREE
COURSE CODE	E: LC - 0845
END SEMESTER EXAMINA	ATION QUESTION PAPER
PSYCHOLINGUIS:	

YEAR 3-SEMESTER 2

Instructions to Candidates	
There are six (06) questions in this paper.	Duration of the examination = $03$ hours
Candidates are required to answer <b>any four (04)</b> Questions.	Date: 2021.11.08
Each question carries 15 marks.	Candidates are not allowed to communicate with and disturb fellow candidates during the examination.
	Candidates could be disqualified if you violate examination rules.

# THERE ARE SIX (06) QUESTIONS IN THIS PAPER. ANSWER ANY FOUR (04) QUESTIONS.

QUESTION 01 (15 marks)

Based on Grosjean (2012), discuss 03 factors given below providing examples through your experience as a bilingual.

- i. Bilingual profiles at two different stages in your life. Use a grid which illustrates language use and language fluency.
- ii. The wax and wane of languages.
- iii. Use of languages by you in different domains of life.
- iv. Language mode when you interact with others.
- v. Examples of your code-switching and borrowing when you interact with others.

QUESTION 02 (15 marks)

Discussing neuroplasticity of the brain and second language development state whether human beings can learn languages after the critical period/puberty.

QUESTION 03 (15 marks)

Write detailed descriptions on three 03 of the topics given below.

- i. Broca's Area
- ii. Wernicke's Area
- iii. Triune Brain of mammals
- iv. Human brain vs. chimpanzee brain
- v. Brain Lateralization

QUESTION 04 (15 marks)

Comment on three  $\underline{03}$  of the statements given below.

- i. Kuhl's Native Language Magnet Theory.
- Infants are neither the tabula rasas that Skinner described nor the innate grammarians that Chomsky envisioned.
- iii. Discuss the experiment which proved that full term newborns have more than two months of auditory experience and can recognize familiar sounds.
- iv. Vocal imitation links speech perception to speech production.
- v. Infant-directed speech helps infants to acquire sounds used in their native language.

QUESTION 05 (15 marks)

- i. Discuss the similarities and the differences between conscious and unconscious knowledge.
- ii. Using the Global Workspace Theory describe how both conscious and unconscious processes are involved in language production. (10 marks)

QUESTION 06 (15 marks)

Drawing an illustration discuss brain activation during word retrieval in an English and Sinhala/Tamil bilingual child when given the following task.

'Name the animal in the picture in English.' (Avoid using cat as the animal.)

Include conceptual/semantic and lexical level activation, phonological encoding, inhibitory processes and syllable programming.

 END OF THE QUESTION PAPER	





# CINEC Campus (Pvt) Ltd Approved for Quality Management System

Faculty	Department / Section/Division
Management, Humanities and Social Sciences	Education and Languages
EDUCATION & TRAINING COU	RSE: BACHELOR OF ARTS (ENGLISH) DEGREE
	SE CODE: LC – 0845
MID SEMESTER E	XAMINATION QUESTION PAPER
YEA	AR 3 – SEMESTER II
LANGUAGE AND SP	PEECH DISABILITIES – ELAN 3201

INSTRUCTIONS TO CANDIDATES	
This paper has four questions.	Duration of the examination = 1 ½ hours
Answer any <u>three</u> questions.	Date: 2020.01.12
Questions must be answered on the question paper	Candidates are not allowed to communicate with and disturb fellow
itself.	candidates during the examination.
Ecoty.	Candidates could be disqualified if you violate examination rules.

Question No:	1	2	3	4	5	Total Marks	%	Signature
						Marks		
For Scrutinizer's Use Only (marks)								

- ✓ This paper has four questions.
- ✓ Answer any <u>three</u> questions.
- ✓ Questions must be answered on the question paper itself.

# Question 01

a)	Name the three categories of speech disorders and explain them in brief. (09 marks)
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	i i
b) Explain the following with an example.	
a) Receptive language impairments	
b) Expressive language impairments	
(06 marks)	)
	,

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Question 02	
	4-1
a) Discuss two motor programming treatment approaches for patients with Develo	opmental
Verbal Dyspraxia.	(06 marks)
b) Discuss the common signs and symptoms of Developmental Verbal Dyspraxia	in relation
to	
<ul> <li>Speech production</li> </ul>	
<ul> <li>Language</li> </ul>	(00 1)
<ul> <li>Prosody</li> </ul>	(09 marks)
•••••	

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	• • • • • • • • • • • • • • • • • • • •
Question 3	
a) What are craniofacial anomalies?	
a) What are cramoracian anomalies?	(3 marks)
	•••••
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0)	Give a brief description of two craniofacial anomalies.	(6 marks)
44.44.64.64		
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		• • • • • • • • • • • • • • • • • • • •
		• • • • • • • • • • • • • • • • • • • •
c)	Identify and describe briefly two risk factors that increase the likelihood of	f cleft lip
c)	Identify and describe briefly two risk factors that increase the likelihood of and palate.	
	and palate.	f cleft lip (2 marks)
		f cleft lip (2 marks)
	and palate.	f cleft lip (2 marks)
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	and palate.	f cleft lip (2 marks)
	write four characteristics that can be visible in the speech and language pro-	f cleft lip (2 marks)
	and palate.	f cleft lip (2 marks)
	write four characteristics that can be visible in the speech and language pro-	f cleft lip (2 marks)
	write four characteristics that can be visible in the speech and language pro-	f cleft lip (2 marks)
	write four characteristics that can be visible in the speech and language pro-	f cleft lip (2 marks)

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Question 4	
a) Define dysarthria.	(4 marks)
	• • • • • • • • • • • • • • • • • • • •
•••••••	
b) What are the perceptual speech characteristics that are visible when the five	speech
	(5 marks)

to dysarthria. (6 marks)
END OF THE QUESTION PAPER





### CINEC Campus (Pvt) Ltd Approved for Quality Management System

Faculty	Department / Section/Division
Management, Humanities and Social Sciences	Education and Languages
EDUCATION & TRAINING COURSE: BACHE	OR OF ARTS (FNGLISH) DEGREE
EDUCATION O TRAINING COURSE. BACHE	ENGLISH) DEGREE

MID SEMESTER EXAMINATION QUESTION PAPER
YEAR 3 – SEMESTER II
ACADEMIC WRITING – ELAN 3202

INSTRUCTIONS TO CANDIDATES	
Answer all questions.	Duration of the examination = 1 ½ hours
Total marks - 20	Date: 2020.01.12
	Candidates are not allowed to communicate with and disturb fellow candidates during the examination.
	Candidates could be disqualified if you violate examination rules.

### \* Answer all questions.

Question 01 (10 marks)

Write a summary of the following passage in about 150 words:

Symbols convey information or embody ideas. Some are so common that we find it difficult to believe they didn't always exist. Who, for example, first used arrows to indicate directions? We follow them instinctively now, but at some point, they were new and had to be explained. Other symbols embody more complex ideas and associations. Two well-known and ancient symbols are the yin-yang symbol and the swastika.

The yin-yang symbol, also known as the *taiji diagram*, embodies the worldview expressed in ancient Chinese Philosophy. It gives elegant visual forms to ideas about the dynamic balance of opposites that are believed to make up the universe and explain existence: male (yang) and female (ying), being and non-being, light and dark, action and inaction, and so on. The symbol makes it clear that these opposites are mutually interdependent, that they are defined by each other, that both are necessary to make the whole.

The Swastika has an important lesson to teach about symbols, which is that they have no meaning in themselves but are given a meaning by a society or culture. The swastika was first used as a symbol in India and Central Asia, possible as early as 3000 B.C.E. It takes its name from the Sanskrit word *svastika*, meaning good luck or good fortune (Sanskrit was the most important language of ancient India.) In Asia, the swastika is still widely used as an auspicious symbol, even on commercial products. Until the 1930s, Swastika was a

popular good- luck symbol in the west as well. Today, however, it is so thoroughly associated with the Nazis, who adopted it as their emblem, that it has become for us a symbol of fascism, racial hatred, and the unspeakable atrocities of the concentration camps.

Among the most pervasive symbols in our visual environment today are logos and trademarks, which are symbols of an organization or product. An impressive number of these are the work of Paul Rand, one of the most influential of all-American graphic designers. Simple, clear, distinctive, and memorable each of these cooperate logos has become familiar to millions of people around the world, instantly calling to mind the company and its products or services. As with any symbol, a logo means nothing in itself. It is up to an organization to make a logo familiar and to convince people through sound business practices to associate it with such virtues as service, quality, and dependability.

Question 02 (10 marks)

Paraphrase the following texts.

#### Text 1

If you look at two different languages you often find similarities between them in addition to the numerous differences. Why might this be the case? As it turns out there are a number of reasons for two languages to have certain elements in common. One reason is so basic that it seems rather obvious languages are spoken by humans and humans are anatomically similar. So the fact that lots of languages around the world make use of many of the same sounds in their phonological inventories is at least in part due to the similarity of the apparatus we all use to make those sounds (Wilson & Mihaliček, 2011).

#### Text 2

A lot of English language learners have low proficiency in EFL vocabulary classes. Therefore, it is important for teachers to utilize more effective vocabulary teaching methods to improve EFL learners' vocabulary. In this concern, using the flipped classroom method may play an important role in developing Saudi female university students' performance on EFL vocabulary classes. (Alnuhayt, 2018).

	END OF THE QUI	ESTION PAPER	
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### CINEC Campus (Pvt) Ltd Approved for Quality Management System

Faculty	Department / Section/Division
Management, Humanities and Social Sciences	Education and Languages

EDUCATION & TRAINING COURSE: BACHELOR OF ARTS (ENGLISH) DEGREE
Course Code: LC – 0845
MID SEMESTER EXAMINATION QUESTION PAPER
YEAR 3 - SEMESTER II
WORLD LITERATURE IN TRANSLATION - ELIT 3201

INSTRUCTIONS TO CANDIDATES	
	Duration of the examination = 1½ hours
	Date: 2020.01.11
	Candidates are not allowed to communicate with and disturb fellow candidates during the examination.
	Candidates could be disqualified if you violate examination rules.

This paper has three sections and five questions. Answer three questions selecting one from each section. Each question carries 20 marks.

#### SECTION A

### **QUESTION 1 (Compulsory)**

The portrayal of female characters in *Mother* by Maxim Gorky and *Mother Courage and Her Children* by Bertolt Brecht is unconventional. Do you agree?

#### **SECTION B**

#### **QUESTION 2**

Evaluate the role of Pavel as a revolutionary hero in Maxim Gorky's Mother.

#### OR

#### **QUESTION 3**

Describe how the conflict between the rich and poor is portrayed in *Mother* by Maxim Gorky.

#### **SECTION C**

#### **QUESTION 4**

"The Uprooted by Martin Wickramasinghe deals with a transitional period in which the feudal society decays and the capitalistic society rises." Comment.

OTI	TOO	TIL	TAT	-
QU	ES	110		3

The issue of romance is not a second	ondary theme in The	Uprooted by Martin	n Wickramasinghe
Do you agree?			
EN	D OF THE QUEST	ON PAPER	



# CINEC Campus (Pvt) Ltd Approved for Quality Management System

Faculty	Department / Section/Division	
Management, Humanities and Social Sciences	Education and Languages	
Education & Training Course: Bac	CHELOR OF ARTS (ENGLISH) DEGREE	
Course Code:		
MID SEMESTER EXAMINAT	TION QUESTION PAPER	
YEAR 3 - SEM	MESTER II	
PSYCHOLINGUISTI	ICS - ELAN 3203	

INSTRUCTIONS TO CANDIDATES	
There are five (05) questions in this paper.	Duration of the examination = 1 ½ hours
Candidates are required to answer any three (03) Questions.	Date: 2020.01.11
Each question carries 20 marks.	Candidates are not allowed to communicate with and disturb fellow candidates during the examination.
	Candidates could be disqualified if you violate examination rules.

# THERE ARE FIVE (05) QUESTIONS IN THIS PAPER. ANSWER ANY THREE (03) QUESTIONS.

# **QUESTION 01**

(20 marks)

Discuss the importance of the following areas of the brain in speech production.

a. Broca's Area

(10 marks)

Department / Section/Division

b. Wernicke's Area

(10 marks)

# **QUESTION 02**

(20 marks)

Providing an illustration, examine how Wernicke-Geschwind model describes the brain activity when we speak a heard word.

QUESTION 03	(20 marks)

Brain Lateralization theory stresses on the fact that the two halves of the brain known as right and left hemispheres function differently but yet interdependently. Discuss.

QUESTION 04 (20 marks)

Humans and chimpanzees share an indelible bond which most strikingly manifest through our genetic similarity (<u>Wildman et al. 2003</u>). Nonetheless, the uniqueness of human speech and language remains a remarkable discontinuity between the two species (e.g. <u>Chomsky 1980</u>; <u>Pinker & Jackendoff 2005</u>). Analyze the psycholinguistic differences between humans and chimpanzees.

QUESTION 05 (20 marks)

The continued study of Infant Speech Perception promises to reveal the precise nature of the relationship between language acquisition and the brain. Comment.

..... END OF THE QUESTION PAPER .....

Module Code: 4MA007:

Page 1 of 4



Faculty of Science and Engineering

### **EXAMINATION PAPER**

Module Code

4MA007

**Module Title** 

**Engineering Mathematics** 

Date of Examination:

February 2020

Examiner:

Ms.B.S Wijerathne

Examiner(s) Room:

06

Time Allowed:

3 Hours

Number of Questions to be attempted:

Attempt ALL questions

Marks awarded for each question are stated at the end of each question

Materials Required:

One eight-page answer book.

Additional information is provided on page 4.

#### Instructions to Students:

- Mobile phones are not permitted in the exam.
- Approved calculator only.
- You should write legibly in black or blue ink.
- Check your work carefully for inaccurate spelling, punctuation and grammar.
- You may not leave the examination room during the first hour or last 30 minutes of the exam.
- An announcement will be made when there are 30 minutes of the exam time left

A1. Solve the following system of equations using any method involving matrices. (You should show all the steps in your calculations)

$$2x + 3y - z = -2$$
$$x + y + 2z = 12$$

$$3x - 4y + 4z = 33$$

(10 marks)

A2. The instantaneous voltage v in a capacitive circuit is related to time t by the equation  $v = Ve^{-t}/cR$  where V, C and R are constants. Determine v, correct to 4 significant figures, when t = 45ms,  $C = 15\mu F$ , R = 50k and V = 320 volts.

(5 marks)

A3. An alternating voltage of 240V, 50Hz is connected across an impedance of  $(60-i)100\Omega$ . Determine the resistance and the capacitance.

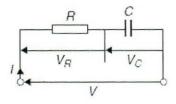


Figure 1

(10 marks)

A4. Find the magnitude of the forces acting upon joints 1,2 and 3 (J1,J2 and J3) for the following system (figure 2 on page 3)

- i) By resolving forces into vertical and horizontal components
- ii) Without resolving the forces (using the force diagram)

Find the answers correct to 2 decimal places

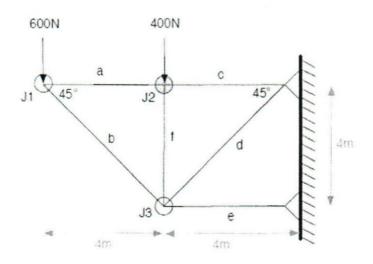


Figure 2

(30 marks)

A5. a) Determine the coordinates of the maximum and minimum values of the following graph.

$$y = \frac{x^3}{3} - \frac{x^2}{2} - 6x + \frac{5}{3}$$

b) Sketch the graph showing maximum and minimum points that you have found

(15 marks)

A6. Solve the following first order differential equations.

i) 
$$(xy + y)\frac{dy}{dx} = xy + x$$

ii) 
$$3\frac{dy}{dx} + 5x = 4$$

$$iii) \qquad \frac{dy}{dx} = \frac{\cos(x)}{\sin(y)}$$

iv) 
$$\frac{dy}{dx} = x^2 \sin(x)$$

(15 marks)

- A7. A pot is baked in an oven at a temperature of  $400^{\circ}$ C into a workshop that is constantly at a temperature of  $32^{\circ}$ C .After one hour the temperature of the pot is  $175^{\circ}$ C.Assume Newton's law of cooling.
  - i) What will be the temperature of the pot after 150 minutes?
  - ii) How long will it take until the pot cools to 100°C

(15 marks)

### END OF THE EXAMINATION

#### **Additional Information**

I. Inverse of a matrix

For matrix A,  $A^{-1} = \frac{adj(A)}{|A|}$ 

II.

Standard Derivatives		
f(x)	f'(x)	
x n	nx *-1	
sin ax	a cos ax	
cos ax	- a sin ax	
e as	ae ax	

Standard Integrals

III.

f(x)	$\int f(x)dx$
	$\frac{X^{n+1}}{n+1}$ , for $x \neq -1$
e:	e <sup>r</sup>
€ er	$\frac{1}{a}e^{ax}$
$\frac{1}{x}$	ln x
sin ax	$-\frac{1}{a}\cos ax$
cos ax	$\frac{1}{a}\sin ax$

IV.

Rules of differentiation	$\frac{d}{dx}(uv) = u\frac{dv}{dx} + v\frac{du}{dx}$
	$\frac{d}{dx} \frac{(u)}{v} = \frac{v \frac{du}{dx} - u \frac{dv}{dx}}{v^2}$
	$\frac{dy}{dx} = \frac{dy}{du} \frac{du}{dx}$
Integration by parts equation	$\int_{0}^{u} \frac{dv}{dx} dx = uv - \int_{0}^{u} v \frac{du}{dx} dx$

V.

$$Z=R+jX ,$$

Where,

Z = Impedence

R = Resistance

X = Reactance

$$X = X_L - X_C$$

Where,

 $X_L(inductive \, reactance) = 2\pi f L \, ohms$ 

 $X_C(capacitive\ reactance) = \frac{1}{2\pi fC}\ ohms$ 

where, f = frequency

L = inductance

C = capacitance

# VI. Newton's law of cooling

Newton's law of cooling states that the rate of change of temperature is proportional to the difference of temperature between the body and its environment