(Pages : 3) **H-1900**

Reg. No. : .....

Name : .....

First Semester B.A./B.Sc. Degree Examination, November 2019

First Degree Programme under CBCSS

Hindi Language

Additional Language - I

HN 1111.1 : PROSE AND GRAMMAR

(2014 - 2016 Admissions)

St. Xavier's College

Time : 3 Hours Max. Marks : 80

I. निर्देशः एक या दो वाक्यों में उत्तर लिखिए :

1. वर्णों के कितने भेद हैं? और नाम लिखिए।
2. 'उच्चराण स्थान' माने क्या है?
3. 'आदमि' किसप्रकार की संज्ञा है?
4. 'खट-खट' क्रिया का अनुकरणात्मक रूप लिखिए।
5. लघु स्वर से क्या मतलब है?
6. साहित्य जगत में शिवपूजन सहास किस नाम से जाने जाते हैं?
7. 'भारतीय संस्कृति' नामक व्याख्यान में लेखक ने किस बात को खोज निकालने का प्रयास किया है?
8. हरिशंकर परसाई के किन्हीं दो चार व्यंग्य संग्रहों के नाम लिखिए।
9. अमृतलाल वेगड़ के किन्हीं दो यात्रावृतान्तों के नाम लिखिए।
10. होली और ओणम के आधार पर पौराणिक कथाओं के नाम लिखिए। **(10 × 1 = 10 Marks)**

P.T.O.

II. निर्देशः किन्हीं आठ प्रश्नों के लघु उत्तर (करीब 50 शब्दों में) दीजिए :

11. किस प्रदेश को आधार बनाकर लिखे गए यात्रावृत्तांत है 'नदिया गहरी नाव पुरानी'।

12. हमारी संस्कृति का मूलाधार क्या है?

13. होली और ओणम असल में मिलन के उत्सव है, क्यों?

14. 'वे बहादुरी से बिके' में किसपर करारा व्यंग्य किया गया है?

15. नर्मदा की यात्रा में लेखक के मन में उत्पन्न हुए आशाएँ क्या क्या हैं?

16. मतवाला के प्रेस का मशीन मैन घायल होने पर निराला ने क्या सहायता दी?

17. हिन्दी में अनुनासिकता का क्या महत्व है? उदाहरन सहित लिखिए।

18. स्त्रीलिंग शब्दों के बहुवचन रूप कैसे बनाए जाते हैं?

19. विशेषणों की तुलनावस्था पर प्रकाश डालिए।

20. नाम धातु क्रिया का सोदाहरण परिचय दीजिए।

21. प्राणत्व के आधार पर हिन्दी वर्णों का परिचय दिजिए।

22. स्रोत के आधार पर शब्दों के कितने भेद हैं? उदाहरण सहित लिखिए। **(8 × 2 = 16 Marks)**

III. निर्देशः किन्हीं छः प्रश्नों के उत्तर करीब 120 शब्दों में लिखिए।

23. हम छोटे लोग हैं, गरीब लोग हैं मगर ग्राहक को माल नहीं बेचने से सम्मान और स्वतन्त्रता की रक्षा कैसे हो जाती है - सप्रसंग व्याख्या कीजिए।

24. अहिंसा का दूसरा नाम या दूसरा रूप त्याग है और हिंसा का दूसरा रूप या दूसरा नाम स्वार्थ, जो बहुत करके भोग के रूप में हमारे सामने आता है - सप्रसंग व्याख्या कीजिए।

25. होली और ओणम हमारे ऐसे पर्व है जो हमारी परंपरा की स्मृति ताज़ी बनाए रखते हैं - इस बात का समर्थन कीजिए।

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26. समुद्र की लहरें मानो जमकर पत्थर बन गई हैं और किसी ने उन्हें खड़ा करके दीवारों पर चिपटा दिया है। कहीं कहीं छोटी-छोटी मृदु लहरें, तो कहीं बड़ी-बड़ी लहरें – सप्रसंग व्याख्या कीजिए।

27. ऋणि भी हुए तो परहितार्थ ही। लड़े-झगड़े भी तो न्याय के पक्ष पर अडिग रहकर। अपनी पीर गोई और पराई पीर सँजोई। स्वाभिमान के सर्वोच्च शिखर पर बैठे रहकर फकीरी-बेफिक्रि से संसार की ओर उपेक्षा-भरी करुणखिय से देखा – सप्रसंग व्याख्या कीजिए।

28. करण और अपादान कारकों का अन्तर समझाइए।

29. विशेषण की परिभाषा देकर उसके भेदों को सोदाहरण समझाइए।

30. 'ने' प्रत्यय के प्रयोग के नियमों को सविस्तार प्रतिपादन कीजिए।

31. भूतकाल के भेदों को सोदाहरण समझाइए। **(6 × 4 = 24 Marks)**

IV. निर्देशः किन्हीं दो प्रश्नों के उत्तर करीब 250 शब्दों में लिखिए।

32. हिन्दी संसार में महाकवि निराला के समान त्यागवृत्ति का कोई साहित्य सेवी अब तक देखने में नहीं आया – समर्थन कीजिए।

33. 'सुख' नामक कहानी अकेले पड़े आदमी की व्यथा को व्यक्त करने वाली कहानी है स्पष्ट कीजिए।

34. वाच्य से क्या मतलब है? हिन्दी में कितने वाच्य हैं? उदाहरण देकर समझाइए।

35. सर्वनाम और उसके भेदों पर उदाहरण सहित प्रकाश डालिए। **(2 × 15 = 30 Marks)**

St. Xavier's College

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Reg. No. : .....

Name : .....

First Semester B.A./B.Sc. Degree Examination, November 2019

First Degree Programme Under CBCSS

English Language

Foundation Course I

EN 1121 : WRITINGS ON CONTEMPORARY ISSUES

(2014 & 2015 Admissions)

St. Xavier's College

Time : 3 Hours Max. Marks : 80

I. Answer **all** questions each in a word or a sentence.

1. The Essay "The Globalized World" features in which book of Avinash Jha?
2. What is the expanded form of FRBM?
3. What does the word 'Nishada' stands for?
4. When was the poem "Gods' Grandeur" published?
5. When was *Lyrical Ballads* published? Who are the authors?
6. From which book is "Thinking about Human Rights" taken?
7. What does the poet mean by the phrase "Charter'd Thames"?
8. Where does the events of the novel *Untouchable* take place?
9. Who is the author of the book *Gendering Caste*?
10. Who has translated *Oppol* into English and what is its English title?

(10 × 1 = 10 Marks)

P.T.O.

II. Answer any **eight** each in a short paragraph not exceeding **50** words.

11. What is Avinash Jha's take on 'Information Revolution'?

12. What does the poet mean by the line "Old love, but in shapes that renew and renew forever"?

13. Attempt a brief note on the concept of tree worship in ancient India.

14. Critically examine the title "The World is Too Much with Us".

15. How does Manish Priyam distinguish Human Rights from Morality?

16. What does the poet imply in the phrase "mind-forg'd manacles"?

17. Comment on how Mulk Raj Anand presents Gandhi's notions on caste and untouchability in his novel.

18. How does Manisha Priyam conceptualize gender in "Gender, Cultute and History"?

19. Comment on the portrayal of Malu in 'The Elder Sister : Oppol'.

20. Discuss Amit Bhaduri's conceptualization of globalization.

21. Comment on the ecological significance of the poem "God's Grandeur".

22. Discuss the term "Second Enlightenment". **(8 × 2 = 16 Marks)**

III. Answer any **six** each in a paragraph not exceeding **100** words.

23. Comment on the reference to sacred groves in ancient Indian texts.

24. How does Blake discuss the plight of children in "London"?

25. Comment on the central thematic concern of Tagore's prescribed poem.

26. Attempt a brief note on the title "The World is Too Much with us".

27. Comment on how Anand portrays Bakha's sister in the novel.

28. Discuss how M T Vasudevan Nair portrays Oppol.

St. Xavier's College

29. Comment on the notion of femininity with reference to the essay "Gender, Culture and History".

30. Discuss the emerging gulf between the rich and the poor with reference to globalization.

31. How does Hopkins celebrate the glory God? **(6 × 4 = 24 Marks)**

IV. Answer any **two** each in about 300 words.

32. Attempt an essay on Romila Thapar's perspective on the impact of colonialism in India.

33. Critically examine Amit Bhaduri's central arguments in "Globalization and Education".

34. Compare and contrast the lives of innocent people in India and London with reference to "London and Untouchable".

35. Attempt an essay on the contemporary perspectives on gender and body with reference to the essay "Gender, Culture and History". **(2 × 15 = 30 Marks)**

St. Xavier's College

(Pages : 3) **H-1950**

Reg. No. : .....

Name : .....

First Semester B.A. Degree Examination, November 2019

First Degree Programme under CBCSS

Complementary Course I

PS 1131 : PRINCIPLES OF POLITICAL SCIENCE

(Common for Philosophy, Economics, History, English, Islamic History & Sociology)

(2014- 2016 Admissions)

St. Xavier's College

Time : 3 Hours Max. Marks : 80

I. Answer in one or two sentences. Each question carries **1** mark. Answer ALL questions.

1. Political Science
2. What is the nature of the modern society?
3. Behaviouralism
4. Nationality
5. Definition of State.
6. Civil society
7. Political culture
8. Government
9. Political Communication
10. Intellectual Godfather of Behaviouralism. **(10 × 1 = 10 Marks)**

P.T.O.

II. Answer in a paragraph. Answer any **EIGHT** questions. Each question carries **2** marks.

11. What is the nature of political science?

12. Explain the relationship between Political Science and Economics.

13. Define Political Sociology.

14. Describe Surplus Value.

15. Write a short note on Civic Culture.

16. What is the aim of political socialization?

17. Describe the characteristics of sovereignty.

18. Discuss the importance of Nation.

19. Elucidate the features of Inter-disciplinary approach?

20. Enumerate the different orientations of political culture.

21. Analyze the Marxian approach.

22. Explain the organs of government. **(8 × 2 = 16 Marks)**

III. Short essay Questions (not to exceed **120** words). Answer any **SIX** questions. Each question carries **4** marks.

23. Describe the scope of political science.

24. Explain the Achievements of Behaviouralism.

25. Describe the tenets of Marxism.

26. Comment on the features of traditionalism.

St. Xavier's College

27. Examine the classification of political culture.

28. Discuss the relationship between political science and history.

29. What are the elements of the state?

30. Discuss the rise and growth of the modern nation-state.

31. Comparative study of the State and Civil Society. **(6 × 4 = 24 Marks)**

IV. Essay questions. Answer any **TWO** questions. Each question carries 15 marks.

32. Define Political Science and explain its nature and scope.

33. What are the major approaches to the study of political science?

34. What is political socialization and explain its agents?

35. Elucidate the characteristics of civil society in a democray. **(2 × 15 = 30 Marks)**

St. Xavier's College

(Pages : 3) H-1969

Reg. No. : .....

Name : .....

First Semester B.A. Degree Examination, November 2019

First Degree Programme under CBCSS

History

Core Course I

HY 1141 : METHODOLOGY AND PERSPECTIVES OF SOCIAL SCIENCES

(2014 Admission Onwards)

St. Xavier's College

Time : 3 Hours Max. Marks : 80

Instructions : Answers can be written either in Malayalam or English.

PART A

Answer **ALL** questions in one word or in one or two sentences.

Each question carries **1** mark.

1. Herodotus
2. Historiography
3. Quasi history
4. Clio
5. Theory of Great Man
6. Antonio Gramsci
7. Bias

P.T.O.

8. Gerda Lerner

9. Gender

10. Society and Culture.

(10 × 1 = 10 Marks)

PART B

Answer any **EIGHT** of the following in one paragraph each.

Each question carries **2** marks.

11. Romila Thapar

12. Dialectical materialism

13. E.H. Carr

14. Thucydides

15. Ramachandra Guha

16. Aguste Comte

17. Sumit Sarkar

18. Interdisciplinary approach

19. Challenge and response theory.

20. Chronology

21. Historicism

22. Economic history.

(8 × 2 = 16 Marks)

St. Xavier's College

PART C

Answer any **SIX** of the following in not more than 120 words each.

Each question carries 4 marks.

23. What are the characteristics of Caste system?

24. Explain the concept of the myth.

25. Explain the connection between geography and history.

26. Write a note on the relevance of ethics in Historical Research.

27. Comment on the need for interdisciplinary approach.

28. Briefly discuss various theories regarding the origin of communalism.

29. Write a note on objectivity in social sciences.

30. Distinguish between class and caste.

31. "All history is contemporary history" – Explain. **(6 × 4 = 24 Marks)**

PART D

Answer any **TWO** of the following.

Each question carries **15** marks.

32. Examine the scope and limits of social sciences.

33. Discuss the problems involved in the construction of history.

34. What are the categories and concepts to be considered in understanding social structure?

35. Discuss the contributions of Subaltern Studies to modern historiography. **(2 × 15 = 30 Marks)**

St. Xavier's College

(Pages : 3) H-1985

Reg. No. : .....

Name : .....

First Semester B.A. Degree Examination, November 2019

First Degree Programme Under CBCSS

Complementary Course

PL 1132 : GANDHIAN PHILOSOPHY

(2014 - 2016 Admission)

St. Xavier's College

Time : 3 Hours Max. Marks : 80

SECTION A

Answer **ALL** questions in one word or to a maximum of two sentences.

Each question carries **1** mark.

Write notes on :

1. Non co-operation
2. Two aspects of ahimsa
3. Political decentralization
4. End and means
5. Gandhian concept of Ramarajya
6. Village and cottage industries.
7. Economic aspects of Sarvodaya
8. Truth
9. Fasting
10. Gramswaraj

(10 × 1 = 10 Marks)

P.T.O.

SECTION B

Answer **any Eight** questions in a paragraph each.

Each question carries **2** marks.

11. How did Jainism influence Gandhi?
12. Give two influences on Gandhi which helped him to form the theory of bread labour.
13. Why did Gandhi feel that Khadi was the best small scale industry for villages?
14. Why did Gandhi favour economic decentralization?
15. What are the main differences between Sarvodaya and Socialism?
16. Discuss how the basic doctrines of Christianity influenced Gandhi.
17. What are the three tenets that form the basis of Satyagraha?
18. Explain briefly the techniques of Satyagraha which Gandhi favoured most.
19. Examine Gandhian notion of 'Truth is God'.
20. How did Gandhi prove that to achieve good ends, means must also be good?
21. Discuss Gandhi's views on democracy.
22. Bring out the differences between Satyagraha and passive Resistance.

(8 × 2 = 16 Marks)

St Xavier's College

SECTION C

Answer **any Six** questions in 120 words each.

Each question carries **4** marks.

23. Discuss the influence of Ruskin and Thoreau on Gandhian thought.
24. Briefly explain how the ideals of Bhagavad Gita influenced Gandhi in developing his socio-political views.
25. Expound Gandhi's views on Panchayat raj system.

26. State the various connotations of swadeshi in the philosophy of Gandhi.

27. Examine the important aspects of bread labour or propounded by Gandhi.

28. Discuss the importance of spiritualization of politics in Gandhian though.

29. Why did Gandhi consider Trusteeship as a peaceful way of liquidating class conflicts?

30. Write a note on the qualifications of a satyagrahi, which are explained by Gandhi.

31. Examine the influence of Upanishads on Gandhian thought.

(6 × 4 = 24 Marks)

St. Xavier's College

SECTION D

Answer any **TWO** questions in about 600 words each.

Each question carries **15** marks.

32. Explain the important features of Sarvodaya.

33. Discuss the importance of Truth and Non-violence in the socio-political thought of Gandhi.

34. 'Satyagraha is essentially a tool or method of conflict resolution' - Elaborate.

35. Examine the relevance of Gandhian philosophy in the contemporary society.

(2 × 15 = 30 Marks)

(Pages : 3) H – 1990

Reg. No. : .....

Name : .....

First Semester B.A. Degree Examination, November 2019

First Degree Programme under CBCSS

Economics

Core Course I

EC 1141 : METHODOLOGY AND PERSPECTIVES OF SOCIAL SCIENCES

(2015 - 2018 Admissions)

St. Xavier's College

Time : 3 Hours Max. Marks : 80

SECTION – I

Answer in one or two sentences. Answer all questions.

1. Eonomic Theory
2. Positive economics.
3. Nominal variable.
4. Method.
5. Subjectivity.
6. Equilibrium.
7. Hypothesis.
8. Secondary data.
9. Monetarism.
10. Inductive method.

(10 × 1 = 10 Marks)

P.T.O.

SECTION – II

Answer **any eight** questions not to exceeding one paragraph. **Each** question carries **2** marks.

11. Distinguish between positive and Normative science.
12. Differentiate between method and methodology.
13. Distinguish between theory and laws.
14. State the limits to objectivity in social science research.
15. Examine the features of induction.
16. State the features of Physiocracy.
17. Examine the role of assumptions in economic theory.
18. Write a note on interdisciplinary approach.
19. Explain Mercantilism.
20. Distinguish between primary and secondary data.
21. Explain the uses of Economic models.
22. Examine the components of aggregate supply.

(8 × 2 = 16 Marks)

SECTION – III

Answer **any six** questions not exceeding **120** words. Each question carries **4** marks.

23. Distinguish between Mercantilism and Physiocracy.
24. Explain different research methods.
25. Examine the contributions classical school of thought.
26. Examine the contributions of Physiocratic economic thought.
27. Examine the contributions of Marxian economic thought.

St. Xavier's College

28. Explain the relation between social sciences.

29. Examine the limits to objectivity in social sciences.

30. Examine the inductive method and its merits.

31. Critically examine the deductive method.

(6 × 4 = 24 Marks)

SECTION – IV

Answer **any two** questions not to exceeding four pages. Each question carries **15** marks.

32. Examine the various schools of thought in Economics.

33. Explain the nature, scope and subject matter of economics. How economics is related with other subjects?

34. Critically examine the contributions of Keynes to Economic Theory.

35. Examine various branches of social sciences are interrelated.

(2 × 15 = 30 Marks)

St. Xavier's College

(Pages : 3) H – 1996

Reg. No. : .....

Name : .....

First Semester B.A. / B.Sc. Degree Examination, November 2019

First Degree Programme Under CBCSS

English Language

Foundation Course I

EN 1121 : WRITINGS ON CONTEMPORARY ISSUES

(2016 – 2018 Admission)

St. Xavier's College

Time : 3 Hours Max. Marks : 80

I. Answer **all** questions, each in a word or a sentence.

1. What is NHRC?

2. What does the speaker mean when he says that "My mother bore me in the southern wild"?

3. What is ICCPR?

4. What did Nani do?

5. What is the significance of Patna conference resolution?

6. Who appears before the author in her dream like state in "The Goddess of Revenge."?

7. Define the terms globalisation and localisation.

P.T.O.

8. What does the term freedom imply for the thirsty people?

9. What is alcohol withdrawal delirium?

10. What are stimulants?

(10 × 1 = 10 Marks)

II. Answer **any eight** questions, each in short paragraph not exceeding **50** words.

11. Explain the association between economic disparity and human rights.

12. What is the theme of the poem "The Little Black Boy"?

13. Discuss the case of Roop Kanwar.

14. Examine the author's depiction of society in the story "The Goddess of Revenge."

15. How does the author describe the grandmother's reaction on hearing the name Nani?

16. Explain the effects of globalisation on India?

17. Describe author's views on the policy changes in the context of localisation.

18. Explain the symbolism in the act of stitching as depicted the poem "Freedom."

19. What are the basic patterns in the usage of psycho-active substances?

20. Discuss the association between alcohol and different mental health problems.

21. Why does the cup in the hand of the poet rattles like drum?

22. The tailor's idea of freedom.

(8 × 2 = 16 Marks)

St Xavier's College

III. Answer **any six** questions, each in a paragraph not exceeding **100** words.

23. Explain the impact of globalisation on human rights.

24. Examine the poet's depiction of Nani.

25. Discuss the association between poverty and human dignity.

26. Explain author's views on "the varying forms of violence confronted by different sections of women."

27. What are the views of Joseph E Stilgitz about pro-globalization policies?

28. What are the different treatment methods in alcoholism?

29. Examine the images and symbols used by Jeet Thayil to depict the life of an alcoholic.

30. Discuss the attrocities encountered by the underprivileged women.

31. Write a short note on the etiology of adolescent substance abuse?

(6 × 4 = 24 Marks)

IV. Answer **any two** of the following in not less than **300** words.

32. Examine Gail Omvedt's analysis of violence against women.

33. Examine the major themes portrayed in the poem "Nani."

34. Describe the process of localisation as discussed by Helena Norberg-Hodge.

35. Discuss N.R. Madhava Menon's views on human rights and dignity.

(2 × 15 = 30 Marks)

St. Xavier's College

(Pages : 3) **H-2000**

Reg. No. : .....

Name : .....

First Semester B.A. Degree Examination, November 2019

First Degree Programme Under CBCSS

Complementary Course II

PL 1132 : GANDHIAN PHILOSOPHY

(2017 Admission onwards)

Time : 3 Hours Max. Marks : 80

St. Xavier's College

PART A

Answer **ALL** questions in **one** word or to a maximum of **two** sentences.

Each question carries **1** mark.

1. Asteya
2. Aparigraha
3. Unto this Last
4. Sarvodaya
5. The meaning of Trustee
6. Satyagraha
7. Bread labour
8. Democracy
9. Grama swaraj
10. Swadeshi.

(10 × 1 = 10 Marks)

P.T.O.

PART B

Answer any **EIGHT** questions in a paragraph each.

Each question carries **2** marks.

11. Define Brahmacharya.
12. How did Upanishads influence Gandhi?
13. Examine the influence of Gita on Gandhian thought.
14. Truth and non violence are two sides of a coin – examine.
15. Write a note on Ruskin's influence on Gandhi.
16. What do you mean by political decentralization?
17. What is Poorna Swaraj?
18. Write a note on Panchayati raj.
19. Truth and God are convertible terms – Examine.
20. Write a note on santhi sena.
21. What is the advantage of vocational education?
22. Point out the defects of foreign education. **(8 × 2 = 16 Marks)**

St. Xavier's College

PART C

Answer any **SIX** questions in about 120 words each.

Each question carries **4** marks.

23. Christianity and Jainism have influence Gandhi – Examine.
24. End and Means are inseparable – Explain.

25. A satyagrahi must be truthful and nonviolent – Examine.

26. Examine the importance of ahimsa in Gandhian thought.

27. Explain Gandhian concept of democracy.

28. Discuss the qualifications of a Satyagrahi.

29. Discuss the importance of Gandhism in the present World.

30. Explain the advantages of village industry.

31. Discuss the relevance of spiritualisation of politics according to Gandhi.

(6 × 4 = 24 Marks)

St. Xavier's College

PART D

Answer any **TWO** questions in about **600** words each.

Each question carries **15** marks.

32. Explain the important aspects of Sarvodaya and the three orders of it.

33. Explain satyagraha as a political weapon and examine how it can be used in conflict resolution.

34. Write an essay on Trusteeship theory and its importance in Gandhian thought.

35. Estimate Gandhi as a political thinker highlighting the important aspects of political philosophy.

(2 × 15 = 30 Marks)

(Pages : 3) H – 2007

Reg. No. : .....

Name : .....

First Semester B.A. Degree Examination, November 2019

First Degree Programme under CBCSS

Complementary Course I

PS 1131 : INTRODUCTION TO POLITICAL SCIENCE

(Common for Philosophy, Economics, History, English, Islamic History & Sociology)

(2017 Admission onwards)

St. Xavier's College

Time : 3 Hours Max. Marks : 80

I. Answer in one or two sentences. **Each** question carries **1** mark. Answer all questions.

1. Definition of Political Science.
2. Who represents the Executive in the Indian Constitution?
3. In the world, where dual citizenship exists.
4. Non-violence.
5. Definition of state.
6. Civil society.
7. Intellectual Godfather of Behaviouralism.
8. The name of the legislature in USA.
9. The Indian President shall be elected by which members.
10. What does independent Judiciary mean?

(10 × 1 = 10 Marks)

P.T.O.

II. Answer in a paragraph. Answer **any eight** questions. **Each** question carries **2** marks.

11. What is the nature of political science?

12. Explain the relationship between Political Science and Economics.

13. What are the different types of Democracy?

14. Describe the characteristics of traditionsalism.

15. Discuss Judicial Review.

16. Explain the features of British constitution.

17. Write a short note on Liberalism.

18. Analyze the Federal Council of Switzerland.

19. Elucidate the theory of separation of powers.

20. What are the characteristics of liberalism?

21. Describe the Gandhian Sathyagraha.

22. Explain the role and functions of the supreme court of India.

(8 × 2 = 16 Marks)

III. Short essay questions. (Not to exceed **120** words.) Answer **any six** questions. **Each** question carries **4** marks.

23. Define the credo of Post Behaviouralism.

24. U.S Senate is the most powerful second chamber in the world. Why?

25. What are the characteristics of civil society?

26. Comment on the Plural Executive.

27. Describe Self-Rule or Swaraj of Gandhi.

28. Write a short note on the powers and position of the Prime Minister of India.

St. Xavier's College

29. Discuss the relationship between political science and psychology.

30. What are the features of Inter-disciplinary approach?

31. Analyze the decline of Liberalism.

(6 × 4 = 24 Marks)

IV. Essay questions. Answer **any two** questions. **Each** question carries **15** marks.

32. What is Behaviourlism and explain the intellectual foundation stones.

33. "The Indian Constitution is Federal in form but Unitary in spirit". Examine the statement.

34. Define state. What are the elements of the state?

35. Describe the tenets of Marxism.

(2 × 15 = 30 Marks)

St. Xavier's College

(Pages : 3) H – 2010

Reg. No. : .....

Name : .....

First Semester B.A./B.Sc. Degree Examination, November 2019

First Degree Programme under CBCSS

Malayalam Language

Language Course II – Additional Language I

ML 1111.1 : മലയാള കവിത

(2018 admission onwards)

St. Xavier's College

Time : 3 Hours Max. Marks : 80

I. ഒരു വാക്കിലോ പരമാവധി രണ്ടു വാക്യത്തിലോ ഉത്തരമെഴുതുക.

1. ജരിതയുടെ ഭർത്താവ് ആര്?

2. 'ഗ്രാമവൃക്ഷത്തിലെ കുയിൽ' ആരുടെ രചനയാണ്?

3. 'ആരോമൽച്ചേകവരങ്കം പിടിച്ചിട്ടും' അരമുഴംപോലും പിൻവാങ്ങാത്തതെന്ത്?

4. ആദ്യത്തെ കർഷകരാജാവായി ശോഭിച്ചതാര്?

5. 'ഗോപികാദണ്ഡകം' എന്ന രചന ഏതു കവിതയോടുള്ള പ്രതികരണമാണ്?

6. ഒക്ടേവിയോ പാസിന്റെ 'സൺസ്റ്റോൺ' എന്ന കൃതി 'സൂര്യശില' എന്ന പേരിൽ വിവർത്തനം ചെയ്തതാര്?

7. ഇക്കുറി ആതിരയെ ഒരുമിച്ചു കൈകൾകോർത്ത് എതിരേല്ക്കണമെന്നു പറയാൻ കാരണമെന്ത്?

P.T.O.

8. 'അമ്പലമണി' രചിച്ചതാര്?

9. ഉണ്ണിയാർച്ച പിറന്ന വീടേത്?

10. 'ശക്തിയുടെ കവി' എന്ന വിശേഷണം നേടിയതാര്?

(10 × 1 = 10 Marks)

II. ഒരു ഖണ്ഡികയിൽ കവിയാതെ എട്ടു ചോദ്യത്തിന് ഉത്തരമെഴുതുക.

11. "എങ്ങാനും പൊയ്പ്പോൾകമ്മേ! നീകൂടെ മരിക്കേണ്ടാ" - ഇങ്ങനെ പറയാൻ കാരണമെന്ത്?

12. "ഭീതിവേണ്ട, തരിക്കതെനിക്കു നീ" - പറഞ്ഞതാര്? സൂചിതമെന്ത്?

13. മനസ്വിനിയുടെ ചികുരഭരം വിലസിയത് എപ്രകാരമാണ്? കല്പനയുടെ ഭംഗി പരിശോധിക്കുക.

14. "സങ്കടം കാൺകിലും കാണാതെ പോകയോ
മംഗലേ നീയൊരു മങ്കയല്ലേ?" - പറഞ്ഞതാര്? കാരണമെന്ത്?

15. "ഒന്നിണ്ടു കേൾക്കണം അച്ഛനോട്" - ഉണ്ണിയാർച്ച ചോദിക്കുന്നതെന്ത് ?

16. വൃദ്ധന്റെ പ്രണയം ചാഞ്ഞു പെയ്യുന്ന മഴപോലെയാണെന്നു പറയുന്നതെന്തുകൊണ്ട്?

17. "മർദ്ദനമേറ്റു വലഞ്ഞോരെൻ ദൃഢ-
മസ്തകമിപ്പൊഴുമുയരുന്നു." - ആരുടെ? എന്തുകൊണ്ട്?

18. "അവിടെ നീ പോകേണ്ട, തവരുടെ മാർഗ്ഗമെന്നറിയൂ" - എവിടെ? സൂചിതമെന്ത്?

19. "എത്ര കൊഴുത്ത ചവർപ്പു കുടിച്ചു വറ്റിച്ചു നാം
ഇത്തിരി ശാന്തിതൻ ശർക്കര നുണയുവാൻ" - സൂചിതമെന്ത്?

20. "ആരന്ധകാരത്തെ സൃഷ്ടിച്ചവൻ, ദയാ-
വാരാശിയദ്ദേഹം വാഴ്ത്തപ്പെട്ടോൻ" - ഇങ്ങനെ സ്തുതിക്കാൻ കാരണമെന്ത്?

21. "അതിരുണ്ടവൾതൻ ക്ഷമയ്ക്കും" - ആരുടെ? സൂചിതമെന്ത്?

22. പാടത്തു കതിരിനു കനം വീഴുന്നതിനൊപ്പം കോമന്റെ വീട്ടിലുയർന്ന ആശകൾ ഏവ?

(8 × 2 = 16 Marks)

St. Xavier's College

III. നൂറ്റിയിരുപതു വാക്കിൽ കവിയാതെ **ആറു** ചോദ്യത്തിന് ഉത്തരമെഴുതുക.

23. ഒരു തൈ നടുമ്പോൾ കൂടെ നടുന്നത് എന്തൊക്കെയാണ്?

24. മൊബൈൽഫോണിനെ പ്രണയവുമായി ബന്ധിക്കുന്നതിന്റെ കാവ്യയുക്തി പരിശോധിക്കുക.

25. 'എലികൾ' എന്ന രചനയിൽ ഹാസ്യം ദുരന്താവിഷ്കാരത്തിനു കരുവാകുന്നതെങ്ങനെ?

26. കൃഷ്ണന്റെ ബാല്യം 'കുഞ്ഞേ, മുലപ്പാൽ കുടിക്കരുത്' എന്ന കവിതയുടെ ഭാവാന്തരീക്ഷത്തെ നിർണ്ണയിക്കുന്നതെങ്ങനെ?

27. ധർമ്മം, കർമ്മം എന്നിവയെക്കുറിച്ചുള്ള ധാരണകൾ 'ജരിതാവിലാപ'ത്തിലെ വൈകാരികമായ സന്ദർഭത്തിൽ പ്രവർത്തിക്കുന്നതെങ്ങനെ?

28. "അപ്രതിമഗുണാർദ്രമനസ്വിനി നീ" എന്നു പ്രിയതമയെ വാഴ്ത്തുന്നതിന്റെ കാരണങ്ങൾ ഏവ?

29. "ഒന്നല്ലെനിക്കുള്ളു പൊന്മകനും
അവനെ പഴുതെ നീ കൊല്ലിക്കല്ലേ" - അച്ഛൻ ഇങ്ങനെ പറയാൻ കാരണമെന്ത്?

30. "പാരിന്റെ ദാസിച്ചെറുമിയായ്പ്പോകയാൽ
സൂരജേ നീയെന്തുയർച്ച നേടി" - സൂചിതമെന്ത്?

31. 'നിനക്ക്' എന്ന കവിതയിലെ വാഗ്ദാനങ്ങളുടെ സവിശേഷത പരിശോധിക്കുക.

(6 × 4 = 24 Marks)

IV: **മൂന്നു** പുറത്തിൽ കവിയാതെ **രണ്ടു** ചോദ്യത്തിന് ഉത്തരമെഴുതുക.

32. "വൃദ്ധരതിയുടെ നിസ്സഹായതയെ വാത്സല്യരാശിയിലേക്കു വലിച്ചടുപ്പിക്കുന്ന അനുഭവമാണ് ചാഞ്ഞു പെയ്യുന്ന മഴയിലേത്" - പരിശോധിക്കുക.

33. 'സഫലമീയാത്ര' എന്ന കൃതാർത്ഥതയോടെ കവി ആതിരയെ എതിരേല്ക്കുന്നതിന്റെ ഭാവമേഖലകൾ വിശകലനം ചെയ്യുക.

34. "നാടകീയമായ ആഖ്യാനശൈലികൊണ്ടും പരിവർത്തനോത്സുകമായ പ്രമേയം കൊണ്ടും പ്രസക്തമാണ് ചണ്ഡാലഭിക്ഷുകി" - പാഠഭാഗത്തെ മുൻനിർത്തി പരിശോധിക്കുക.

35. 'പുത്തൻകലവും അരിവാളും' എന്ന കവിതയുടെ ചരിത്രപരവും സാമൂഹികവുമായ പ്രസക്തി പരിശോധിക്കുക.

(2 × 15 = 30 Marks)

St Xavier's College

(Pages : 3) H-2011

Reg. No. : .....

Name : .....

First Semester B.A./B.Sc. Degree Examination, November 2019

First Degree Programme under CBCSS

Hindi (Additional Language I)

HN 1111.1 : PROSE AND ONE ACT PLAYS

(2018 Admission onwards)

St. Xavier's College

Time : 3 Hours Max. Marks : 80

I. प्रत्येक परश्न का उत्तर एक या दो वाक्य में लिखिए :

1. 'पंच परमेश्वर' किसकी रचना है?

2. भीष्म साहनी की आत्मकथा का नाम क्या है?

3. 1924 में गांधी जी ने किस आंदोलन का नेतृत्व किया था?

4. जगदीश चन्द्र माथुर के संस्मरण किन पुस्तकों में संग्रहीत है?

5. हरिशंकर परसाई के कहानी संग्रहों के नाम बतलाइए।

6. 'आधे अधूरे' किसका नाटक है?

7. 'मुक्ति मार्ग' किसका काव्य संग्रह है?

8. 'बहू की विदा' एकांकी में कौन कौन से पात्र हैं?

9. गोदान किसका उपन्यास है?

10. भीष्म साहनी के नाटकों के नाम लिखिए।

(10 × 1 = 10 Marks)

P.T.O.

II. किन्हीं आठ प्रश्नों के उत्तर लगभग 50 शब्दों में लिखिए :

11. डॉ चड्ढा ने मरीज़ को देखने से क्यों इंकार कर दिया?

12. श्रीमान ने किस शर्त पर हेतु को जाने दिया?

13. बीड़ी पीने की बुरी आदत की शुरुआत गांधीजी में कैसे हुई?

14. पी.डी. टंडन के व्यक्तित्व की विशेषताों को बतलाइए।

15. मरकर नरक पहुंचने पर भी लेखक को दुख क्यों नहीं हुआ?

16. राधा भाभी क्या दिखावटी व्यवहार करती हैं?

17. 'यही कि मेरे पिता अंधे क्यों हुए' वाक्यांश की व्याख्या कीजिए।

18. कमला के चरित्र की विशेषताओं को स्पष्ट कीजिए।

19. भगत किस प्रकार के व्यक्ति थे?

20. अधिकारी वर्ग की तरह अध्यापक का ओहदा ऊंचा करने के लिए झा साहब ने क्या व्यवस्था की?

21. हेतु जब घर जाने की इच्छा प्रकट कर रहा था तब घर का वातावरण कैसा था?

22. पांडवों ने अंत में दुर्योधन को कैसे पराजित किया? **(8 × 2 = 16 Marks)**

III. किन्हीं छे प्रश्नों के उत्तर लगभग 100 शब्दों में लिखिए।

23. डॉ चड्ढा का चरित्र की क्या विशेषताएँ थी?

24. हेतू का चरित्र चित्रण कीजिए।

25. किस घटना से गांधी जी को शुद्ध अहिंसा का पाठ मिला?

26. डॉ झा की विशिष्टताओं को स्पष्ट कीजिए।

27. 'अंडे के छिलके' एकांकी के विभिन्न पात्र किस प्रकार दोहरी जिंदगी जी रहे हैं?

St. Xavier's College

28. 'महाभारत की एक सांझ' में अभिव्यक्त दुर्योधन के चरित्र पर प्रकाश डालिए।

29. जीवनलाल समाज के कैसे लोगों का प्रतिनिधित्व करता है?

30. लेखक को नरक से बोलने की आवश्यकता क्यों पड़ी ?

31. भगत के मानसिक द्वंद्व को प्रेमचन्द ने किस प्रकार चित्रित किया है? **(6 × 4 = 24 Marks)**

IV. किन्हीं दो प्रश्नों के उत्तर 250 शब्दों में लिखिए।

32. मानवता के श्रेष्ठ आदर्शों की स्थापना प्रेमचंद की कहानियों में हुई है मंत्र कहानी के आधार पर सिद्ध कीजिए।

33. 'चोरी और प्रायश्चित' पाठ की समीक्षा कीजिए।

34. 'मैं नरक से बोल रहा हूँ' पाठ के आधार पर हरिशंकर परसाई जी की व्यंग्य कला पर प्रकाश डालिए।

35. 'शिष्टाचार' कहानी का सारांश लिखिए। **(2 × 15 = 30 Marks)**

St. Xavier's College

(Pages : 3) **H-2028**

Reg. No. : .....

Name : .....

First Semester B.A./B.Sc. Degree Examination, November 2019

First Degree Programme Under CBCSS

Foundation Course I

EN 1121 & CG 1121.3 : WRITINGS ON CONTEMPORARY ISSUES

(Common for B.A./B.Sc. English & Communicative English)

(2019 Admission)

St. Xavier's College

Time : 3 Hours Max. Marks : 80

PART A

I. Answer **ALL** questions, each in a word or a sentence :

1. What is dopamine?
2. What does the Section 64 of NDPS act state?
3. What is UTM?
4. Define AI?
5. When was the term secularism first used?
6. What is MSD and RSI?
7. When did the General Assembly adopt the Universal Declaration of Human rights?

P.T.O.

8. What does Adam Smith state about infanticide?

9. How did ageing in India increased exponentially?

10. Expand and define GNP. **(10 × 1 = 10 Marks)**

PART B

II. Attempt any **EIGHT** questions in not more than **50** words :

11. Explain the different causes for drug abuse, state in the prescribed essay.

12. Describe Alan Turing's contribution to artificial intelligence.

13. How does drug abuse affects the brain of the user?

14. What were the suggestions the author received regarding the steps to cure her disease?

15. Elucidate the different aspects of civil law.

16. Why is the author sceptical regarding the use of smart phone?

17. Explain the different economic and cultural rights.

18. Discuss the method of formulating the ratio of girls to boys in India.

19. What is Amartys Sen's views about the female-male ratio in different parts of India?

20. Explain the significance of infrastructure in old age care.

21. What does the author state about 'boy-preference'?

22. What was the effect of globalization on China? **(8 × 2 = 16 Marks)**

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PART C

III. Attempt any **SIX** questions in around 100 words :

23. Describe Turing Test and its relevance in the context of artificial intelligence.

24. Discuss the different exercise that the author did to cure her rotator cuff tear.

25. Describe the formation of the Universal Declaration of Human Rights.

26. Discuss the transition of total fertility rate in Bangladesh.

27. Explain the impact of female education in women empowerment.

28. Discuss the initiatives of China and South Korea in women empowerment.

29. What are the economic factors that influence geriatric care in India?

30. Give a brief overview about the impact of privatisation.

31. What is the effect of globalization on health care? **(6 × 4 = 24 Marks)**

PART D

IV. Attempt any **TWO** questions in not less than 300 words :

32. Give an overview of Samudranil Mukherjee's views on drug abuse.

33. Discuss the concept of artificial intelligence as put forth by Gareth Southwell.

34. Describe the evolution of written norms in human rights.

35. Critically examine P. Sainath's views about globalization. **(2 × 15 = 30 Marks)**

St. Xavier's College

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Reg. No. : .....

Name : .....

First Semester B.A. Degree Examination, November 2019

First Degree Programme under CBCSS

Economics

Core Course I

EC 1141 : INTRODUCTORY MICRO ECONOMICS

(2019 Admission)

St. Xavier's College

Time : 3 Hours Max. Marks : 80

SECTION – I

Answer **all** questions. Each question carries **1** mark.

1. Opportunity cost.
2. Price mechanism.
3. Strong ordering.
4. Cardinal utility.
5. Production.
6. Supply.
7. Fixed cost.
8. Cost function.
9. Monopoly
10. Price Rigidity

(10 × 1 = 10 Marks)

P.T.O.

SECTION – II

Answer **any eight** questions not exceeding **one** paragraph. Each question carries **2** marks

11. Distinguish between individual demand and market demand.
12. Write a note on total utility and marginal utility.
13. What are the factors determining price elasticity of demand?
14. Why does supply curve generally slope upward?
15. What are the exceptions to the law of demand?
16. Define budget constraint.
17. Define Marginal rate of technical substitution.
18. What is meant by production function for a single product?
19. What is meant by price discrimination?
20. How to explain an expansion path?
21. Describe the features of a cartel.
22. What are the factors determining supply?

(8 × 2 = 16 Marks)

SECTION – III

Answer **any six** questions not exceeding one paragraph. Each question carries **4** marks.

23. Compare perfect competition and monopoly.
24. State and explain law of variable proportions.
25. What is the difference between short run and long run production function?
26. Explain behavioristic explanation of consumers demand.
27. Write a note on decision making and scarcity.

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28. Diagrammatically explain the conditions of long run equilibrium under perfect competition.

29. How to derive income consumption curve.

30. Analyze the concept of consumer's surplus using Marshallian method.

31. Trace out the consumers equilibrium by using indifference curve analysis.

(6 × 4 = 24 Marks)

SECTION – IV

Answer **any two** questions not exceeding one paragraph. Each question carries **15** marks.

32. What is meant by excess capacity? How to explain long run equilibrium of a firm under monopolistic competition by excess capacity.

33. Critically examine the laws of returns to scale.

34. Explain income effect and substitution effect for an inferior good.

35. What are the characteristics of perfect competition? Describe short run equilibrium of a firm under perfect competition.

(2 × 15 = 30 Marks)

St. Xavier's College

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Reg. No. : .....

Name : .....

First Semester B.Sc. Degree Examination, November 2019

First Degree Programme Under CBCSS

Complementary Course for Mathematics

PY 1131.1 : MECHANICS AND PROPERTIES OF MATTER

(2018 Admission onwards)

St. Xavier's College

Time : 3 Hours

Max. Marks : 80

SECTION – A

Answer **all** questions in **one** or **two** sentences. **Each** question carries **1** mark.

1. Define moment of inertia.
2. Write an expression for moment of inertia of a circular disc.
3. Define periodic motion.
4. What is energy density of a wave?
5. Define Hook's law.
6. Define Poisson's ratio. What is the theoretical limit of poisons ratio.
7. What is meant by cohesive force?
8. Why mercury won't wet a glass surface while water wet the surface?
9. What do you meant by viscous force?
10. Define coefficient of viscosity.

(10 × 1 = 10 Marks)

P.T.O.

SECTION – B

Answer any **eight** questions, **not** exceeding a paragraph. **Each** question carries **2** marks.

11. State and explain parallel axis theorem.

12. Obtain an expression for the moment of inertia of a disc about any diameter.

13. What is torsional oscillation? Obtain an expression for the period of oscillation of torsion pendulum?

14. Distinguish between transverse and longitunal waves.

15. Derive an expression for potential energy of a particle executing SHM.

16. Explain Young's modulus, bulk modulus and rigidity modulus of elasticity.

17. Obtain an expression for twisting couple per unit twist of a wire?

18. What is meant by bending moment?

19. Distinguish between streamline and turbulent flow of a liquid.

20. How temperature affect surface tension?

21. How will you determine the value of"g" using compound pendulum?

22. Obtain an expression for Poiseulli's formula.

(8 × 2 = 16 Marks)

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SECTION – C

Answer any **six** questions. **Each** question carries **4** marks.

23. Calculate the moment of inertia of a disc of mass 1.2 Kg and radius 8cm about (a) its diameter (b) an axis parallel to a diameter and tangential to the disc.

24. A progressive harmonic wave travelling in a string is given by $y = 5 \sin 2\pi \left(\frac{x}{100} - \frac{t}{0.02}\right)$ with length expressed in cm and time in second. Find the wavelength, amplitude, frequency and velocity of wave.

25. A particle moving with simple harmonic motion has a period 0.001s and amplitude 0.5cm. Find the acceleration, when it is 0.2cm apart from its mean position and its maximum velocity.

26. Calculate the force required to stretch a 2cm diameter steel rod by 0.01 percentage. Young's modulus of steel is $2 \times 10^{11}\ N/m^2$.

27. A rod of rectangular cross section having breadth 2cm and thickness 1cm is bent in the form of an arc of radius 10m. If the young's modulus is $10^{11}\ N/m^2$, find the stress and strain on convex surface and bending moment.

28. A soap bubble is spherical in shape and has a diameter of 10cm. If the surface tension of the surface separating soap solution and air is $40 \times 10^{-3}\ N/m$. What is the excess pressure of the air in the bubble over the atmospheric pressure?

29. A capillary tube 10^{-3}m diameter and 0.2m in length is fitted horizontally to a vessel kept full of alcohol of density $0.8 \times 10^{3}\ kg/m^3$. The capillary tube is 0.3m below from the surface of the alcohol in the vessel. Calculate the volume of the alcohol flows in 5 minute.

30. An air bubble of radius 1cm is allowed to rise through a long cylindrical column of viscous liquid and travel at a steady rate of 0.21cm/s. If the density of the liquid is 1470kg/m^3, find the viscosity of the liquid. Neglect the density of the air.

31. Calculate the radius of gyration of a disc of mass 1 .2 Kg and radius 8cm about (a) its diameter (b) an axis parallel to a diameter and tangential to the disc.

(6 × 4 = 24 Marks)

SECTION – D

Answer any **two** questions. **Each** question carries **15** marks.

32. What is the difference between simple pendulum and compound pendulum? Obtain an expression for the period of oscillation of a compound pendulum.

33. Define a cantilever. Obtain an expression for the depression of a beam supported at its ends and loaded in the middle.

34. Discuss Jaeger's method for determining the surface tension of given liquid.

35. Derive an expression for the moment of inertia of a fly wheel.

(2 × 15 = 30 Marks)

St. Xavier's College

(Pages : 3) H - 2126

Reg. No. : .....

Name : .....

First Semester B.Com. Degree Examination, November 2019

First Degree Programme Under CBCSS

ENVIRONMENTAL STUDIES

(Common for Foundation Course I - CO 1121/CX 1121/TT 1121/HM 1121 (2014 Admission), CC 1121 (2014 Admission), Core Course I - CO 1141/ CX 1141/TT 1141/HM 1141/CC 1141 (2015 Admission to 2017 Admission) and Core Course I - CO 1141/CX 1141/TT 1141/HM 1141 (2018 Admission onwards)/Core Course II - CC 1142 (2018 Admission Onwards))

Time : 3 Hours Max. Marks : 80

St. Xavier's College

SECTION A

Answer **ALL** questions in **one** or **two** sentences.

Each question carries **1** mark.

Explain the following :

1. Photo chemical smog
2. Secondary production
3. Value education
4. Biodiversity register
5. Detritus food chain
6. Incineration
7. Edaphic factors

P.T.O.

8. Gamma diversity

9. Epilimnion

10. Endemism. **(10 × 1 = 10 Marks)**

SECTION B

Answer **any Eight** questions not exceeding in a paragraph.

Each question carries **2** marks.

11. Briefly explain any two forest types of Kerala.

12. Explain food web citing an example.

13. Briefly explain sustainable development.

14. India is a megadiversity nation - explain.

15. Briefly explain pyramid of energy.

16. Explain sanitary land fill.

17. Explain trophic levels in a grassland ecosystem.

18. Add a note on the mineral resources of Kerala.

19. List out any two biodiversity hotspots of India.

20. Define ecological succession with an example.

21. Explain ecosystem diversity.

22. Write down the salient features of Shola forest. **(8 × 2 = 16 Marks)**

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SECTION C

Answer **any Six** questions not exceeding 120 words each.

Each question carries **4** marks.

23. Write a note on the measures undertaken for Women and Child welfare in India.
24. Explain the trends in population explosion in India.
25. Write a note on recent trends in consumerism and resultant waste production.
26. Explain energy flow in an ecosystem.
27. Write a note on the role of individuals in the conservation of natural resources.
28. Write a note on cleaner technologies.
29. Explain various methods of rain water harvesting.
30. List out various methods of solid waste management.
31. Briefly explain the causes and consequences of thermal pollution.

(6 × 4 = 24 Marks)

St Xavier's College

SECTION D

Answer any **TWO** questions. Each question carries **15** marks.

32. Write an essay on various threats to Biodiversity.
33. Briefly explain the causes, effects and control measures of noise pollution.
34. What are natural resources? How are they classified? Comment on the consequences of their over exploitation.
35. Explain various *exsitu* methods of Biodiversity conservation.

(2 × 15 = 30 Marks)

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Reg. No. : .....

Name : .....

First Semester B.Com. Degree Examination, November 2019

First Degree Programme under CBCSS

Complementary Course I : CO 1131

MANAGERIAL ECONOMICS

(Common for CO 1131/CC 1131 (2014 Admission to 2017 Admission) and CX 1131 (2014 Admission onwards))

St. Xavier's College

Time : 3 Hours Max. Marks : 80

SECTION – A

Answer **all** questions in **1** word to a maximum of **2** sentences. Each question carries **1** mark :

1. What is Micro economics?
2. What is managerial economics?
3. What is demand?
4. What is demand forecasting?
5. What is production function?
6. What is economies of scale?
7. What is cost?

P.T.O.

8. What is explicit cost?

9. What is monopoly?

10. What is skimming price?

(10 × 1 = 10 Marks)

SECTION – B

Answer **any eight** questions, not exceeding **1** paragraph. Each question carries **2** marks :

11. What are the characteristics of recession?

12. What are the advantages of administered prices?

13. What are different classes of business cycles?

14. What are the features of monopoly?

15. Write and explain two types of price discrimination.

16. What is marginal cost pricing?

17. What is dual pricing?

18. What is internal economies of scale?

19. What is ISO cost curves?

20. What are the different types of price elasticity?

21. What is joint demand and composite demand?

22. What is macro economics?

(8 × 2 = 16 Marks)

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SECTION – C

Answer **any six** questions, not exceeding **120** words. Each question carries **4** marks.

23. What are the important differences between managerial economics and economics?

24. Explain the importance of managerial economics.

25. What are the major responsibilities of a managerial economist?

26. What are the assumptions of Law of Demand?

27. What are the difference between perfect competition and monopoly?

28. List the limitations of Law of diminishing marginal utility.

29. What are the factors determining price elasticity of demand?

30. Write the essential criteria required for a good forecasting method.

31. What are the objectives of managerial economics?

(6 × 4 = 24 Marks)

SECTION – D

Answer **any two** questions, not exceeding **4** pages. Each question carries **15** marks.

32. Explain the objectives of pricing policy. Explain pricing methods.

33. Explain the law of variable proportions.

34. What is monopolistic competition? How does it differ from perfect competition?

35. What is elasticity of demand? What are the types of elasticity?

(2 × 15 = 30 Marks)

St Xavier's College

(Pages : 3) H – 2135

Reg. No. : .....

Name : .....

First Semester B.Com. Degree Examination, November 2019

First Degree Programme Under CBCSS

METHODOLOGY AND PERSPECTIVES OF BUSINESS EDUCATION

(Common for Core Course I – CO 1141/CX 1141/TT 1141/HM 1141/CC 1141 (2014 Adm.) and Foundation Course I – CO 1121/CX 1121/TT 1121/HM 1121/CC 1121 (2015 Adm. to 2017 Admn.))

St. Xavier's College

Time : 3 Hours Max. Marks : 80

SECTION – A

Answer **all** questions in **one** word to maximum of **two** sentences. **Each** question carries **1** mark.

1. What do you mean by managerialism?
2. What is money market?
3. Who is an intrapreneur?
4. What is NBFC?
5. What is Enterprise Resource Management?
6. Give two examples of intangible products.
7. Explain the term 'Business Information'.
8. What is case study?

9. What do you understand by Quality of work life?

10. What is socialism?

(10 × 1 = 10 Marks)

SECTION – B

Answer any **eight** questions, not exceeding one paragraph each. **Each** question carries **2** marks.

11. What do you understand by transnational corporations?

12. What is Quaternary sector?

13. Differentiate between economic growth and economic development.

14. State any two limitations of liberalisation.

15. Who is a savvy intrapreneur?

16. What are the legal factors that affect business environment?

17. Explain the term cost of capital.

18. What do you mean by return on investment?

19. What do you understand by direct tax?

20. What is B2B in e-commerce?

21. Explain the meaning of management information system.

22. What do you mean by human capital?

(8 × 2 = 16 Marks)

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SECTION – C

Answer any **six** questions, not exceeding 120 words each. **Each** question carries **4** marks.

23. Explain the features of capitalism.

24. Differentiate between equity shares and debentures.

25. What are the different types of loans granted by banks to business entities?

26. List out the benefits of joint ventures.

27. What are the parameters used to measure the economic development?

28. Explain the factors that affect quality of work life.

29. What do you mean by cues in the stock market?

30. 'Self-help through mutual help is the main principle of co-operation'. Explain.

31. What are the important functions of economic system?

(6 × 4 = 24 Marks)

SECTION – D

Answer any **two** questions, not exceeding 4 pages each. **Each** question carries **15** marks.

32. What is business information? Explain different methods of collecting and learning business information.

33. What is environmental analysis? What are the factors to be considered for environmental analysis?

34. What do you mean by economic development? What are the measures of economic development?

35. Explain the term 'Economic system'. What are its functions?

(2 × 15 = 30 Marks)

St. Xavier's College

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Reg. No. : .....

Name : .....

First Semester B.Com. Degree Examination, November 2019

First Degree Programme under CBCSS

Hindi Language (Additional Language I)

HN 1111.2 : PROSE, COMMERCIAL HINDI & LETTER WRITING

(2017 Admissions onwards)

St. Xavier's College

Time : 3 Hours Max. Marks : 80

I. एक शब्द या एक वाक्य में उत्तर लिखिए :

1. गुनाहों के देवता किसकी कृति है?

2. बम्बई में आर्य समाज की स्थापना कब हुई?

3. कथा सम्राट के नाम से प्रतिष्ठित लेखक कौन हैं?

4. पत्रों के कितने अंग है?

5. आलेखन के आधार पर पत्र कितने प्रकार के हैं?

6. महादेवी वर्मा को कौन-सी कृति पर ज्ञानपीठ पुरस्कार प्राप्त हुआ?

7. 'गिल्लू' किस संकलन से लिया गया है?

8. स्वामी विरजानंद किस विषय के पंडित थे?

9. 'शिवजी की बारात' किस संग्रह से लिया गया है?

10. प्रेमचन्द की कहानी संकलन का नाम क्या है? **(10 x 1 = 10 Marks)**

P.T.O.

II. दो तीन वाक्यों में किन्हीं आठ प्रश्नों के उत्तर लिखिए :

11. प्रारंभिक आलेखन के अंतर्गत कितने पत्र आते हैं?

12. वैयक्तिक पत्र किसे कहते हैं?

13. प्रेमचन्द के चार चर्चित उपन्यासों के नाम लिखिए।

14. शिवजी के कैबिनेट मेम्बर्स कौन-कौन है?

15. स्वामी दयानंद की मृत्यु कब और कैसे हुई?

16. सोजेवतन कहानी संग्रह को क्यों जब्त कर लिया गया?

17. लेखक के मन में 'ठेले पर हिमालय' शीर्षक कौंधने का कारण क्या है?

18. श्रीकण्ठ ने घर छोडने का निर्णय क्यों लिया?

19. वर्त्तमान युग में पत्र व्यवहार का क्या स्थान है?

20. प्रशासनिक पत्र किसे कहते हैं?

21. महादेवी वर्मा क्यों कहती है कि 'यह काकभुशुणि' विचित्र पक्षी है?

22. ऐसे क्यों कहा गया है कि स्वामी दयानंद ने नवीन और प्राचीन के बीच एक कडी का काम किया है?

(8 × 2 = 16 Marks)

III. सौ-सौ शब्दों में किन्हीं छः प्रश्नों के उत्तर लिखिए :

23. पार्वती ने किस तरह शासन का बागडोर अपने हाथ में लेली?

24. गृह प्रवेश पर एक निमंत्रण पत्र तैयार कीजिए?

25. पठन सामग्रियों की मांग करते हुए विद्यार्थियों का पुस्तक विक्रेता के नाम खत लिखिए।

26. लालबिहारी ने आनंदी के साथ कैसा व्यवहार किया और क्यों?

27. महादेवी वर्मा के मोटर दुर्घटना पर गिल्लू की अवस्था का वर्णन कीजिए।

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28. शुक्ल जी के साथ आये नई मूर्ति कौन थे? उल्लेख कीजिए।

29. मूलशंकर की जीवन की दिशा कब बदल गई?

30. परीक्षा पर अव्वल आने पर पिता का पुत्र के नाम पत्र तैयार कीजिए।

31. प्रेमचन्द जी का जीवन परिचय दीजिए। (6 × 4 = 24 Marks)

IV. किन्हीं दो प्रश्नों के उत्तर लिखिए :

32. 'ठेले पर हिमालय' शीर्षक यात्रा संस्मरण पर प्रकाश डालिए।

33. स्वामी दयानंद के जीवन यात्रा सविस्तार वर्णन कीजिए।

34. बेड घर की बेटी के बडप्पन का चित्रण प्रेमचन्द जी ने कैसे किया है। सविस्तार वर्णन कीजिए।

35. खाद्य पदार्थ में मिलावट पर हिन्दु समाचार पत्र के सम्पादक के नाम पत्र लिखिए। (2 × 15 = 30 Marks)

St. Xavier's College

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Reg. No. : .....

Name : .....

First Semester B.Com. Degree Examination, November 2019

First Degree Programme Under CBCSS

Core Course II

MANAGEMENT CONCEPTS AND THOUGHTS

(Common for CO 1142/CC 1143)

(2018 Admission onwards)

St. Xavier's College

Time : 3 Hours Max. Marks : 80

SECTION A

Answer **ALL** questions in one word or to a maximum of two sentences each.

Each question carries **1** mark.

1. Define management.
2. What is planning premises?
3. What is accountability?
4. What is decentralization?
5. What is directing?
6. What is communication?
7. What is knowledge management?
8. What is change management?
9. What is motion study?
10. Who are the founders of core competence theory? **(10 × 1 = 10 Marks)**

P.T.O.

SECTION B

Answer any **EIGHT** questions not exceeding one paragraph each.

Each question carries **2** marks.

11. What is the need for effective management?
12. What is the importance of planning?
13. What is informal communication?
14. What is intrinsic motivation? Give an example.
15. What are the different levels of management?
16. What are the important characteristics of management?
17. What are the features of motivation?
18. What are the features of direction?
19. TQM is a comprehensive management system. Explain.
20. What is autocratic leadership?
21. Explain the importance of control.
22. What are the advantages of TQM? **(8 × 2 = 16 Marks)**

St. Xavier's College

SECTION C

Answer any **SIX** questions in about 120 words each. Each question carries **4** marks

23. What is the difference between delegation and decentralization?
24. Explain trait theory of leadership.
25. What are the important types of organisation culture?
26. Explain the nature of management.

27. Explain the steps to be followed in control.

28. What are the difference between formal organisation and informal organization?

29. Explain the importance of motivation.

30. Explain two factor theory of motivation briefly.

31. What are the important types of authority? **(6 × 4 = 24 Marks)**

SECTION D

Answer any **TWO** questions in not exceeding 4 pages each.

Each question carries **15** marks.

32. Define management. What are the qualities and style required for an effective manager?

33. What is communication? Explain the important barriers of communication.

34. Explain Fayol principles of management.

35. Explain the important theories of leadership. **(2 × 15 = 30 Marks)**

St. Xavier's College

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Reg. No. : .....

Name : .....

First Semester B.Com. Degree Examination, November 2019

First Degree Programme Under CBCSS

Complementary Course I

MANAGERIAL ECONOMICS

(Common for CO 1131/CC 1131)

(2018 Admission onwards)

Time : 3 Hours Max. Marks : 80

SECTION A

Answer **all** questions in one word or to a maximum of two sentences each.

Each question carries 1 mark.

1. Define managerial economics.
2. What is demand analysis?
3. What is elasticity of demand?
4. What is short term demand forecasting?
5. What is MRTS?
6. What is perfect competition?
7. What is duopoly?
8. What is marginal cost pricing?
9. Write two features of monopoly.
10. What is business cycle?

(10 × 1 = 10 Marks)

P.T.O.

St. Xavier's College

SECTION B

Answer **any eight** questions not exceeding one paragraph each.

Each question carries **2** marks.

11. What are the objectives of managerial economics?
12. What are the responsibilities of a managerial economist in relation to business?
13. What are the types of demand?
14. What is cross elasticity of demand?
15. What are the main objectives of demand forecasting?
16. Explain the managerial use of production function.
17. What are the features of perfect competition?
18. How output and price can be determined under monopoly?
19. What are the advantages of going rate pricing?
20. Explain under consumption theory of business cycle.
21. What are the preventive measures to be taken to control business cycle?
22. Write the difference between derived demand and autonomous demand.

(8 × 2 = 16 Marks)

St Xavier's College

SECTION C

Answer **any six** questions in about 120 words each.

Each question carries **4** marks

23. What are the major determinants of demand?
24. What are the exemptions of the law of diminishing utility?
25. Write short notes on price elasticity of demand and its types.

26. What are the factors involved in demand forecasting?

27. Explain the nature of production function.

28. What are the economies of scale enjoyed by a firm?

29. What are the difference between monopoly and perfect competition?

30. Explain the five stages of life cycle of new products.

31. Explain innovative theory of business cycle.

(6 × 4 = 24 Marks)

SECTION D

Answer **any two** questions in not exceeding 4 pages each.

Each question carries **15** marks.

32. Managerial economics extends to certain fields of activity, which are carried out by business organizations. Explain the scope of managerial economics in relation to business activities.

33. What is law of variable proportion? Explain the assumptions and illustration of law of variable proportion.

34. What are the general considerations used to serve as guide lines in pricing of products?

35. Explain different methods of pricing used for different types of products.

(2 × 15 = 30 Marks)

St. Xavier's College

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Reg. No. : .....

Name : .....

First Semester B.Com. Degree Examination, November 2019

First Degree Programme Under CBCSS

METHODOLOGY AND PERSPECTIVES OF BUSINESS EDUCATION

(Common for Foundation Course I - CO 1121/CX 1121/
TT 1121/HM 1121/CC 1121)

(2018 Admission onwards)

St. Xavier's College

Time : 3 Hours Max. Marks : 80

SECTION A

Answer **ALL** questions in one word or to a maximum of two sentences each.

Each question carries **1** mark.

1. What is focused reading?
2. What is symposium?
3. What is nonprofit business organization?
4. What is a trust?
5. What is limited partnership?
6. What is company limited by guarantee?
7. What is public company?
8. What is a primary sector?
9. What is meant by hospitality industry?
10. What is liberalization?

(10 × 1 = 10 Marks)

P.T.O.

SECTION B

Answer any **EIGHT** questions not exceeding one paragraph each.

Each question carries **2** marks.

11. Write about reading techniques used to gather business information.
12. Students are required to consider certain points while attending a lecture class. What are they?
13. What is a mixed economy?
14. What is MNC? What are its main features?
15. What is a joint venture? What are its advantages?
16. What are the benefits of joint Hindu family business?
17. What are the features of sole proprietorship?
18. What are the emerging areas of service sector?
19. What are the merits of globalization?
20. What is quality of work life?
21. What is the social responsibility of business towards society?
22. What is quality circle? **(8 × 2 = 16 Marks)**

St. Xavier's College

SECTION C

Answer any **SIX** questions in about 120 words each. Each question carries **4** marks

23. What is the need of learning information by commerce students?
24. What are the main features of capitalism?
25. What are the advantages of cooperative organization?

26. What are the limitations of a company?

27. What are the steps to be followed to form a joint venture?

28. What are the main features of entrepreneur?

29. What are the characteristics of private sector enterprises?

30. Write a note on new economic policy of India.

31. Training helps an individual organization in different ways. What are they?

(6 × 4 = 24 Marks)

St. Xavier's College

SECTION D

Answer any **TWO** questions in not exceeding 4 pages each.

Each question carries **15** marks.

32. Define partnership organization. What are the advantages and disadvantages of partnership form of organization?

33. What are the steps required to establish a business? Explain.

34. What are the management problems faced by large organizations medium and small scale organization?

35. What is business ethics? Explain the concept, need and importance.

(2 × 15 = 30 Marks)

(Pages : 3) H – 2191

Reg. No. : .....

Name : .....

First Semester B.A. Degree Examination, November 2019

Career Related First Degree Programme under CBCSS

Group 2(a)

Malayalam and Mass Communication

Vocational Course I

MX 1171 : INTRODUCTION TO MASS COMMUNICATION

(2014 Admission Onwards)

St Xavier's College

Time : 3 Hours Max. Marks : 80

I. Answer the following in **1** or **2** words or in **1** or **2** sentences :

1. Body Language.
2. Tactile communication.
3. Receiver.
4. Intrapersonal communication.
5. Anchor.
6. Human interest.
7. Infotainment.

P.T.O.

8. Narrow casting.

9. Multiplex.

10. Soft news.

(10 × 1 = 10 Marks)

II. Write short answer to **eight** questions :

11. World Wide Web.

12. Mass Media.

13. Online Newspapers.

14. Noise in communication.

15. Blog.

16. Doordarshan.

17. Satyajit Ray.

18. Magazines.

19. Kinesics.

20. Interactive communication.

21. Encoding.

22. Media Convergence.

(8 × 2 = 16 Marks)

St. Xavier's College

III. Give short essay type answer to any **six** questions :

23. Explain the different functions of nonverbal communication.

24. Write on any two negative impacts of Television.

25. Explain the importance of feedback in communication.

26. Elucidate four characteristics of New media.

27. Explain Aristotle's Model of Communication.

28. What is the role of the Central Board of Film Certification?

29. 'Radio creates pictures' – Discuss.

30. What is information overload?

31. Explain globalization and media.

(6 × 4 = 24 Marks)

IV. Write answers to any **two** questions :

32. Illustrate and explain the salient features of Wilbur Schramm Model of Communication.

33. Discuss the functions and dysfunctions of mass communication.

34. Define communication and narrate the elements of communication.

35. Comment on the strength and limitations of Newspaper and Television.

(2 × 15 = 30 Marks)

St. Xavier's College

(Pages : 3)

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Reg. No. : .....

Name : .....

First Semester B.A. Degree Examination, November 2019

Career Related First Degree Programme under CBCSS

Malayalam and Mass Communication

Core Course I

MX 1141 : കേരള സംസ്കാരം – ഭാഗം I

(2018 Admission Onwards)

Time : 3 Hours

Max. Marks : 80

I. ഒരു വാക്കിലോ പരമാവധി രണ്ടു വാക്കിലോ ഉത്തരം എഴുതുക.

1. ജൂതശാസനം ആരുടേതാണ്?

2. രേവതിപ്പട്ടത്താനം നടത്തിയിരുന്ന ക്ഷേത്രത്തിന്റെ പേരെഴുതുക.

3. അതുലൻ രചിച്ച മഹാകാവ്യം ഏത്?

4. സംഘകാലത്തെ യുദ്ധദേവതയുടെ പേരെന്ത്?

5. ശ്രീമൂലവാസം എന്ന പേര് എന്തിനെ സൂചിപ്പിക്കുന്നു?

6. അറബി മലയാളത്തിലുണ്ടായിട്ടുള്ള ഏറ്റവും പ്രാചീനമായ പദ്യകൃതി ഏത്?

7. കൊല്ലവർഷസൂചനയുള്ള ആദ്യത്തെ ശാസനം ഏത്?

P.T.O.

St. Xavier's College

8. മുകുന്ദമാലയുടെ രചയിതാവ് ആര്?

9. ആത്മവിദ്യാസംഘത്തിന്റെ സ്ഥാപകനാര്?

10. ചേരരാജാക്കന്മാരെക്കുറിച്ച് വിശദമായി വിവരിക്കുന്ന സംഘകാലകൃതിയേത്?

(10 × 1 = 10 Marks)

II. **ഒരു** ഖണ്ഡികയിൽ കവിയാതെ **എട്ടു** ചോദ്യങ്ങൾക്ക് ഉത്തരമെഴുതുക.

11. കേരളീയക്ഷേത്രകലകൾ - കുറിപ്പെഴുതുക.

12. കടവല്ലൂർ അന്യോന്യത്തെക്കുറിച്ചു വിശദമാക്കുക.

13. തിണസങ്കല്പം - വിവരിക്കുക.

14. കുലശേഖര ആഴ്വാരുടെ ഭരണകാലത്തെക്കുറിച്ചു വ്യക്തമാക്കുക.

15. ദേവദാസീ സമ്പ്രദായം എന്നാലെന്ത്?

16. ചാവേറുകളുടെ ഉത്ഭവചരിത്രം സംക്ഷേപിക്കുക.

17. മഹാശിലാസംസ്കാരത്തിന്റെ പ്രധാന അവശിഷ്ടങ്ങൾ എന്തെല്ലാം?

18. മലയാളം എന്ന പദത്തിന്റെ നിഷ്പത്തി എങ്ങനെയാണ്?

19. മുന്നൂറ്റുവർ, അറുന്നൂറ്റവർ - കുറിപ്പെഴുതുക.

20. തോലൻ എന്ന കവിയെ പരിചയപ്പെടുത്തുക.

21. കളരി സമ്പ്രദായത്തിന്റെ ഉത്ഭവചരിത്രം എന്താണ്?

22. സംഘകാലത്തെ വിവാഹസമ്പ്രദായങ്ങൾ വിശദമാക്കുക.

(8 × 2 = 16 Marks)

St. Xavier's College

III. ഓരോന്നിനും **നൂറ്റിയിരുപതു** വാക്കിൽ കവിയാതെ **ആറു** ചോദ്യങ്ങൾക്ക് ഉത്തരമെഴുതുക.

23. കേരളചരിത്രപഠനത്തിൽ നാണയങ്ങൾക്കുള്ള പ്രാധാന്യമെന്ത്?

24. കുടക്കല്ലുകൾ, നന്നങ്ങാടികൾ, തൊപ്പിക്കല്ലുകൾ എന്നിവയെക്കുറിച്ചു വിവരിക്കുക.

25. വിദേശരാജ്യങ്ങളുമായുള്ള ബന്ധം കൊണ്ട് കേരളത്തിനുണ്ടായ സാംസ്കാരികനേട്ടങ്ങൾ എന്തെല്ലാം?

26. കൂത്ത്, കൂടിയാട്ടം എന്നിവയെക്കുറിച്ചു വിവരിക്കുക.

27. ജ്യോതിശാസ്ത്രത്തിന് പ്രാചീനകേരളത്തിലെ പണ്ഡിതർ നൽകിയ സംഭാവനകൾ ചുരുക്കി വിവരിക്കുക.

28. കേരളത്തിലെ ആദിമനിവാസികളുടെ ജീവിതസമ്പ്രദായത്തെക്കുറിച്ചു വിശദമാക്കുക.

29. പ്രാചീനകാലത്ത് കേരളത്തിലുണ്ടായിരുന്ന തുറമുഖങ്ങളെക്കുറിച്ച് വിവരിക്കുക.

30. മരുമക്കത്തായത്തെക്കുറിച്ചു വ്യക്തമാക്കുക.

31. ജൈനമതത്തെക്കുറിച്ച് കേരളത്തിൽനിന്നു ലഭിക്കുന്ന സൂചനകൾ എന്തെല്ലാം?

(6 × 4 = 24 Marks)

IV. **മൂന്നു** പുറത്തിൽ കവിയാതെ ഏതെങ്കിലും **രണ്ടു** ചോദ്യങ്ങൾക്ക് ഉത്തരമെഴുതുക.

32. സംഘകാലത്തെ കല, സാഹിത്യം, സാമൂഹികജീവിതം എന്നിവയെക്കുറിച്ച് ഉപന്യസിക്കുക.

33. കേരളത്തിലെ ജന്മിസമ്പ്രദായത്തിന്റെ ചരിത്രം സംക്ഷേപിക്കുക.

34. കുലശേഖര ഭരണകാലത്തിന്റെ സവിശേഷതകൾ എന്തെല്ലാമായിരുന്നു? വിശദമാക്കുക.

35. കേരളത്തിന് തനതായ സംസ്കാരം രൂപപ്പെടാൻ ഭൂമിശാസ്ത്രപരമായ സവിശേഷതകൾ കാരണമായിട്ടുണ്ടോ? പരിശോധിക്കുക

(2 × 15 = 30 Marks)

St. Xavier's College

(Pages : 3) **H – 2211**

Reg. No. : .....

Name : .....

First Semester B.A. Degree Examination, November 2019

Career Related First Degree Programme under CBCSS

Malayalam and Mass Communications

Complementary Course I

MX 1131 : വിവർത്തനം - ആമുഖവും ചരിത്രവും

(2018 Admission Onwards)

St. Xavier's College

Time : 3 Hours Max. Marks : 80

I. ഒരു വാക്കിലോ പരമാവധി രണ്ടു വാക്യത്തിലോ എല്ലാ ചോദ്യത്തിനും ഉത്തരം എഴുതുക.

1. ഏറ്റവും പുരാതനമായ വിവർത്തനം എന്നറിയപ്പെടുന്ന ശിലാശാസനം ഏതാണ്?

2. പഞ്ചതന്ത്രം കഥകളുടെ അറബി വിവർത്തനത്തിന്റെ പേരെന്ത്?

3. 'Poetry is what is lost in translation' എന്നു പറഞ്ഞത് ആരാണ്?

4. മേഘസന്ദേശത്തിന് ജി. ശങ്കരക്കുറുപ്പ് തയ്യാറാക്കിയ പരിഭാഷ ഏത്?

5. ആൾമാറാട്ടം എന്ന പേരിൽ 'Commody of Errors' വിവർത്തനം ചെയ്തതാര്?

6. ഏറ്റവുമധികം ലോകഭാഷകളിലേക്കു വിവർത്തനം ചെയ്യപ്പെട്ട കൃതി ഏതാണ്?

7. 'വിലാസലഹരി' ഏതു കൃതിയുടെ പരിഭാഷയാണ്?

P.T.O.

8. 'A translator is to be like his author, it is not his business to excel him' എന്ന് അഭിപ്രായപ്പെട്ടതാരാണ്?

9. ശാസ്ത്രീയരീതിയിലുള്ള വിവർത്തനത്തിന്റെ സ്ഥാപകൻ എന്നറിയപ്പെടുന്നതാര്?

10. 'വിവർത്തനവിചാരം' എന്ന പുസ്തകം എഴുതിയതാരാണ് ?

(10 × 1 = 10 Marks)

II. **ഒരു** ഖണ്ഡികയിൽ കവിയാതെ **എട്ടു** ചോദ്യത്തിന് ഉത്തരമെഴുതുക.

11. വിവർത്തനത്തിന്റെ സാർവ്വലൗകികതത്ത്വങ്ങൾ ഏതൊക്കെ?

12. ആശയവിവർത്തനം (Faithful Translation) എന്നാലെന്ത്?

13. വാചാവിവർത്തനം എന്നാലെന്ത്?

14. കമ്പ്യൂട്ടർ വിവർത്തനത്തിന് ഭാരതീയഭാഷകളെ സജ്ജമാക്കേണ്ടതെങ്ങനെ?

15. സ്രോതഭാഷ (Source Language), ലക്ഷ്യഭാഷ (Target Language) ഇവ എന്താണ് ?

16. മലയാളത്തിലെ ഗീതാഞ്ജലി വിവർത്തനങ്ങൾ പരിചയപ്പെടുത്തുക.

17. പ്രത്യക്ഷവിവർത്തനം (Direct Translation) എന്നാലെന്ത്?

18. പരിഭാഷകന്റെ യോഗ്യതകൾ എന്തെല്ലാം?

19. ആശുവിവർത്തനം എന്നാലെന്ത്?

20. വിവർത്തനചരിത്രത്തിൻ ബംഗാളി സാഹിത്യത്തിന്റെ സംഭാവനകൾ വിലയിരുത്തുക.

21. യന്ത്രപരിഭാഷ (Machine Translation) എന്നാലെന്ത്?

22. മാതൃകാവിവർത്തനത്തിനു വേണ്ട ഗുണങ്ങൾ എന്തൊക്കെയാണ്?

(8 × 2 = 16 Marks)

St. Xavier's College

III. **നൂറ്റിയിരുപതു** വാക്കിൽ കവിയാതെ **ആറു** ചോദ്യത്തിന് ഉത്തരമെഴുതുക.

23. സർഗ്ഗാത്മകകൃതികളുടെ വിവർത്തനത്തിൽ നേരിടുന്ന പ്രതിസന്ധികൾ എന്തെല്ലാം?

24. വിവർത്തനോപകരണം എന്ന നിലയിൽ നിഘണ്ടുവിന്റെ പ്രസക്തിയെന്ത്?

25. പ്രധാനപ്പെട്ട പാശ്ചാത്യനാടകവിവർത്തനങ്ങൾ പരിചയപ്പെടുത്തുക.

26. നവമാധ്യമങ്ങൾ പരിഭാഷാ സാധ്യതകളെ പ്രയോജനപ്പെടുത്തുന്നുണ്ടോ? വിശകലനം ചെയ്യുക

27. വിവർത്തനചരിത്രത്തിൽ അറബികളുടെ സംഭാവനയെന്ത്?

28. പ്രധാനപ്പെട്ട വിവർത്തനനിർവ്വചനങ്ങൾ പരിചയപ്പെടുത്തുക.

29. പ്രസംഗ പരിഭാഷയ്ക്കുള്ള വിവിധ രീതികൾ ഏതെല്ലാം?

30. വിവർത്തനവും (Translation) ലിപ്യന്തരണവും (Transliteration) തമ്മിലുള്ള വ്യത്യാസമെന്ത്?

31. വിവർത്തനം ശാസ്ത്രമാണോ കലയാണോ കൗശലമാണോ? അപഗ്രഥിക്കുക.

(6 × 4 = 24 Marks)

IV. **മൂന്നു** പുറത്തിൽ കവിയാതെ ഏതെങ്കിലും **രണ്ടു** ചോദ്യത്തിന് ഉത്തരമെഴുതുക.

32. മലയാളത്തിലെ ബൈബിൾ വിവർത്തനങ്ങളെക്കുറിച്ച് ഉപന്യസിക്കുക.

33. വിവർത്തനപ്രകാരങ്ങൾ ഏതെല്ലാം? വിശദീകരിക്കുക.

34. യന്ത്രപരിഭാഷ എന്നാലെന്ത്? അതിന്റെ പ്രസക്തി, പരിമിതി എന്നിവ വിലയിരുത്തുക.

35. വിവർത്തനപഠനം സംസ്കാരപഠനമായി മാറുന്നുണ്ടോ? ഉദാഹരണസഹിതം വിശദമാക്കുക.

(2 × 15 = 30 Marks)

St. Xavier's College

(Pages : 3)

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Reg. No. : .....

Name : .....

First Semester B.Sc. Degree Examination, November 2019

Career Related First Degree Programme under CBCSS

BB 1141/BV 1141.1 : PHYCOLOGY, MYCOLOGY, LICHENOLOGY AND PLANT PATHOLOGY

(Common for Group 2(a) : Botany and Biotechnology (2014 Admn) and Group 2(b) : Biotechnology (Multimajor - 2014 - 2018 Admn))

Time : 3 Hours

Max. Marks : 80

St Xavier's College

SECTION – A

Answer **all** questions in a word or **one** or **two** sentences.

Each question carries **1** mark.

1. Define trichome.
2. Define akinete.
3. What is trichogyne?
4. Give one example of symbiotic algae?
5. Define perithecium.
6. Name the fungi responsible for black rust.
7. Give the binomial of yeast.
8. Name the pathogen which causes citrus canker.

P.T.O.

9. What are lichens?

10. Name the class to which *Rhizopus* belongs to.

(10 × 1 = 10 Marks)

SECTION – B

Answer **any eight** questions. Each question carries **2** marks.

Answer not to exceed **one** paragraph.

11. Describe the vegetative features of *Cladophora*.

12. What is red tide?

13. Describe the morphological features of *Vaucheria*.

14. Distinguish between zoospore and aplanospore.

15. Describe the coenobium of *Volvox*.

16. Illustrate the globule of *Chara*.

17. Describe Peziza apothecium

18. Describe the morphology of the sporangium of *Rhizopus*.

19. Write two general characters of Deuteromycotina

20. Distinguish foliose and fruticose lichens.

21. What are the symptoms of leaf mosaic of tapioca?

22. What is the medicinal importance of *Penicillin*? Who discovered it?

(8 × 2 = 16 Marks)

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SECTION – C

Answer **any six** questions. Each question carries **4** marks.
Answer not to exceed **120** words.

23. Write on the various pigments in algae.

24. Describe the reproduction in *Pinnularia*.

25. Briefly describe any one type of life cycle in *Oedogonium*.

26. Describe various types of spores in *Puccinia*.

27. Write a brief account on the classification of fungi by Ainsworth.

28. Describe the structure and reproduction in *Xylaria*.

29. Mention the methods of reproduction in Lichens.

30. Describe the symptoms and control measures of Blast disease of paddy.

31. Write on the preparation and use of tobacco decoction.

(6 × 4 = 24 Marks)

SECTION – D

Answer **any two** questions. Each question carries **15** marks.
Answer not to exceed **three** pages.

32. Write a detailed account on the thallus organisation in algae.

33. Describe the structure, reproduction and lifecycle of *Sargassum*.

34. Describe the life cycle of *Agaricus*.

35. Write on the economic importance of fungi.

(2 × 15 = 30 Marks)

St. Xavier's College

(Pages : 3) H – 2229

Reg. No. : .....

Name : .....

First Semester B.Sc. Degree Examination, November 2019

Career Related First Degree Programme under CBCSS

2(a) – Botany and Biotechnology

Complementary Course I : BB 1131

INTRODUCTION TO CHEMISTRY

(2014 Admission Onwards)

St. Xavier's College

Time : 3 Hours Max. Marks : 80

SECTION – I

Very short answer type. Maximum **2** sentences. Answer **all** questions :

1. Define pH value.
2. What is meant by buffer capacity?
3. Define : Osmosis.
4. What is the principle of electrophoresis?
5. What are stereoisomers?
6. Write the principle of colorimeter.
7. What is meant by true solution?

P.T.O.

8. Define viscosity.

9. List out the functions of emulsifying agents.

10. Examples of colloidal solution.

(10 × 1 = 10 Marks)

SECTION – II

Short answer questions not to exceed **1** paragraph. Answer **any eight** questions :

11. State Vander Wall's force.

12. What is molarity and molality?

13. Distinguish between diffusion and osmosis.

14. State Vant Hoff's law of osmotic pressure.

15. List out the applications of zone electrophoresis.

16. What is the significance of emulsion?

17. How are peptide bonds formed?

18. Write down the biological importance of osmosis.

19. Brief the types of emulsions.

20. List any four applications of thin layer chromatography.

21. State Beer's law.

22. Define Isopycnic centrifugation.

(8 × 2 = 16 Marks)

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SECTION – III

Short essay – not to exceed **120** words. Answer **any six** questions.

23. Derive Henderson Hasselbalch equation.

24. Define hypotonic, isotonic, hypertonic solutions.

25. Explain the technique of density gradient centrifugation.

26. What is molar extinction co-efficient? Explain.

27. Explain the principle and procedure of paper chromatography.

28. Write the classification of isomers.

29. How are hydrogen and covalent bond formed?

30. Write a short note on surface tension.

31. What are optical isomers? Explain with examples.

(6 × 4 = 24 Marks)

SECTION – IV

Long Essay. Answer **any two** questions :

32. Discuss ion exchange chromatography as a technique for the separation of macromolecules.

33. Describe the principle and instrumentation of spectrophotometer.

34. Explain Donnan membrane equilibrium and its biological significance.

35. Give a detailed account on analytical and preparative ultra centrifuge.

(2 × 15 = 30 Marks)

St Xavier's College

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Reg. No. : .....

Name : .....

First Semester B.Sc. Degree Examination, November 2019

Career Related First Degree Programme Under CBCSS

Group 2(a) – Botany and Biotechnology

BB 1121 : METHODOLOGY AND PERSPECTIVES OF BIOTECHNOLOGY

(2015 Admission – 2018 Admission)

Time : 3 Hours Max. Marks : 80

Draw diagrams wherever necessary

SECTION – A

I. Answer **all** questions in **one** or **two** sentences. **Each** question carries **1** mark.

1. What is science direct?
2. What is variance?
3. Define Null hypothesis.
4. Define pictograms.
5. What is INFLIBNET?
6. Define mode.
7. What are flavr savr tomatoes?

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8. What is southern blotting?

9. Define plagiarism.

10. What is a fermenter?

(10 × 1 = 10 Marks)

SECTION – B

II. Answer any **eight** questions; not to exceed a paragraph. **Each** question carries **2** marks.

11. What is standard error?

12. Give a short account of pie diagrams.

13. What are the features of science?

14. Explain bar diagram.

15. What is ROM? How it differs from RAM?

16. Write notes on application software.

17. Write a brief account of NICNET.

18. What is trade secret?

19. What are the benefits of industrial biotechnology?

20. Give a short note of Bt toxin.

21. What are plasmids? Mention their use in biotechnology.

22. Edible vaccines and their use.

(8 × 2 = 16 Marks)

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SECTION – C

III. Answer any **six** questions, not to exceed 120 words. **Each** question carries **4** marks.

23. Give an account of designing research.

24. Write an account of frequency polygons.

25. How will you test a hypothesis?

26. Point out the role of IT in business and commerce.

27. What do you mean by cyber ethics? Mention its importance.

28. Explain GMP.

29. Write short note on copy rights.

30. Define ELISA. Mention its importance.

31. Explain gene therapy.

(6 × 4 = 24 Marks)

SECTION – D

IV. Write essay on any **two** of the following, not more than **three** pages. **Each** question carries **15** marks.

32. Give an account of the nature and types of data. Explain the different methods of data collection and classification for statistical studies?

33. Explain the features of modern personal computers and peripherals.

34. Give an account of the applications of biotechnology in traditional and modern food processing.

35. Discuss the scope of biotechnology in agriculture. Add an account of GM crops.

(2 × 15 = 30 Marks)

St. Xavier's College

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Reg. No. : .....

Name : .....

First Semester B.Sc. Degree Examination, November 2019

Career Related First Degree Programme under CBCSS

Group 2 (a): Botany and Biotechnology

Core Course

BB 1141 : PHYCOLOGY, MYCOLOGY, LICHENOLOGY AND PLANT PATHOLOGY

(2015-2018 Admission)

Time : 3 Hours Max. Marks : 80

SECTION – A

Answer **all** questions in a word or one or two sentences. **Each** question carries **1** mark.

1. Who is the author of the book 'Structure and reproduction of algae'?
2. Name the main pigment found in Phaeophyceae.
3. What is amylum stars?
4. Name the algae in *Azolla*.
5. What are hyphae?
6. What constitutes the fungal cell wall?
7. Name the fungi known as paint brush.

P.T.O.

St. Xavier's College

8. Name the pathogen which causes Blast disease of paddy.

9. Define fruticose lichen.

10. Name the class to which *Cercospora* belongs.

(10 × 1 = 10 Marks)

SECTION – B

Answer any **eight** questions **Each** question carries **2** marks.
(Answer not to exceed one paragraph)

11. Describe the vegetative features of *Oedogonium*.

12. Define red tide?

13. Describe the morphological features of *Pinnularia*.

14. Distinguish between spermatium and carpogonium.

15. Write on the medicinal use of algae.

16. Illustrate the thallus of *Vaucheria*.

17. Name two edible fungi.

18. Draw the apothecium of *Peziza*.

19. Write two general characters of Myxomycotina.

20. Distinguish between crustose and foliose lichens.

21. What are the visible symptoms of Leaf mosaic of tapioca?

22. Draw the thallus structure of *Usnea*.

(8 × 2 = 16 Marks

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SECTION – C

Answer any **six** questions. **Each** question carries **4** marks.

Answer not to exceed 120 words.

23. Write on the role of algae in soil fertility.

24. Describe the structure and reproduction of *Cladophora*. Draw diagram.

25. Describe the reproduction in *Vaucheria*.

26. Describe the fruiting body of Agaricus.

27. Write a brief account on the structure, reproduction and economic importance yeast.

28. Enumerate the salient features of Zygomycotina.

29. Give a short account on the reproduction in Lichens.

30. Give a short account on fungicides.

31. Discuss on host parasite interactions.

(6 × 4 = 24 Marks)

SECTION – D

Answer any **two** questions. **Each** question carries **15** marks.

Answer not to exceed **3** pages.

32. Give a detailed account on the structure and reproduction of *Volvox*.

33. Describe the structure, reproduction and lifecycle of *Polysiphonia*.

34. Describe the life cycle of *Puccinia*.

35. Describe the life cycle of *Rhizopus*. Draw diagrams.

(2 × 15 = 30 Marks)

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Reg. No. : .....

Name : .....

First Semester B.Sc. Degree Examination, November 2019

Career Related First Degree Programme under CBCSS

Group 2 (a) Botany and Biotechnology

BB 1171 : MICROBIOLOGY

(2015 Admission –2018 Admission)

St. Xavier's College

Time : 3 Hours Max. Marks : 80

SECTION – A

Answer **all** questions in a word or **one** or **two** sentences. **Each** question carries **1** mark.

1. What are archaea bacteria?

2. On the basis of appearance differentiate between diplococci and streptococci

3. 'HEPA fillers are air filters designed to trap a vast majority of very small particulate contaminants from an air stream'. Expand HEPA?

4. Name the carcinogenic toxin produced by *Aspergillus flavus*.

5. Which term is used to denote 'the growth in a cell population in which all cells divide at the same time'?

6. What is spread plate method ?

P.T.O.

7. Cite one example for free living nitrogen fixing bacterium.

8. Define biofertilizer.

9. What is a viral plaque?

10. Define thermophiles

(10 × 1 = 10 Marks)

SECTION – B

Answer any **eight** questions. **Each** question carries **2** mark.

11. Differentiate between serovars and biovars.

12. Describe the classification of bacteria based on the arrangement of flagella.

13. Point out the major difference between selective media and differential media.

14. What is a pure culture? List any two methods of pure culture.

15. Differentiate between continuous culture and batch culture.

16. Describe the role of Rhizobium in biological nitrogen fixation.

17. Name the bacterium which has a curcial role in the phosphorous cycle. Mention the role played by the bacterium.

18. What are methanogenes?

19. Describe the general structure of a virus.

20. Describe the major events in the lytic cycle.

21. Which are the major actions of UV radiation causing the destruction of microbes?

22. Differentiate between endospores and exospores.

(8 × 2 = 16 Marks)

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SECTION – C

Answer any **six** questions. **Each** question carries **4** marks.

23. 'The cell walls of Gram negative bacteria are more complex than those of Gram positive bacteria'. Elaborate on the differences in the architecture of the cell walls of Gram negative and Gram positive bacteria.

24. Describe the various methods used for the measurement of bacterial growth.

25. Elaborate on the factors influencing the growth of bacteria in a culture.

26. Describe any two methods used to culture viruses.

27. With the help of a labeled diagram explain the structure of T4 bacteriophage.

28. Write an accoutn on alkalophiles.

29. Differentiate between streak plate and pour plate methods.

30. Point out the difference between chemically defined media and complex media.

31. Describe the working of an anaerabic jar.

(6 × 4 = 24 Marks)

SECTION – D

Answer any **two** questions. **Each** question carries **15** marks.

32. Describe various methods of sterilization.

33. With the help of a graph describe the different phases in the growth of bacterial population in a culture. Describe the physiological status of the cells at each phase.

34. Using suitable labeled diagrams elaborate the structure of a bacterial cell.

35. Write an account of the history of microbiology.

(2 × 15 = 30 Marks)

St. Xavier's College

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Reg. No. : .....

Name : .....

First Semester B.Sc. Degree Examination, November 2019

Career Related First Degree Programme under CBCSS

Group 2(a) : Botany and Biotechnology

Foundation Course

BB 1121 : METHODOLOGY AND PERSPECTIVES OF BIOTECHNOLOGY

(2019 Admission)

St. Xavier's College

Time : 3 Hours Max. Marks : 80

SECTION – A

Answer **all** the questions in a **word** or **one** or **two** sentences. **Each** question carries **1** mark.

1. What is INFLIBNET?
2. Define null hypothesis.
3. What is Chi square test?
4. Expand GMP.
5. What is a Recombinant DNA?
6. List any two biotechnology companies in India.

P.T.O.

7. What is Review of Literature?

8. What is science direct?

9. Give an example for SCP.

10. What is a copyright?

(10 × 1 = 10 Marks)

SECTION – B

Answer any **eight** questions. **Each** question carries **2** marks. (Answer not to exceed **one** paragraph).

11. What is standard deviation?

12. Define patent. Explain its types.

13. What is an operating system? Give two examples.

14. Comment on 'Flavr Savr' tomato.

15. What is science?

16. Describe the process of industrial production of wine.

17. What is a frequency polygon?

18. Differentiate primary and secondary data.

19. What is a biofuel?

20. List the main steps involved in Genetic engineering.

21. What is a pie diagram?

22. Discuss applications of IT in teaching and learning

(8 × 2 = 16 Marks)

St. Xavier's College

SECTION – C

Answer any **six** questions. **Each** question carries **4** marks.

23. Explain the measures of central tendency.

24. Discuss the ethical issues in biotechnology.

25. Describe various methods of data collection.

26. Explain the production of monoclonal antibodies.

27. Discuss cyber crime and security privacy issues.

28. Write a brief note on Good Laboratory Practices.

29. Explain the role of microbes in food processing.

30. Brief a note on online learning platforms with examples.

31. Discuss internet as a knowledge repository.

(6 × 4 = 24 Marks)

SECTION – D

Answer any **two** questions. **Each** question carries **15** marks. (Answer not to exceed **three** pages).

32. Explain the design and planning of experiments in scientific research.

33. Discuss the significance of statistical methods in biological studies.

34. What are GM crops? Explain the applications of biotechnology in agriculture.

35. Explain the features of a modern personal computer and its peripherals.

(2 × 15 = 30 Marks)

St. Xavier's College

(Pages : 3) H – 2239

Reg. No. : .....

Name : .....

First Semester B.Sc. Degree Examination, November 2019

Career Related First Degree Programme under CBCSS

Group 2(a) : Botany and Biotechnology

Core Course

BB 1141 : ANGIOSPERM ANATOMY AND REPRODUCTIVE BOTANY

(2019 Admission)

Time : 3 Hours Max. Marks : 80

SECTION – A

Answer **all** the questions in a word or sentence. **Each** question carries **1** mark.

Define the following

1. Plasmodesmata
2. Haematoxylin
3. Root hair
4. Phellogen
5. Dendrochronology
6. Tylosis
7. Tapetum
8. Antipodal cells

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P.T.O.

9. Palynology

10. Polyembryony.

(10 × 1 = 10 Marks)

SECTION – B

Answer any **eight** questions. Answer not to exceeding one paragraph. **Each** question carries **2** marks.

Write short notes on the following.

11. Complex tissue

12. Periderm

13. Heart wood and sap wood

14. Structure of stomata

15. Bicollateral bundle

16. Sclerenchyma

17. Venation and its types

18. Pollen allergy

19. Permanent tissues

20. Pits

21. Vasculature of monocot stem

22. Mesophyll tissue.

(8 × 2 = 16 Marks)

St. Xavier's College

SECTION – C

Answer any **six** questions. Answer not to exceed **120** words. **Each** question carries **4** marks.

23. Give an account on non living inclusions of the cell.

24. Explain different types of vascular arrangements.

25. Briefly describe the structure and function of cambium.

26. Explain the anomaly in *Bignonia*.

27. Describe Double fertilization.

28. Give a brief account of endosperm and its types.

29. Mention the viability test for pollen grains.

30. Explain pollination and its types.

31. Write a brief account on killing and fixing agents.

(6 × 4 = 24 Marks)

SECTION – D

Answer any **two** questions. Answer not to exceed three pages. **Each** question carries **15** marks.

32. Give an account on meristem. Add a note on apical meristem and theories of its organization.

33. Describe the secondary thickening in dicot stem. Draw neat diagrams.

34. With the help of suitable diagrams describe the internal structure of a mature anther. Add a note on microsporogenesis.

35. Describe the structure and function of Eukaryotic cell wall. Draw neat diagrams.

(2 × 15 = 30 Marks)

St. Xavier's College

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Reg. No. : .....

Name : .....

First Semester B.A. Degree Examination, November 2019

Career Related First Degree Programme under CBCSS

Malayalam and Mass Communication

Complementary Course I

MX 1131 : വിവർത്തനം - ആമുഖവും ചരിത്രവും

(2014-2017 Admissions)

St. Xavier's College

Time : 3 Hours Max. Marks : 80

I. ഒരു വാക്കിലോ പരമാവധി രണ്ടു വാക്യത്തിലോ ഉത്തരമെഴുതുക.

1. ജർമ്മൻ ഭാഷയിൽ ആദ്യമായി ബൈബിൾ സമ്പൂർണ്ണമായി വിവർത്തനം ചെയ്തതാര്?

2. മലയാളത്തിൽ ആദ്യമായി ബൈബിൾ അച്ചടിച്ച വർഷമേത്?

3. വിവർത്തനത്തിന്റെ കാതൽ വിശ്വസ്തതയാണ്. ഇക്കാര്യം ആ പദത്തിൽ തന്നെ അന്തർഭവിച്ചിരിക്കുന്നു. ഇങ്ങനെ അഭിപ്രായപ്പെട്ടതാര്?

4. സാഹിത്യ കൃതികളുടെ വിവർത്തനം പുഴുങ്ങിയ സ്ട്രാബറി പഴം പോലെ - അരോചകമാണെന്നു പറഞ്ഞതാര്?

5. മഹാഭാരതം മലയാളത്തിലേയ്ക്ക് പദാനുപദം വിവർത്തനം ചെയ്തതാര്?

6. 'ലാ മിറാബ്ലെ' പാവങ്ങൾ എന്ന പേരിൽ പരിഭാഷപ്പെടുത്തിയതാര്?

P.T.O.

7. സ്രോതഭാഷയിലെ പദങ്ങളെ അവയുടെ ഉച്ചാരണം അനുസരിച്ചു ലക്ഷ്യഭാഷയിൽ എഴുതുന്ന രീതിക്കു പറയുന്ന പേരെന്ത്?

8. പ്രസംഗങ്ങളിൽ സാധാരണ കണ്ടു വരുന്ന വിവർത്തന രീതിക്കു പറയുന്ന പേരെന്ത്?

9. 'ഇമിറ്റേഷൻ ഓഫ് ക്രൈസ്റ്റ്' എന്ന കൃതി ക്രിസ്തുനാമാനുകരണം എന്ന പേരിൽ വിവർത്തനം ചെയ്തതാര്?

10. ഒരു പദത്തിന്റെ വിവിധ അർത്ഥങ്ങൾ നൽകുന്ന നിഘണ്ടു ഏതാണ്?

(10 × 1 = 10 Marks)

II. **ഒരു** ഖണ്ഡികയിൽ കവിയാതെ ഏതെങ്കിലും **എട്ടു** ചോദ്യത്തിന് ഉത്തരമെഴുതുക.

11. യൂറോപ്യൻ മതനവീകരണത്തിനു വഴിതെളിച്ച പ്രധാന കാരണം ബൈബിൾ വിവർത്തനങ്ങളും അച്ചടി പ്രചാരണവുമാണ് - എന്തുകൊണ്ട്?

12. ബെയ്ലിയുടെയും ഗുണ്ടർട്ടിന്റെയും വിവർത്തനങ്ങളുടെ സമന്വയത്തോടു കൂടിയാണ് ആധുനിക ബൈബിൾ തർജ്ജമ ഉണ്ടായത്. പരിശോധിക്കുക.

13. സാമുവൽ ജോൺസൺ വിവർത്തനത്തിനു നൽകിയിരുന്ന നിർവ്വചനം എന്താണ്?

14. സ്രോതഭാഷ, ലക്ഷ്യഭാഷ ഇവ എന്തെന്നു വ്യക്തമാക്കുക.

15. വിവർത്തന വിധേയമല്ലാത്തതിനെ വിവർത്തനം ചെയ്യാനുള്ള പ്രയത്നം ഉപേക്ഷിക്കണം എന്ന് പറയാനുള്ള കാരണമെന്ത്?

16. എല്ലാത്തരം വിഷയങ്ങൾക്കും എല്ലാ സന്ദർഭങ്ങൾക്കും പറ്റിയ ഒറ്റ ശാസ്ത്രീയ വിവർത്തന നിർവ്വചനം കണ്ടെത്താൻ ബുദ്ധിമുട്ടാണെന്ന് പറയാൻ കാരണമെന്ത്?

17. ലിപ്യങ്കനം, ലിപ്യന്തരണം, ഇവ എന്തെന്നു വ്യക്തമാക്കുക.

18. ആശയ രൂപാന്തരണം എന്തുകൊണ്ട് അർത്ഥമാക്കുന്നതെന്ത്?

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19. വിവർത്തന പ്രക്രിയയിൽ സ്രോതഭാഷ നിഘണ്ടുവിന്റെ പ്രയോജനമെന്ത്?

20. വിവർത്തനത്തെ സംബന്ധിച്ചുള്ള നിലപാടുകൾ സാമാന്യമായി പരിചയപ്പെടുത്തുക.

21. പരാവർത്തനം എന്നാലെന്ത്?

22. ഇമിറ്റേഷൻ അഥവാ അനുകരണം എന്നതുകൊണ്ട് അർത്ഥമാക്കുന്നതെന്ത്?

(8 × 2 = 16 Marks)

III. **നൂറ്റിയിരുപതു** വാക്കിൽ കവിയാതെ ഏതെങ്കിലും **ആറു** ചോദ്യത്തിന് ഉത്തരമെഴുതുക.

23. ഇതരഭാരതീയ ഭാഷകളിൽ നിന്ന് മലയാളത്തിലേക്കു വിവർത്തനത്തിന്റെ വേലിയേറ്റം ഉണ്ടായത് കേരളീയർക്ക് നോവൽ പ്രസ്ഥാനത്തോട് കമ്പം തുടങ്ങിയതോടുകൂടിയാണ്. - വിശദമാക്കുക.

24. പ്രധാനപ്പെട്ട വിവർത്തനോപകരണങ്ങൾ ഏതെല്ലാം? വിശദീകരിക്കുക.

25. വാചാ വിവർത്തനം എന്നാലെന്ത്? അതുകൊണ്ടുള്ള പ്രയോജനമെന്ത്?

26. ഗ്രാഫീയ വിവർത്തനം എന്നാലെന്ത്?

27. ഉത്തമവിവർത്തകന്റെ യോഗ്യതകൾ എന്തെല്ലാം?

28. ഭാഷാഭിവൃത്തിയിൽ വിവർത്തനത്തിനുള്ള പങ്ക് വിവരിക്കുക.

29. മറ്റു വിവർത്തനങ്ങളിൽ നിന്ന് സാഹിത്യവിവർത്തനത്തെ വ്യത്യാസപ്പെടുത്തുന്ന വസ്തുതകൾ എന്തെല്ലാം?

30. വിവർത്തനത്തിൽ അശ്രദ്ധ വരുത്താവുന്ന അപകടങ്ങൾ എന്തെല്ലാം?

31. വിവർത്തനത്തിന്റെ പരിമിതികൾ എന്തെല്ലാം?

(6 × 4 = 24 Marks)

St. Xavier's College

IV. **മൂന്നു** പുറത്തിൽ കവിയാതെ ഏതെങ്കിലും **രണ്ടു** ചോദ്യത്തിന് ഉത്തരമെഴുതുക.

32. മലയാളവിവർത്തന ചരിത്രം ക്രോഡീകരിക്കുക.

33. "സാമൂഹികമായും സാംസ്കാരികമായും വേറിട്ട് നിൽക്കുന്നവരുടെ ഒന്നിക്കലാണ് വിവർത്തനം." ചർച്ച ചെയ്യുക.

34. സർഗ്ഗാത്മക സാഹിത്യകൃതികളുടെ വിവർത്തനത്തിൽ കംപ്യൂട്ടർ തീരെ നിസ്സഹായമാണെന്നു പറയാൻ കാരണമെന്ത്?

35. ബൈബിൾ വിവർത്തനത്തിന്റെ ചരിത്രം സംഗ്രഹിക്കുക.

(2 × 15 = 30 Marks)

St. Xavier's College

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Reg. No. : .....

Name : .....

First Semester B.A./B.Sc./B.Com. Degree Examination, November 2019

First Degree Programme Under CBCSS

Language Course 1

EN 1111.1/EN 1111.2/EN 1111.3 – LISTENING AND SPEAKING SKILLS

(Common for B.A./B.Sc. (EN 1111.1), B.Com (EN 1111.2) & Career Related 2 (a) (EN 1111.3))

(2014 Admission)

St. Xavier's College

Time : 3 Hours Max. Marks : 80

I. Answer **all** questions, each in a word or a sentence :

1. Which sound is common to the following words?
"pet", "less", "men" and "bed"

2. Which of the following is a verb?
"orange", "drink", "baby", "cat"

3. Which of the following has the vowel 'u'?

cool, look, doom, fume

4. How is the word 'bathe' pronounced?

5. How is the word "era" pronounced?

6. How many syllables are there in the word "examination"?

7. In which play does the character "Nora" appear?

8. How does the play "Helena's Husband" end?

9. Who are the main characters in the play "A Sunny Morning"?

10. Where does the action of the play "Day of Atonement" take place?

(10 × 1 = 10 Marks)

II. Answer any **eight,** each in a short paragraph, not exceeding **50** words :

11. Divide any eight of the following words into syllables :

protect, puzzle, acre, freckle, title, massacre, uncle, savage, model, under.

12. Give the orthographical version of the following transcribed words :

/enədʒɪ}, /h 3 : d (ə)l/, /ɪnvʊK/, /Kæŋgəru:/, /mægəzi:n/, /ɐbsəli:t : t/, /premIs/, /rIsi:t/

13. Transcribe the following words and mark word stress :

amplifier, beguile, commemorate, document, equanimity, fraudulent, grotesque, haphazard.

14. Mark the stress in the following sentences :

(a) The leaves rustle in the gentle breeze

(b) If you study well, you will get a first class.

15. Underline words which are weakened in speech in the following sentence :

We flew over the mountains at dawn.

16. Mark intonation in the following questions :

(a) Why are you late?

(b) Are you dreaming?

17. Mark intonation in the following statements :

I went to the party

The girl is pretty.

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18. Divide the following into sense groups :
The Government of South Africa said the Zambian President has grossly neglected the incidence of AIDS.

19. Identify the grammatical words in the following sentence :

Mary has lived in England for ten years.

20. Give the weak and strong forms of the following words :
him, them, she, his

21. Identify the voiceless consonantal sounds in the following words :
(a) Church (b) Thing (c) Sue (d) Mesh.

22. Identify the diphthongs in the following :
(a) Make (b) Coy (c) High (d) Pair.

(8 × 2 = 16 Marks)

III. Answer any **six**, each in a paragraph not exceeding **100** words :

23. Mark the primary stress in eight of the following words :
hassle, iconoclast, legitimate, mandatory, nicety, opiate, parallel, radius, rejuvenate, sample, shelter, stingy, theology, tether, metaphor.

24. Transcribe eight of the following in phonetic script :
tidings, underscore, visual, widower, xerox, pressure, rebellion, scenery, search, inquiry, aperture, atlas, aurora, carpet, chef, decide.

25. Prepare a speech to be delivered on World Cancer Day (answer in about 150 words)

26. What do you mean by active listening?

27. What are the characteristics of good notes?

28. Describe your favourite movie. (answer in about 100 words)

29. What are the barriers to listening?

30. What is the difference between formal and informal communication?

31. Explain the do's and don'ts in telephone etiquette.

(6 × 4 = 24 Marks)

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IV. Answer any **two**, each in about **300** words :

32. Write an imaginary group discussion (minimum three participants) on impact of social media on human behaviour and society.

33. Construct the text of a conversation that takes place between a student and a career counsellor on his future career.

34. Write dialogues on the following topics, each in about 80 words :

    (a) Your sister had won a dance competition. Congratulate her.

    (b) Congratulate your friend for passing the national exam with the highest score in your school.

    (c) A friend is visiting your home. She wants to borrow some money and promises that she will return the money as soon as possible.

    (d) Compose a dialogue between you and your friend on the choice of a career.

35. (a) Conduct a group discussion on 'child labour' with four participants.

    (b) Read the short lecture below and take down the notes :

Jaundice is a condition that discolours the skin and the whites of the eyes with a yellow pigment. It is caused by an excess of bilirubin in the blood stream. Bilirubin is a by-product of the break-down of ageing red blood cells. There are three types of Jaundice : hepatic, obstructive and haemolytic. Hepatic jaundice is a disease in which liver cells are damaged. In obstructive jaundice the bile ducts are blocked by stores. In haemolytic jaundice increased breakdown of red blood cells and the release of haemoglobin in excessive amounts swamps the liver.

(2 × 15 = 30 Marks)

St. Xavier's College

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Reg. No. : .....

Name : .....

First Semester B.A./B.Sc. Degree Examination, November 2019

First Degree Programme under CBCSS

Language Course – Latin

LT 1111.1 : COMMUNICATION SKILLS IN LATIN

(2014 Admission Onwards)

St. Xavier's College

Time : 3 Hours Max. Marks : 80

I. Please give very Short Answers. Answer all Questions (1 mark each)

1. What are Cases? Which are those?

2. Give the meaning of the familiar Latin phrase : *ad infinitum, sine dubio.*

3. Which Roman deitis do January and May represent?

4. Expand the abbreviations:
   a) A.D.;
   b) ob.

5. Fill in the blank choosing the most appropriate word from the bracket.

   Mare ———— est. (latus, latum, latarum)

6. Write whether true or false:
   a) In Latin Subject of a finite verb is in the Nominative case.
   b) The subject of a verb in the Infinitive is in the Genitive case.

7. Translate into Latin:

I give water to the girl.

8. Translate into English

Quilonen est oppidum in India antiqua.

9. Give the Arabic numerals of the following Roman numerals:

a) DCXVI

b) LXV

10. Give the meaning of the following Latin words:

a) Libra

b) Capricorn.

(10 × 1 = 10 Marks)

II. Please give Short Answers. Answer any **eight** of the following (2 marks each) :

11. Write the 12 signs of Zoadic

12. Roman weeks

13. How many conjugations are there in Latin and how do you distinguish them?

14. Conjugate the following verb in the imperfect tense ornare

15. Decline the following Latin Noun.

Poeta- poetae

16. Write a sentence of your own with verb *iuvare* in the future tense, indicative mood.

17. Decline the following adjective *felix*.

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18. Explain "Vera amicitia inter bonos" (Cicero).

19. Explain the Latin terms *Alumnus, Alumni* and *Alumna Alumnae*.

20. Translate into English : Num viros in casttris habet ?

21. Change the verb in the sentence into imperfect:

Sabini ad arma properant.

22. Translate into latin: he sees the clear moon in the sky.

(8 × 2 = 16 Marks)

III. Answer any **six** of the following (**4** marks each) :

23. Write short notes on Roman gods and goddesses.

24. Write short note on Latin names for the days of the week.

25. Write short note on conjugation of verbs in Latin.

26. Explain with reference to the context:

"Vade, et tu fac similiter"

27. Explain with refrence to the context: "Lupa pueros suos ad ripam Tiberis portat.

28. Translate into Latin:

The Romans fought for their country even without large rewards and booty. There were many wide fields in Gaul. it was suitable for farmers.

29. Translate into Latin :

The Roman people are indeed famous. The Roman men conquer the peoples of many lands and live in the Roman provinces. Many troops stay in the provinces and rule the inhabitants well.

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30. Translate into English:

quo usque tandem abutere, Catilina, patientia nostra? quam diu etiam furor iste tuus nos[1] eludet? quem ad finem sese effrenata iactabit audacia? nihilne te nocturnum praesidium Palati, nihil urbis vigiliae, nihil timor populi, nihil concursus bonorum omnium, nihil hic munitissimus habendi senatus locus, nihil horum ora voltusque moverunt? patere tua consilia non sentis, constrictam iam horum omnium scientia teneri coniurationem tuam non vides?

31. Translate into English:

Accidit autem ut sacerdos quidam descenderet eadem via : et viso illo præterivit. Similiter et Levita, cum esset secus locum, et videret eum, pertransiit. Samaritanus autem quidam iter faciens. venit secus eum : et videns eum, misericordia moms est.

(6 × 4 = 24 Marks)

IV Answer any **two** of the following (**15** marks each) :

32. Write an Essay Who was cicero?

33. Explain the context of Good Samaritan as good neighbour.

34. Importance of Latin in studies.

35. The differences of classical Latin and Ecclesiastical Latin.

(2 × 15 = 30 Marks)

St. Xavier's College

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Reg. No. : .....

Name : .....

First Semester B.A. Degree Examination, November 2019

First Degree Programme Under CBCSS

Complementary Course I for Economics

MM 1131.5 : MATHEMATICS FOR ECONOMICS I

(2014 Admission onwards)

St. Xavier's College

Time : 3 Hours Max. Marks : 80

SECTION – I

Answer **all ten** questions are compulsory:

1. Find the domain and range of $y = 2x + 3$.
2. What is $\lim_{x \to 0} \frac{\sin x}{x}$?
3. Find $\lim_{x \to 5} (2x + 3 + 3x^2)$
4. Define continuity of a function at a point x_0?
5. Find dy/dx if $y = x^5$
6. What is the derivative of constant?
7. State quotient rule for differentiation.
8. Find the derivative of 1/x.

P.T.O.

9. Define the elasticity of demand η?

10. Obtain a relationship between x and y if $x = t^2$ and $y = 2t$?

(10 × 1 = 10 Marks)

SECTION – II

Answer any **eight** questions.

11. If $(x) = 1 - x^2 + x^4$ then prove that $f(-x) = f(x)$.

12. Find $\lim_{x \to 1}\left[\frac{x^2 - 1}{x - 1}\right]$

13. Check the continuity of $f(x) = \begin{cases} x^2, x \neq 2 \\ 0, x = 2 \end{cases}$

14. Illustrate chain rile with a suitable example.

15. Find the second derivative of *y* with respect to .x if $y = x^6 + x^4 + x$.

16. If y=5 N+1, find dy/dx?

17. What is the relationship between marginal cost and average cost?

18. Discuss the continuity of the function $f(x) = 2/x$?

19. If the total cost function is $\pi = 10 + 10q - 4q^2 + q^3$, then find the marginal cost and average cost?

20. For what values of k, the following function can be continuous?

$$f(x) = \begin{cases} k, x = 3 \\ \frac{x^2 - 9}{x - 3}, x \neq 3 \end{cases}$$

21. Find dy/dx if $y = \ln(3x^2 - 2x^3)$.

22. Find the domain of $y = (1 + x)/(1 - x)$.

(8 × 2 = 16 Marks)

St. Xavier's College

SECTION – III

Answer **any six** questions.

23. Evaluate $f(x)=\dfrac{2x^2-7x+6}{5x^2-11x+2}$ when $x \to 2$.

24. If $f(x)=x^2$ and $g(x)=\sin x$ is $f \circ g(x)=g \circ f(x)$ for all x is R?

25. If $y=(3x^2+1)(x^3+2x)$, find $\dfrac{dy}{dx}$ using product rule.

26. Find $\dfrac{dy}{dx}$ in two different ways and very if $y=\dfrac{3x^2+1}{x}$.

27. The demand function of a monopolists is given by $p=1500-2x-x^2$ find

    (a) the revenue function

    (b) the marginal revenue function when $x=20$.

28. Discuss briefly the various cases of limits of $f(x)$ as $x \to \pm\infty$.

29. Show that the gradient of the demand curve is numerically equal to p/x at the output where the marginal revenue is zero.

30. Find dy/dx if $y=\dfrac{e^x \ln x}{x}$.

31. Differentiate

    (a) $y=\dfrac{x^3}{x^2+1}$

    (b) $y=(2x^2-1)\ln(2x^2-1)$.

(6 × 4 = 24 Marks)

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SECTION – IV

Answer **any two** questions.

32. (a) Find all points at which $f(x) = (x-7)/(x^2-1)$ is discontinuous.

(b) Draw the graph of $f(x) = \frac{|x|}{x}, x \neq 0$. Is it continuous at $x = 0$?

(c) Find $\lim_{x \to 1} \frac{x-1}{\sqrt{x^2+3}-2}$.

33. (a) If $f(x) = 5 - \frac{2}{1+\frac{1}{1-x}}, x < 1$, find $\lim_{x \to 1} f(x)$.

(b) Differentiate between total revenue curve and marginal revenue curve.

(c) For the curve $q = 10 - 2p - p^2$, find elasticity of demand η for $p = 4$.

34. (a) Find $\frac{dy}{dx}$ if $y = \sqrt{\frac{1+x}{1-2x}}$.

(b) Find the third derivative of y with respect to x if $y = x^6 + x^4 + x$.

(c) Find dy/dx if $x^2 + y^2 + 2x = 4y = 3$.

35. (a) If $f(x) = \frac{x^2-3x+2}{x^2-2x-4}$, express $f(2a)$ in terms of a.

(b) From the function, $xy + 2x + y - 1 = 0$, find the limit of y as x tends to –1 and limit of x as y tends to 1, Is y a continuous function of x?

(2 × 15 = 30 Marks)

St. Xavier's College

(Pages : 4) **H – 2027**

Reg. No. : .....

Name : .....

First Semester B.A./B.Sc./B.Com. Degree Examination, November 2019

First Degree Programme under CBCSS

LANGUAGE COURSE – I

EN 1111.1, EN 1111.2 & EN 1111.3 : LANGUAGE SKILLS

(Common for B.A./B.Sc. (EN 1111.1), B.Com. (EN 1111.2) & Career Related 2(a) (EN 1111.3))

(2019 Admission)

St. Xavier's College

Time : 3 Hours Max. Marks : 80

I. Answer **all** questions, **each** in a word or a sentence.

1. Define vowel sounds.
2. Find two words that rhyme with the word "Make."
3. Identify the sounds underlined in the following words:
   (i) r<u>i</u>se
   (ii) ph<u>o</u>ne
4. What is a syllable?
5. Write the weak forms of 'and.'
6. Statements take a ———— tone.
7. Mark stress in the following words :
   (i) moderation
   (ii) about

8. Write two synonyms each for :

   (i) agony

   (ii) assist

9. What is plagiarism?

10. What is netiquette? **(10 x 1 = 10 Marks)**

II. Answer **any eight**, **each** in a short paragraph not exceeding **50** words :

11. Write a note on the importance of soft skills.

12. How does redundancy affect communication?

13. What is non-verbal communication?

14. What are diphthongs? Introduce the sounds with examples.

15. What is tonic syllable?

16. What is podcasting?

17. Why is anchoring considered to be a challenging job?

18. Write a paragraph on barriers to reading.

19. How can academic writing be made more effective?

20. Mention the etiquettes you need to follow while engaging in a telephone conversation.

21. How can you improve interpersonal skills through communication?

22. What is scanning? **(8 x 2 = 16 Marks)**

St Xavier's College

III. Answer **any six**, **each** in a paragraph not exceeding **100** words :

23. Complete the conversation given below :

Renu : _____

Professor : Hi Renu,Good morning. You were not seen these days. What happened?

Renu : _____. _____.

Professor : Sorry to hear that. How are you now?

Renu : _____.

Professor : That's great. _____?

Renu : Sir, I think I can finish everything this week. _____.

Professor : Exams begin next month. The schedule will be published soon.

Renu : _____?

Professor: Don't worry. Paper valuation will be liberal. _____?

Renu : I have prepared almost well. But I need some extra lessons. _____?

Professor : Of course. I'll be free after three.

Renu : _____.

Professor : Ok. We'll meet tomorrow.

Renu : _____.

24. You have applied for the post of Public Relations Officer in a Public Limited Company. The CEO of the firm conducts a telephone interview with you. Write at least ten exchanges between you and the CEO which were delivered during the interview process.

25. Write an anchoring script for the inaugural function of an international film festival.

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26. Write a blog on the importance of technology in the field of education.

27. Write an email to your friend describing your first day at college.

28. Draft minutes of the NSS committee meeting held in the Seminar Hall of your college recently. Imagine you are the general secretary of the organization and the meeting was arranged in connection with the forthcoming "Say No to Drugs" campaign.

29. Being the General Captain, write a report of the Annual Sports Day Celebrations conducted in your college.

30. Edit the following passage :

Ethiopian Prime Minister Abiy Ahmed has won the 2019 Nobel Peace Prize on Friday for his peace-making efforts which ended two decades of hospitality with long-time emeny Eritrea. Through Africa's youngest leader still faced big challenges, he had in under two years in power begun political and economic reforms that promises a best life for many in impoverished Ethiopia and restored ties with Eritrea that had been froze for a 1998-2000 border war.

31. Write a script for a podcast on gender discrimination prevailing in India.

(6 x 4 = 24 Marks)

IV. Answer **any two** each in about **300** hundred words :

32. Prepare a speech on the topic : Corruption in Public Life.

33. Write a telephone conversation between you and a reputed writer. You want him/her to address the students on the inauguration of English Association.

34. You saw the advertisement for the post of sub-editors in a leading daily and you like to apply for the same. You possess the required qualifications and experience. Prepare a covering letter and CV.

35. Write an essay on the ways and means to enhance English language skills among second language learners.

(2 × 15 = 30 Marks)

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Reg. No. : .....

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First Semester B.Sc. Degree Examination, November 2019

First Degree Programme under CBCSS

Complementary Course I for Physics / Geology

CH 1131.1/CH 1131.2 – PRINCIPLES OF CHEMISTRY

(2014 - 2016 Admissions)

St. Xavier's College

Time : 3 Hours Max. Marks : 80

SECTION – A

Answer **all** questions. Each question carries **1** mark.

1. The Lyman series of lines of the Hydrogen spectrum occurs in the _____ region of electromagnetic spectrum.

2. Pauli' exclusion principle is _____.

3. The shape of $BeCl_2$ molecule is _____.

4. The state of hybridisation of N in NH_3 molecule is _____.

5. Among the group 16 hybrides _____ has the highest boiling point.

6. The number of π bonds in acetylene molecule is _____.

7. When work is done on the system, then the internal energy of the system _____.

P.T.O.

8. ΔT = _____ for isothermal processes.

9. The enthalpy change for an exothermic reaction is _____.

10. _____ is a measure of randomness or disorder of the system.

(10 × 1 = 10 Marks)

SECTION – B (Short answer questions)

Answer **any eight** questions. Each question carries **2** marks.

11. What is Rydberg equation?

12. Explain Hund's rule.

13. Depict the shape of *s* and *p* atomic orbitals.

14. What is meant by an orbit?

15. Distinguish between bonding and antibonding molecular orbitals.

16. How lattice energy affect the solubility of an ionic compound in water?

17. Give the differences between sigma and pi bonds.

18. State first Law of thermodynamics.

19. Give Kirchhoff's equation.

20. What is internal energy? Is it possible to find its absolute value?

21. Explain Gibb's free energy.

22. Explain the term bond energy.

(8 × 2 = 16 Marks)

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SECTION – C (Short answer)

Answer **any six** questions. Each question carries **4** marks.

23. The configurations with completely filled and half-filled orbitals have extra stability. Why?

24. Compare the bond orders, bond distance and stabilities of O_2 and O_2^{2+} molecules.

25. What is the shape of PeI_5 molecule? Explain it on the basis of hybridisation.

26. Discuss the unusual behaviour of H_2O on the basis of hydrogen bonding in water.

27. Calculate the standard Gibb's energy change (free energy change) for the reaction: $CO(g) + \frac{1}{2} O_2(g) \rightarrow CO_2(g)$. Given the standard enthalpies of CO_2, CO and O_2 are respectively 213.6, 197.6 and 205.0 JK^{-1} mol^{-1}. Predict the reaction is feasible or not in the standard condition.

28. Explain the entropy criteria for equilibrium and spontaneity.

29. Discuss the shape of H_2O and NH_3 molecules on the basis of hybridisation.

30. Explain the terms bond energy and bond dissociation energy.

31. Define enthalpy of combustion and enthalpy of hydration.

(6 × 4 = 24 Marks)

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SECTION – D (Long essay)

Answer **any two** questions. Each question carries **15** marks.

32. (a) What are the limitations of Bohr's atomic theory? Discuss.

    (b) What are quantum numbers? Explain its significance.

33. (a) State the postulates of VSEPR Theory. (6 marks)

    (b) Discuss the shape of XeF_4, ClF_3 and XeF_2 molecules on the basis of VSEPR theory. (9 marks)

34. (a) Derive the relation between C_P and C_V for an ideal gas. (7 marks)

(b) Explain the terms free energy and enthalpy. What is the significance of ΔG and ΔH. (8 marks)

35. (a) What is enthalpy of neutralisation? The enthalpy of neutralisation of a strong acid by a strong base is almost a constant and equal to –57.32 kJ but when the acid or base is weak, the measured value is different from the above value. Explain why? (7 marks)

(b) State and explain Hess's Law of constant heat summation. Illustrate two applications of it. (8 marks)

(2 × 15 = 30 Marks)

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Reg. No. : .....

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First Semester B.Sc. Degree Examination, November 2019

First Degree Programme under CBCSS

Complementary Course for Chemistry and Polymer Chemistry

PY 1131.2 – ROTATIONAL DYNAMICS AND PROPERTIES OF MATTER

(2014 – 2017 Admission)

St. Xavier's College

Time : 3 Hours Max. Marks : 80

PART – A

Answer **all** questions in one or two sentences. Each question carries **one** mark.

1. What is radius of gyration?
2. Define adhesive force.
3. Distinguish between longitudinal and transverse wave
4. Define angle of twist and angle of shear
5. Write down the differential equation representing simple harmonic motion.
6. State perpendicular axes theorem
7. What is zero point energy?
8. Explain why small drops are spherical in shape.

9. Explain the velocity gradient in liquid flow.

10. Distinguish between stream line and turbulent flow.

(10 × 1 = 10 Marks)

PART – B

Answer **any eight** questions, not exceeding a paragraph. Each question carries **two** marks.

11. Find out the moment of inertia of a thin circular ring about an axis passing through its centre and perpendicular to its plane.

12. Obtain the momsnt of inertia of a solid Cylinder about its own axis.

13. Show that work done in twisting a wire is equal to $\frac{c\theta^2}{2}$.

14. Discuss the vibrational states of a diatomic molecule.

15. A particle of mass 10gm lies in a potential field $V=50x^2+100$erg/gm. Deduce the frequency of oscillation.

16. What are the advantages of a compound pendulum over a simple pendulum.

17. Why a hollow shaft is much stronger than that of a solid shaft of same material, mass and length?

18. A Great force is required to draw apart normally two glass plates enclosing a thin water film, Explain

19. Derive an expression for excess pressure inside a liquid drop.

20. Define coefficient of viscosity. Write its dimension and unit

21. Using the equation $y = A\sin\frac{2\pi}{\lambda}(vt - x)$, show that $\frac{d^2y}{dx^2} = \frac{1}{v^2}\frac{d^2y}{dt^2}$.

22. Derive the expression for critical velocity of a liquid.

(8 × 2 = 16 Marks)

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PART – C

Answer **any six** questions. Each question carries **four** marks.

23. Calculate the moment of inertia and radius of gyration of a disc of mass 1.2kg and radius 8cm about (a) its diameter (b) an axis parallel to a diameter and tangential to the disc.

24. Four spheres each of diameter 2a and mass m are placed with their centres on the four corners of a square of side b. Calculate the moment of inertia of the system about any side of the square.

25. The equation of a simple harmonic oscillator is given by $\frac{d^2x}{dt^2} + 625x = 0$. Find the period and frequency of oscillation.

26. A cantilever of length 50cm is depressed by 15mm at the loaded end. Calculate the depression at a distance 30cm from the fixed end.

27. If in air a plane wave of frequency 256Hz and amplitude 1/1000mm is produced, Calculate the radiated energy per unit volume and the energy current. Velocity of sound = 332m/sec and density of air = 1.29kg/m^3.

28. The excess pressure inside a soap bubble of radius 1mm is equal to the pressure required to balance a liquid column of height 2.09cm. Calculate the density of the liquid. Given surface tension of soap solution is 0.040N/m

29. Calculate the mass of water flowing in 10 minutes through a tube of 1mm diameter and 50cm long, if there is a constant pressure head of 0.35m of water. Given η of water is $10^{-3}Nm^{-2}$.

30. If the earth is suddenly contracts so that radius becomes half the present value, by how much would the day be decreased.

31. A spherical ball of radius $1\times10^{-3}m$ and density $10^4 kg/m^3$ falls freely under gravity through a distance h before entering a tank of water. If after entering the water, the velocity of the ball does not change, find h. The coefficient of viscosity of water is $9.8\times10^{-4} Ns/m^2$.

(6 × 4 = 24 Marks)

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PART – D

Answer **any two** questions. Each question carries **fifteen** marks.

32. What do you mean by bending moment? Derive an expression for the depression at the middle of a beam in the case of uniform bending.

33. Derive the expression for the energy density of plane progressive waves. Obtain the expression for intensity of waves and spherical waves.

34. With necessary theory describe Jaeger' method for determining surface tension of a liquid. Discuss the variation of surface tension with temperature.

35. Explain Stock's method to determine the viscosity of a highly viscous fluid.

(2 × 15 = 30 Marks)

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Name : .....

First Semester B.Sc. Degree Examination, November 2019

First Degree Programme under CBCSS

Mathematics

Core Course

MM 1141 : METHODS OF MATHEMATICS

(2014–2017 Admissions)

St. Xavier's College

Time : 3 Hours Max. Marks : 80

SECTION – A

All the **first ten** questions are compulsory.

Each question carries **1** mark.

1. State Well-Ordering principle of N.
2. State Uniqueness proposition.
3. Represent 15036 in base 16.
4. Find the gcd of 267 and 112.
5. Find the natural domain of the function $f(x) = \frac{1}{1+\sqrt{x}}$
6. What is the geometrical interpretation of slope of a non-vertical line?
7. Write the parametric equations of a cycloid.

P.T.O.

8. Find an equation of the hyperbola with vertices $(0,\pm 2)$ and asymptotes $y = \pm\frac{2}{3}x$

9. Determine a rotation angle that will eliminate the xy–term in $2x^2+xy+2y^2+x-y = 0$.

10. State the reflection properties of parabolas.

SECTION – B

Answer any **eight** questions from among the questions 11 to 22.

Each question carries **2** marks.

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11. Prove that any natural number $n \geq 2$ is divisible by a prime number.

12. Prove that every composite number is divisible by some prime number.

13. Prove that if $ra \equiv rb(\text{ mod } m)$, then $a \equiv b(\text{ mod } \frac{m}{d})$ where $d = (r, m)$.

14. Prove that 11 divides a if and only if 11 divides the difference of the alternating sums of the digits of a.

15. Express the function $g(x) = |x| + |x-1|$ in piecewise form.

16. Sketch the graph of the function

$$f(x) = \begin{cases} x, 0 \leq x \leq 1 \\ 2-x, 1 < x \leq 2 \end{cases}$$

17. Express $F(x) = \frac{1}{1-x^2}$ as a composition of three functions.

18. Find the slope-intercept form of the line perpendicular to $x - 4y = 7$ and passes through $(3, -4)$.

19. Find the eccentricity of an equilateral hyperbola.

20. Use the discriminant to identify the graph of the equation $6x^2 + 24xy - y^2 - 12x + 26y + 11 = 0$.

21. The x and y-axes are rotated through an angle of 45° about the origin. Find an equation for the hyperbola $2xy = 9$ in the new coordinates.

22. Find an equation of a hyperbola with its foci 10 units apart and vertices at (0,6), (6,6).

SECTION – C

Answer any **six** questions from among the questions 23 to 31.

Each question carries **4** marks.

23. State and prove division theorem.

24. Given numbers a and *h*. suppose there are integers *r, s* so that $ar + bs = 1$. Show that a and *b* are coprime.

25. Find $85^{85} \pmod{19}$.

26. Find formulas for $f \circ g$ and $g \circ f$, and state the domains of the functions if $f(x) = x^2, g(x) = \sqrt{1-x}$

27. Evaluate $\lim_{x \to +\infty} (\sqrt{x^2 - 3x} - x)$.

28. Find $\frac{dy}{dx}$ if $x^3 + y^3 = 3xy$.

29. Derive the standard equation of an ellipse.

30. Find an equation *for* the ellipse with foci (0, ±2) and major axis with end points (0, ±4).

31. Find an equation of the parabola traced by a point that moves so that its distance from (–1,4) is the same as its distance to y = 1.

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SECTION – D

Answer any **two** questions from among the questions 32 to 35.

Each question carries **15** marks.

32. (a) Find all solutions of $172x + 20y = 1000$.

(b) Prove that if r_N is the last nonzero remainder in Euclid's algorithm for a and b, then r_N is the greatest common divisor of a and b and $r_N = ax + by$ for some integers x and y.

33. (a) Find $\frac{dy}{dx}\Big|_{x=1}$ if $y = (2x^7 - x^2)\frac{(x-1)}{(x+1)}$

(b) Let $f(x) = \begin{cases} x^2 + x + 1, x \le 1 \\ 3x, x > 1 \end{cases}$

Is f continuous at x = 1? Determine whether f is differentiable at x = 1. If so, find the value of the derivative there.

34. (a) Prove that if $a \equiv b(\text{mod}n)$ and $a' \equiv b'(\text{mod}n)$, then $aa' \equiv bb'(\text{mod}n)$.

(b) Rotate the coordinate axes to remove the xy—term in the equation of the curve $9x^2 - 24xy + 16y^2 - 80x - 60y + 100 = 0$. Then name the conic.

35. (a) Find two values *of k* such that the line $x+2y = K$ is tangent to the ellipse $x^2+4y^2 = 8$. Find the points of tangency.

(b) Describe the graph of the equation $x^2 + 9y^2 + 2x - 18y + 1 = 0$.

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Reg. No. : .....

Name : .....

First Semester B.Sc. Degree Examination, November 2019

First Degree Programme under CBCSS

Physics

PY 1141 – BASIC MECHANICS AND PROPERTIES OF MATTER

(2014 to 2017 Admissions)

St. Xavier's College

Time : 3 Hours Max. Marks : 80

PART – A

Answer **all** questions in one or two sentences. Each question carries **one** mark.

1. Write down the moment of inertia of a solid cylinder.
2. Express kinetic energy of a rigid body in terms of angular momentum.
3. What is limiting friction?
4. Can friction do positive work? Explain
5. Define simple harmonic motion.
6. What is a cantilever?
7. Write down the equation of surface energy of liquid drop of radius r and surface tension T.
8. Write down the dimensional formula of coefficient of viscosity.

9. What is radius of gyration of compound pendulum?

10. Distinguish between transverse and longitudinal waves.

(10 × 1 = 10 Marks)

PART – B

Answer **any eight** questions, not exceeding a paragraph. Each question carries **two** marks.

11. Derive the formula for the moment of inertia of a uniform rod.

12. Explain parallel axis theorem.

13. Prove that conservative forces can be expressed as negative gradient of potential energy.

14. Explain and prove work energy theorem.

15. Derive the formulae for the time period of simple pendulum.

16. Explain Sabines reverberation formulae.

17. Explain the importance of I section girders.

18. Prove that a shear strain is equivalent to the sum of mutually perpendicular compressional and extensional strains.

19. Derive the expression for excess pressure inside a liquid drop.

20. Explain the effect of temperature and impurities on surface tension.

21. Explain Newton's Laws of viscous flow of fluids.

22. Differentiate between streamline and turbulent flow of liquids.

(8 × 2 = 16 Marks)

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PART – C

Answer **any six** questions. Each question carries **four** marks.

23. A solid sphere rolls on a horizontal plane without slipping. What fraction of its total KE is rotational?

24. A disc of mass 10kg has a radius of 0.2 m. If it rotates about its axis with angular speed 240rpm. Find the torque required to bring it to rest in 20 seconds.

25. A uniform thin bar of mass 4kg and length 4 m is bent to make a square. Calculate the MI about an axis which is one side of the square?

26. The breaking stress of aluminium is 7.5×10^7 Nm^{-2}. Calculate the greatest length of aluminium wire that could hang vertically without breaking. Density of aluminium is 2700kg m^{-3}.

27. The same twisting couple is applied to two rods A and B of the same material, A having half length and diameter of B. Find the ratio of their twists.

28. A liqiud drop of 50mm in diameter contains a pressure (in excess of atmospheric) of 2×10^5 Pa. Find the surface tension of the liquid drop.

29. At the bottom of a uniform cylindrical vessel of 30cm height a horizontal capillary tube of 2mm inner diameter and 10cm length is connected to discharge the liquid. Calculate the rate of discharge of the liquid if the vessel contains oil of viscosity 0.84 poise to its 2/3 capacity. Take the density of oil as 0.9gm/cc?

30. At what displacement of an SHM its Kinetic energy and potential energy becomes equal ?

31. A particle executes simple harmonic motion with $X = 0.1 \sin 2t$. Its total energy is 4×10^{-4} J. Find its mass.

(6 × 4 = 24 Marks)

PART – D

Answer **any two** questions. Each question carries **fifteen** marks.

32. Explain the theory and method of finding Young's Modulus by cantilever.

33. Deduce the expressions for displacement, velocity, acceleration and mechanical energy of a simple harmonic oscillator.

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34. Derive the formula for

(a) Excess pressure inside a soap bubble

(b) Energy required to break a liquid drop of radius R into N identical drops of radius r.

35. Explain Bernoulli's theorem and working of venturimeter.

(2 × 15 = 30 Marks)

St. Xavier's College

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Reg. No. : .....

Name : .....

First Semester B.Sc. Degree Examination, November 2019

First Degree Programme under CBCSS

Complementary Course for Physics

MM 1131.1 : MATHEMATICS I – DIFFERENTIATION AND ANALYTIC GEOMETRY

(2014-2017 Admissions)

St. Xavier's College

Time : 3 Hours Max. Marks : 80

SECTION – I

(All the first **ten** questions are compulsory. They carry 1 marks each)

1. Find the parametric equations of a circle with radius 2, centered at the origin, oriented counter clockwise.
2. Define a horizontal asymptote of a rational function.
3. Evaluate $\lim_{x\to 3} \frac{x^2-9}{x-3}$.
4. State Rolle's theorem.
5. Find the Maclaurin's series for $\cos x$.
6. Use Euler's theorem to prove $x\,\partial u/\partial x + y\,\partial u/\partial y = 2u$ when $u = x^2 + xy + y^2$.
7. What is the eccentricity of a parabola?
8. Find the rectangular coordinates of the point whose polar coordinates are $(r,\theta) = \left(1, \frac{\pi}{4}\right)$.

P.T.O.

9. What are the asymptotes of the hyperbola $16x^2 - 25y^2 = 400$.

10. State the reflection property of hyperbolas.

SECTION – II

(Answer **any eight** from among the questions 11 to 22. These questions carry **2** marks each).

11. Solve the equation $x^4 + 4x^3 + 5x^2 + 2x - 2 = 0$ of which one root is $-1+i$.

12. Solve the equation $x^4 - 2x^3 + 4x^2 + 6x - 21 = 0$ given that two of its roots are equal in magnitude but opposite in sign.

13. Find the value of the constant A so that $y = A\sin 3t$ satisfies the equation $d^2y/dx^2 + 2y = 4\sin 2t$.

14. If the position function of a particle moving along a coordinate line is given by $s(t) = 12t - t^3$ where s is in feet. Find the velocity and acceleration after 3 seconds. Also find when and where are the velocity is a maximum.

15. Two particles A and B are in motion in the xy-plane. Their co-ordinates at each instant of time $t(t \geq 0)$ are given by $X_A = t$ and $X_B = 1 - t$ and $Y_A = 2t$ and $Y_B = t$. Find the minimum distance between A and B.

16. Verify Mean Value Theorem for the function $f(x) = x^2 - 3x - 1$ in $[1, 3]$.

17. Find the radius of convergence and interval of convergence of the power series

$$1 + (x-3) + (x-3)^2 + ... + (x-3)^k + ...$$

18. If $z = (x+y)/(x-y)$ find $\partial z/\partial x$ and $\partial z/\partial y$.

19. Find the Jacobian $\partial(x,y)/\partial(u,v)$ if $x = u + 4v$ and $y = 3u - 5v$.

20. Given that $z = x/y, x = 2\cos, u, y = 3\sin v$. Find $\partial z/\partial u$ and $\partial z/\partial v$ using chain rule.

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21. Find the equation of the ellipse whose ends of the major axis are $(\pm 3,0)$ and ends of the minor axis are $(0, \pm 2)$.

22. What is the discriminant of the quadratic equation $Ax^2 + Bxy + Cy^2 + Dx + Ey + F = 0$. Use this to identify the graph of the equation $2x^2 + y^2 - 4x - 4 = 0$.

SECTION – III

(Answer **any six** from among the questions 23 to 31. These questions carry **4** marks each).

23. A robot moves in the positive direction along a straight line so that after t minutes its distance is $s = 6t^4$ feet from the origin.
    (a) Find the average velocity of the robot over the interval $[2, 4]$
    (b) Find the instantaneous velocity at $t = 2$.

24. Show that $\sinh^{-1} x = \ln\left(x + \sqrt{x^2 + 1}\right)$ and $d/dx\left\{\sinh^{-1} x\right\} = 1/\sqrt{x^2 + 1}$.

25. An open box is to be made from a 16 inch by 30 inch piece of cardboard by cutting out equal squares of equal size from the four corners and bending up the sides. Find the maximum volume of the box.

26. Locate all relative extrema and saddle points of $f(x,y) = 3x^2 - 2xy + y^2 - 8y$.

27. Find the absolute maximum and minimum values of $f(x,y) = 3xy - 6x - 3y + 7$ on the closed triangular region R with vertices (0, 0), (3, 0) and (0,5).

28. Find the Taylor's series expansion for $f(x) = lnx$ about $x_0 = 1$.

29. Sketch the graph of the ellipse $x^2 + 2y^2 = 4$, showing foci.

30. Describe the graph of the equation $y^2 - 8x - 6y - 23 = 0$.

31. The period T of a simple pendulum of length l is given by $T = 2\pi\sqrt{l/g}$ where g is a constant. Find the maximum error in T due to possible errors up to 1% in l and 2.5% in g.

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SECTION – IV

(Answer **any two** from among the questions 32 to 35. These questions carry **15** marks each).

32. (a) Let V be the volume of a cylinder having height h and radius r, assume that h and r are vary with time. How are $dV/dt, dh/dt$ and dr/dt related?

(b) At a certain instant the height is 6 in increasing at 1 in/s, while the radius is 10 in and decreasing at 1 in/s. How fast is the volume changing at that instant? Is the volume increasing or decreasing at that instant?

(c) Water is running out of a conical funnel at the rate of 1 cc/sec. The radius of the base funnel is 4 cm, and the altitude is 16 cm. Find the rate at which the water level is dropping when it is 2 cm from the top.

33. (a) If $u = x^3y^3/(x^3+y^3)$, show that $x\partial u/\partial x + y\partial u/\partial y = 3u$.

(b) If $u = x^2\tan^{-1}(y/x) - y^2\tan^{-1}(x/y)$, then show that $\partial^2 u/\partial x\,\partial y = (x^2-y^2)/(x^2+y^2)$.

(c) Verify Euler's theorem for the function $u = x^3 + y^3 + z^3 + 3xyz$.

34. (a) Derive the equation of a parabola in the form $y^2 = 4px$.

(b) Prove the equation of the tangent to the ellipse $x^2/a^2 + y^2/b^2 = 1$ at (x_1, y_1) is $xx_1/a^2 + yy_1/b^2 = 1$.

(c) Find the equation of the hyperbola with vertices $(0, \pm 8)$ and asymptotes $y = \pm 4x\sqrt{3}$.

35. (a) Derive the polar equations for the conic section in the form $r = ed/(1-e\cos\theta)$ from their focus- directrix property.

(b) Sketch the graph of $r = 2/(1-\cos\theta)$.

(c) State Kepler's first, second and third laws of planetary motion.

St. Xavier's College

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Reg. No. : .....

Name : .....

First Semester B.Sc. Degree Examination, November 2019

First Degree programme under CBCSS

Complementary Course I for Chemistry and Polymer Chemistry

MM 1131.2 : MATHEMATICS I — DIFFERENTIATION AND MATRICES

(2014–2017 Admission)

St. Xavier's College

Time : 3 Hours Max. Marks : 80

SECTION – I

All the first **ten** questions are compulsory. They carry 1 mark each.

1. Define Horizontal asymptote.
2. Find the average rate of change of $y = x^2+1$ with respect to x over the interval [4, 6].
3. State Mean Value Theorem.
4. Find the derivative of f^{-1} where $f(x) = 5x^3 + x, -7$.
5. State the conditions for the existence of Maclaurin series representation of any function f(x) and write the formula for the Maclaurin series expansion of f(x).
6. State Euler's theorem for homogeneous functions.
7. Find the slope of the surface $f(x,y) = \sqrt{3x+2y}$ in the x - direction at the point (4, 2).

P.T.O.

8. Define rank of a matrix.

9. Obtain the eigen values of $\begin{bmatrix} -5 & 2 \\ 2 & -2 \end{bmatrix}$

10. Explain the method of diagonalization of a symmetric matrix.

SECTION – II

Answer **any 8** questions from among the questions 11 to 22. These questions carry **2** marks each.

11. Show that $y=x^3+3x+1$ satisfies $Y'''+xy''-2y'=0$.

12. Locate the relative extrema of the function $f(x)=x(x-1)^2$

13. Verify Rolle's theorem for the function $f(x)=x^2-6x+8$ over the interval [2,4].

14. The hypotenuse of a right triangle is known to be 10 units exactly and one of the acute angles is measured to be 30° with a possible error of ± 1°. Use the differentials to estimate the percentage error in the side opposite to the measured angle.

15. Obtain the interval of convergence of the power series $x-\frac{x^2}{2^2}+\frac{x^3}{3^2}-\frac{x^4}{4^2}+\ldots\infty$

16. Find the slope of the surface $f(x,y)=x^2y+5y^3$ in the x-direction at (1,-2).

17. Given that $x^3+y^2x-3=0$, find $\frac{dy}{dx}$ by implicit differentiation.

18. Verify Euler's Theorem for $f(x,y)=3x^2+y^2$

19. Locate all the critical points of $f(x,y)=4xy-x^4-y^4$.

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20. Reduce the matrix $\begin{bmatrix} 3 & 2 & 1 \\ 2 & 1 & 1 \\ 6 & 2 & 4 \end{bmatrix}$ to its Row Echlon form.

21. Check for consistency using the concept of rank and solve $5x - 3y = 37, -2x + 7y = -38$.

22. If $\lambda_1, \lambda_2, \ldots, \lambda_n$ are the eigen values of a matrix A of order n, then prove that $k\lambda_1, k\lambda_2, \ldots, k\lambda_n$, are the eigen values of the matrix kA where k is a nonzero constant.

SECTION – III

Answer **any 6** questions from among the questions 23 to 31. These questions carry **4** marks each.

23. Find $\frac{dy}{dx}$ at x=1 where $y = \frac{2x-1}{x+3}$

24. The position function of a particle moving along a coordinate line is given as $s(t) = t^3 - 6t^2, t \geq 0$.. Find the position, velocity, speed and acceleration at time t = 1.

25. Find the absolute maximum and minimum values of the function $f(x) = 4x^2 - 4x + 1 \, on [0,1]$ and state where these values occur.

26. Obtain Taylor series expansion of cos x in powers of $(x - \pi/4)$ up to three nonzero terms.

27. Show that the function $u(x,t) = \sin(x - ct)$ is a solution of the equation $\frac{\partial^2 u}{\partial t^2} = c^2 \frac{\partial^2 u}{\partial x^2}$

28. Obtain the Jacobian of transformation from Cartesian coordinates to Cylindrical polar coordinates.

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29. For what values of a and b, the system of equations x+ y + z = 6, x + 2y + 3z = 10 and x + 2y + az = b possess infinitely many solutions? Obtain the solutions in this case.

30. Prove that the eigen values of a real symmetric matrix are real.

31. Diagonalize the matrix $\begin{bmatrix} 5 & 4 \\ 1 & 2 \end{bmatrix}$

SECTION – IV

Answer **any 2** questions from among the questions 32 to 35. These questions carry **15** marks each.

32. (a) Find a nonzero value for the constant k that makes $f(x)\begin{cases} \frac{\tan kx}{x}, & x<0 \\ 3x+2k^2, & x\geq 0 \end{cases}$ continuous at $x=0$.

(b) Find the height and radius of the cone of slant height L whose volume is as large as possible.

33. (a) Let $f(x)=\sqrt{4x-3}$ and let c be a number that satisfies the Mean value theorem on [1 3]. What is c?

(b) If $f(x,y,z)=x+2y+z^2$, $x=\frac{r}{s}, y=r^2+in\,s, z=2r$, find the partial derivatives $\frac{\partial w}{\partial r}$ and $\frac{\partial w}{\partial s}$.

34. (a) Obtain the Maclaurin series expansion of $\tan^{-1}x$ by using the technique of term by term integration of the Power series.

(b) Find the maximum and minimum values of $f(x,y,z)=xyz$ on the ellipsoid $x^2+2y^2+3z^2=1$, using Lagrange's multiplier method.

35. (a) Examine the following system of equations for consistency and solve: $x+2y+z=2,\ 3x+y-2z=1,\ 4x-3y-z=3$.

(b) Find a basis of eigen vectors and diagonalize the matrix $\begin{bmatrix} 16 & 0 & 0 \\ 48 & -8 & 0 \\ 84 & -24 & 4 \end{bmatrix}$.

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(Pages : 4) **H – 2088**

Reg. No. : .....

Name : .....

First Semester B.Sc. Degree Examination, November 2019

First Degree Programme under CBCSS

Complementary Course I for Physics / Geology

CH 1131.1/CH 1131.2 – THEORETICAL CHEMISTRY

(2017 Admission onwards)

Time : 3 Hours Max. Marks : 80

St. Xavier's College

PART – A

(Answer **ALL** questions. Each question carries **1** mark)

1. The electrons present in K shell of the atom will differ in ———— quantum number.

2. According to Bohr's atomic model, electron on H atom have only certain values of ————.

3. Polarity in a molecule and hence the dipole moment depends primarily on ———— of the constituent atoms.

4. According to VSEPR theory geometry of ———— block elements can be explain.

5. The shape of sp^3d^2 hybrid orbital is ————.

6. The radioisotope used in cancer therapy is ————.

7. The units of dosimetry are ———— and ————.

8. ———— is used for acidification in permanganate titration.

9. In cation analysis second group metals are precipitated as ————.

10. The acid used for flame test is conc ————.

(10 × 1 = 10 Marks)

PART – B

(Answer **any eight** questions. Each question carries **2** marks)

11. What is Schrodinger wave equation?

12. What is Pauli's Exclusion principle?

13. What is Hund's rule of maximum multiplicity?

14. What is lattice energy?

15. What are the limitations of VSEPR theory?

16. What is bond order? How is it related to the stability?

17. What is rock dating?

18. What is mass defect?

19. What are the significances of n/p ratio?

20. What is normality?

21. What are the specifications for a standard solution?

22. What is solubility product?

(8 × 2 = 16 Marks)

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PART – C

(Answer **any six** questions. Each question carries **4** marks)

23. Briefly explain the significances of the four quantum numbers.

24. Describe the stability of the half-filled orbitals.

25. Discuss the Pauling's approach of electronegativity scale.

26. Describe the hybridization involving 'd' orbitals.

27. Discuss biological effects of radiations.

28. What is meant by artificial transmutation?

29. What are the characteristics of nuclear fission?

30. Discuss the criteria for primary standard in analytical chemistry.

31. Describe the titration curve of a weak acid with strong base. **(6 × 4 = 24 Marks)**

PART – D

(Answer **any two** questions. Each question carries **15** marks)

32. (a) Explain the different series of Hydrogen spectrum.

    (b) Explain the postulates of Bohr Theory. (8 + 7)

33. (a) Briefly explain Born – Haber Cycle.

    (b) Explain the various types of hydrogen bonds.

    (c) Briefly discuss the LCAO method. (5 + 5 + 5)

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34. (a) Explain the determination of radioactivity by Geiger Muller counter.

(b) Discuss the applications of neutron activation analysis in agriculture.

(c) What is Fricke dosimeter? (7 + 4 + 4)

35. (a) Explain the principle and applications of paper chromatography.

(b) Describe the theory of redox indicators. (9 + 6)

(2 × 15 = 30 Marks)

St. Xavier's College

(Pages : 4) H – 2089

Reg. No. : .....

Name : .....

First Semester B.Sc. Degree Examination, November 2019

First Degree Programme under CBCSS

Chemistry

Core Course – I

CH 1141 – INORGANIC CHEMISTRY – I

(2017 Admission onwards)

St. Xavier's College

Time : 3 Hours Max. Marks : 80

PART – A

Answer **all** questions in one word/one sentence. Each question carries **1** mark.

1. Total number of orbitals in third shell of an atom is _____

2. Fe^{3+} ion is more stable than Fe^{2+} ion. Why?

3. What is nascent hydrogen?

4. When superheated steam is passed over heated coke at temperatures varying from 440° C - 600°C, _____ is obtained.

5. What is the action of Lithium with dilute H_2SO_4?

6. _____ is the heaviest of alkali metals.

7. The theory defines acids and bases in terms of their tendency to donate or accept a proton.

8. ———————— is an example for an aprotic nonaqueous solvent.

9. Give the names of two green house gases.

10. Write any one harmful effect of pesticides

(10 × 1 = 10 Marks)

PART – B

Answer **any eight** questions. Each question carries **2** mark.

11. What is the wavelength of an electron moving at 5.31×10^{6} m/sec? (mass of electron = 9.11×10^{-31} kg, h= 6.626×10^{-34} J.s)

12. What is Hund's rule? Explain with example.

13. What are the different isotopes of hydrogen? Draw their atomic structures.

14. How is para hydrogen prepared? What is the ratio of ortho to para hydrogen at 300K?

15. Ionisation energy decreases on moving from lithium towards cesium. Why?

16. What are gypsum and plaster of paris?

17. Write a note on hydrogen as a next generation fuel.

18. Explain HSAB principle.

19. Write the equations showing the self ionisations of liquid NH_3 and liquid SO_2.

20. Write a note on acid rain

21. What are the harmful effects of fireworks?

22. Explain how detergents cause water pollution.

(8 × 2 = 16 Marks)

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PART – C

Answer **any six** questions. Each question carries **4** mark.

23. State and explain Heisenberg's uncertainty principle.

24. Write Schrodinger wave equation. What are the significances of wave function?

25. Explain Bosch process for preparation of hydrogen.

26. What is the role of ion exchange resins in water treatment?

27. Explain the action of alkali metals in liquid ammonia.

28. Write a note on leveling effect with examples.

29. Explain the preparation and properties of calcium hydroxide.

30. Write any four methods to control air pollution.

31. What is photochemical smog? Explain.

(6 × 4 = 24 Marks)

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PART – D

Answer **any two** questions. Each question carries **15** mark.

32. (a) What are quantum numbers? Explain. (6)

    (b) State the rules used to write the electronic configuration for an atom. (6)

    (c) Write a note on dual nature of electrons. (3)

33. (a) Explain electrodialysis for water treatment. (6)

    (b) Distinguish between temporary and permanent hardness. (4)

    (c) Discuss the uses of the three isotopes of hydrogen. (5)

34. (a) Explain the general characteristics of Group I and Group II elements. (10)

(b) Discuss about the flame colouration of alkali and alkaline earth metals. (5)

35. Write notes on (5+5+5)

(a) reverse osmosis

(b) BOD and COD,

(c) Ozone layer depletion.

(2 × 15 = 30 Marks)

St. Xavier's College

(Pages : 4) H – 2095

Reg. No. : .....

Name : .....

First Semester B.Sc. Degree Examination, November 2019

First Degree Programme under CBCSS

Mathematics

Core course

MM 1141 : METHODS OF MATHEMATICS

(2018 Admission Onwards)

St. Xavier's College

Time : 3 Hours Max. Marks : 80

SECTION – I

(All the questions are compulsory. Each question carries **1** mark.)

1. Define local linear approximation of f at x_0.
2. Define percentage error in measurement.
3. Give the differential formula for quotient rule of differentiation.
4. Define inflection points of a curve.
5. How can you interpret the sign of acceleration?
6. Give the formula for average value of a function.
7. What is the volume of a solid bounded by $x = a$ and $x = b$ having a cross sectional area, $A(x)$

8. Give the formula for work done by a variable force F in moving and object over $[a,b]$

9. Define Hyperbolic sine and cosine functions

10. Evaluate $\int_0^{\infty} \frac{dx}{x^3}$

(10 × 1 = 10 Marks)

SECTION – II

(Answer **any eight** questions. Each question carries **2** marks)

11. Suppose that x and y are differentiable functions of t and are related by the equation $y = x^3$ find $\frac{dy}{dt}$ at time $t = 1$ if $x = 2$ and $\frac{dx}{dt} = 4$ at time $t = 1$.

12. Stat the L'Hospital's Rule for form 0/0.

13. Find the intervals on which $f(x) = x^3$ is increasing and the intervals on which it is decreasing.

14. Evaluate $\lim_{x \to \infty} \frac{x^{\frac{-4}{3}}}{\sin\left(\frac{1}{x}\right)}$.

15. State a sufficient condition for $f(x)$ to be concave up or concave down.

16. State Mean value theorem for $f(x)$.

17. Find the average value of the function $f(x) = \sqrt{x}$ over the interval $[1,4]$.

18. State the formula for Volume by Washer method.

19. A triangular lamina with vertices (0,0), (0,1) and (1,0) has density $\delta = 3$. Find its total mass.

20. The face of a dam is a vertical rectangle of height 100ft and width 200 ft. Find the total fluid force exerted on the face when the water surface is level with the top of the dam.

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21. Prove that $\cosh^2 x - \sinh^2 x = 1$.

22. Evaluate $\int_0^\infty \frac{dx}{1+x^2}$.

(8 × 2 = 16 Marks)

SECTION – III

(Answer **any six** questions. Each question carries 4 marks)

23. Suppose that the side of a square is measured with a ruler to be 10 inches with a measurement error of at most $\pm\frac{1}{32}$ in. Estimate the error in the computed area of the square.

24. Define critical points and find all critical points of $f(x) = 3x^{\frac{5}{3}} - 15x^{\frac{2}{3}}$.

25. Find the relative extrema of $f(x) = 3x^5 - 5x^3$.

26. Find the absolute maximum and minimum values of the function $f(x) = 2x^3 - 15x^2 + 36x$ on the interval [1,5], and determine where these values occur.

27. An open box is to be made from a 16-inch by 30-inch piece of cardboard by cutting out squares of equal size from the four corners and bending up the sides. What size should the squares be to obtain a box with the largest volume?

28. Suppose that a particle moves along a coordinate line so that its velocity at time t is $v(t) = 2 + \cos t$. Find the average velocity of the particle during the time interval $0 \le t \le \pi$.

29. Find the arc length of the curve $y = x^{\frac{3}{2}}$ from (1,1) to $(2,2,\sqrt{2})$ by integrating with respect to x.

30. Use cylindrical shells to find the volume of the solid generated when the region R under $y = x^2$ over the interval [0,2] is revolved about the line $y = -1$.

31. Evaluate $\int_0^\infty (1-x)e^{-x}dx$.

(6 × 4 = 24 Marks)

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SECTION – IV

(Answer **any two** questions. Each question carries **15** marks)

32. (a) Suppose that liquid is to be cleared of sediment by allowing it to drain through a conical filter that is 16cm high and has a radius of 4cm at the top. Suppose also that the liquid is forced out of the cone at a constant rate of $2cm^3/\min$. Find a formula that expresses the rate at which the depth of the liquid is changing in terms of the depth.

(b) Find a point on the curve $y = x^2$ that is closest to the point (18,0).

33. (a) Evaluate $\lim_{x\to 0}(1+\sin x)^{\frac{1}{x}}$. using L'Hospital's Rule.

(b) Find the radius and height of the right circular cylinder of largest volume that can be inscribed in a right circular cone with radius 6 inches and height 10 inches.

34. (a) A coin is released from rest near the top of a building at a point that is 1250 ft above the ground. Assuming that the free-fall model applies and $g = 32ft/s^2$ how long does it take for the coin to hit the ground, and what is its speed at the time of impact?

(b) Derive the formula for the volume of a right pyramid whose altitude is h and whose base is a square with sides of length a.

35. (a) Find the centroid of the region R enclosed between the curves $y = x^2$ and $y = x + 6$.

(b) Prove that $\sin^{-1}{}_x = \ln\left[x + \sqrt{x^2+1}\right]$ and $\tanh^{-1} x = \frac{1}{2}\ln\left(\frac{1+x}{1-x}\right)$.

(2 × 15 = 30 Marks)

St. Xavier's College

(Pages : 4) H – 2096

Reg. No. : .....

Name : .....

First Semester B.Sc. Degree Examination, November 2019

First Degree Programme Under CBCSS

Complementary Course for Mathematics

ST 1131.1 : DESCRIPTIVE STATISTICS

(2018 Admission onwards)

St. Xavier's College

Time : 3 Hours Max. Marks : 80

SECTION – A

Answer **all** questions : Each question carries **1** mark

1. What is nominal scale.
2. Define primary data?
3. What is percentage bar diagram?
4. Name any two sources of secondary data.
5. What do you mean by random sampling?
6. What is scatter plot?
7. Define coefficient of variation

8. Define Skewness

9. What is the relationship between correlation coefficient and regression coefficient?

10. What is the expression of Spearman's rank correlation coefficient?

(10 × 1 = 10 Marks)

SECTION – B

Answer **any eight** questions. Each question carries **2** mark.

11. Distinguish between questionnaire and schedule?

12. What is time series graphs? When false base line is used in line graphs?

13. What is sampling survey? What are the advantage of sampling over census?

14. Distinguish between SRSWOR and SRSWR.

15. What is sampling error? How it is different from non-sampling error?

16. Define Harmonic mean (HM) Give a situation where HM is used.

17. What is coefficient of variation? When it is used?

18. Distinguish between raw moments and central moments.

19. What is pie chart? When it is used?

20. List out any four non-random sampling methods.

21. Define Mean Deviation? What are its merits?

22. Define Pearson's and Bowleys measures of skewness

(8 × 2 = 16 Marks)

St. Xavier's College

SECTION – C

Answer **any six** questions. Each question carries **4** mark.

23. Write a short note on scales of measurement with examples.

24. Explain any two methods of collecting primary data?

25. Construct histogram for following data

Class	0–10	11–20	21–30	31–40	41–50	51–60
Frequency	7	13	22	10	7	4

26. Show that sum of squares of the deviations of observations is minimum, when it is taken from arithmetic mean.

27. Find the missing value, x for the following data, if its mean of distribution is 10.20

Observation	5	8	x	12	13	15
Frequency	9	9	11	8	4	9

28. Find Harmonic Mean of 2, 4, 6, 8.

29. For positive numbers, show that AM $\geq$ GM $\geq$ HM

30. Write a short note on curve fitting

31. Derive the expression for angle between two regression lines.

(6 × 4 = 24 Marks)

St. Xavier's College

SECTION – D

Answer **any two** questions. Each question carries **15** mark.

32. Explain any three methods of sampling. State merits and demerits of each method.

33. (a) Explain different measures of central values like arithmetic mean, median and mode

    (b) Compare quartile deviation and standard deviation. List out merits and demerits of each measures.

34. Following table shows the price of a particular commodity in Thiruvananthapuram and Kozhikode for six months

Thiruvananthapuram	50	60	55	62	58	57
Kozhikode	48	52	50	46	64	58

Compare the consistency in prices of two cities.

35. (a) Derive Spearman's rank correlation?

    (b) Height and weight of ten students of a college is given below use Karl Pearson's method to check whether height and weight are correlated.

Height (in cm)	140	130	152	148	150	160	162	140	150	148
Weight (in cm)	40	38	45	42	42	55	50	46	48	45

(2 × 15 = 30 Marks)

St. Xavier's College

(Pages : 4) H – 2098

Reg. No. : .....

Name : .....

First Semester B.Sc. Degree Examination, November 2019

First Degree Programme Under CBCSS

Physics

Core Course I

PY 1141 – BASIC MECHANICS AND PROPERTIES OF MATTER

(2018 Admission onwards)

Time : 3 Hours Max. Marks : 80

SECTION – A

Answer **all** questions in one or two sentences. Each carries **1** mark.

1. Write down differential equation of wave motion.
2. Write down expression for kinetic energy of a rotating body.
3. The expression for conservative force (F) in terms of potential energy (U) is?
4. Write down any two differences between mechanical wave and electromagnetic waves.
5. Differential equation of spring mass system executing simple harmonic motion is?
6. The unit of surface tension is?
7. The motion of a particle executing simple harmonic motion (SHM) is given by $x = A\sin\omega t + B\cos\omega t$ What is its amplitude?

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8. Define Energy Function.

9. Give an example for conservative Force.

10. Define Poisson's ratio.

(10 × 1 = 10 Marks)

SECTION – B

Answer **any eight** questions, not exceeding a paragraph, Each question carries **2** marks.

11. What is Physical Significance of Moment of Inertia?

12. State Stoke's formula. Explain the symbols.

13. State theorems on Moment of Inertia.

14. Explain bending moment.

15. Explain why water rises in a glass capillary tube and mercury goes down in it.

16. Explain the advantages of 'I' section for girders.

17. State and explain Bernoulli's theorem.

18. Write short note on Torsion Pendulum. Obtain expression for the frequency of oscillations.

19. Show that moment of inertia of a disc about its diameter on its plane is half the MI of the same disc about an axis passing through the centre and perpendicular to its plane.

20. How does a compound pendulum differ from a simple pendulum?

21. Write a short note on Venturimeter.

22. Explain how surface tension varies with temperature.

(8 × 2 = 16 Marks)

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SECTION – C

Answer **any six** questions. Each carries **4** marks.

23. Obtain expression for kinetic energy(KE) and potential energy (PE) of a particle executing simple harmonic motion. Sketch KE and PE.

24. Obtain an expression for the moment of inertia of a solid sphere.

    (i) about a diameter

    (ii) about a tangent

25. Show that the Force $\vec{F} = yz\hat{i} + zx\hat{j} + xy\hat{k}$ is a conservative force.

26. A rod of 0.8 m in length and 2cm in diameter is clamped at one end. A torque is applied at the other end so that the rod get twisted through 45°. Find the torque applied. Rigidity modulus of the rod $7 \times 10^{10} Nm^{-2}$.

27. A particle which executes SHM along a straight line has its motion represented by $x = 4\sin(\pi t/3 + \pi/6)$.

    Find

    (a) the amplitude

    (b) time period

    (c) frequency ;

    (d) phase difference ;

    (e) velocity

    (f) acceleration, at t = 1s, × being in cm.

28. At what distance from the equilibrium position is the kinetic energy equal to the potential energy for a SHM? In SHM if the displacement is one-half of the amplitude show that the kinetic energy and potential energy are in the ratio 3:1.

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29. Water flows through a horizontal pipe line of varying cross-section. At a point where the pressure of water is 0.05m of mercury the velocity of flow is 0.25 m/s. Calculate the pressure at another point where velocity of flow is 0.4 m/s. Density of water = 10^3 Kg/m^3

30. What would be the pressure inside a smaller air bubble of 0.1 mm radius situated just below the surface of water? Surface tension of water 0.072 N/rn and atmospheric pressure = 1.013×10^5 N/m^2.

31. A metal wire of length 3 meters and diameter 1mm is stretched by a weight of 10 Kg. If Youngs modulus for its material be 1.25×10^{11} dynes/cm^2 and σ for it equal to 0.26. calculate the lateral compression produced.

(6 × 4 = 24 Marks)

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SECTION – D

Answer **any two** questions. Each carries **15** marks.

32. Discuss a method with necessary theory to determine the moment of inertia of flywheel? What are the practical uses of flywheel?

33. Derive an expression for the oscillations of two particles connected by a spring. An HCl molecule executes fundamental vibration frequency at 8.7×10^{13} Hz. What is the effective force constant C between atoms. Mass of Chlorine 35 u and Mass of Hydrogen lu and u 1.66 x10^{-27} Kg.

34. Deduce an expression for the couple per unit twist of a uniform cylindrical rod. Hence explain why a hollow cylinder is stronger than solid cylinder of same material, mass and length?

35. Deduce the expression a plane progressive harmonic wave. Hence obtain expression for energy density of a plane progressive Wave.

(2 × 15 = 30 Marks)

(Pages : 4) **H – 2099**

Reg. No. : 23018141029

Name : .....

First Semester B.Sc. Degree Examination, November 2019

First Degree Programme under CBCSS

Complementary Course for Physics

MM 1131.1: MATHEMATICS I — CALCULUS WITH APPLICATIONS IN PHYSICS – I

(2018 Admission onwards)

St. Xavier's College

Time : 3 Hours Max. Marks : 80

PART – I

Answer **all** questions. Each question carries **1** mark.

1. Find the derivative with respect to x of $f(t) = 2at$, where $x = at^2$.
2. State Mean value theorem.
3. Define the radius of curvature of the function.
4. Evaluate $\int x \sin x dx$
5. Give the formula for finding the area of a sector defined by the polar curve $\rho = \rho(\phi)$ and the radii *vectors* $\phi = \phi_1, \phi = \phi_2$.
6. Find the mean value of the function $f(x) = x$ over the interval $[0,1]$.
7. Find the vector of length 2 that makes an angle of $\frac{\pi}{4}$ with positive x-axis.
8. Find a unit vector normal to both the *vectors* $\vec{a} = 4\hat{i} + \hat{k}$ *and* $\vec{b} = 2\hat{i} - \hat{j}$.

9. Determine whether the planes $3x-4y+5z=0$ and $-6x+8y-10z-4=0$ are parallel.

10. Define the absolute and conditional convergence of an infinite series.

(10 × 1 = 10 Marks)

PART – II

Answer **any eight** questions. Each question carries **2** marks.

11. Find the third derivative of the function $f(x)=(x^3+x)\cos x$, using Leibnitz' theorem.

12. Verify Rolle's theorem for the function $f(x)=\sin x$ on $[0,2\pi]$.

13. Find the inflection points, if any, of $f(x)=x^4$.

14. Evaluate $\int x^3 e^{-x^2}\,dx$.

15. Find the length of the curve $y=x^{3/2}$ from $x=0$ to $x=2$.

16. Find the volume of the solid that is obtained when the region under the curve $y=\sqrt{x}$ over the interval [1,4] is revolved about the x-axis.

17. Find the angle between a diagonal of a cube and one of its edges.

18. Find the parametric equation of the line through (2,–1,5) which is parallel to the vector $-\hat{i}+2\hat{j}+7\hat{k}$.

19. Find the distance between the lines $L_1: x=2t,\ y=3+4t,\ z=2-6t$ and

$L_2: x=1+t,\ y=6t,\ z=-9t$.

20. Find an equation of the plane passing through the point (3,–1,7) and perpendicular to the vector $\vec{n}=4\hat{i}+2\hat{j}-5\hat{k}$.

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21. Find the intersection of the line $x = 3+8t, y = 4+5t, z = -3-t$ and the plane $x-3y+5z = 12$.

22. Evaluate the sum $\sum_{n=1}^{N} \frac{1}{n(n+1)(n+2)}$.

(8 × 2 = 16 Marks)

PART – III

Answer **any six** questions. Each question carries **4** marks

23. Find the positions and natures of the stationary points of the function $f(x) = \sin ax$ with $a \neq 0$.

24. Find the curvature of a smooth parametric curve $x = t$, $y = \frac{1}{t}$ at the point $t = 1$.

25. Evaluate $\int_0^1 \frac{x^3+1}{x^4+4x+1} dx$.

26. Find the area of the region in the first quadrant that is within the cardioid $\rho = 1-\cos\phi$.

27. Find the position vector of the centroid of the triangle with vertices A, *B*, *C* having position vectors $\vec{a}, \vec{b}, \vec{c}$ respectively with respect to origin O.

28. Find the area of a triangle which is determined by the points $P_1(2,2,0)$, $P_2(-1,0,2)$ and $P_3(0,4,3)$.

29. Find the parametric equation of the line that contains the point $P(0,2,1)$ and intersect the line $L: x = 2t, y = 1-t, z = 2+t$ at right angle.

30. Consider a ball that drops from a height of $27\,m$ and on each bounce retains only a third of its kinetic energy; thus after one bounce it will return to a height of $9m$, after two bounces to $3\,m$ and so on. Find the total distance travelled between the first bounce and Mth bounce.

31. Test the convergence of the series $\sum_{n=1}^{\infty} \frac{1}{(n!)^2} = 1+\frac{1}{2^2}+\frac{1}{6^2}+\ldots$

(6 × 4 = 24 Marks)

St. Xavier's College

PART – IV

Answer **any two** questions. Each question carries **15** marks.

32. (a) If $I_n = \int_0^\infty x^n e^{-x} dx$ and if n is any positive integer, show that $I_n = nI_{n-1}$. Hence prove that $\int_0^\infty x^n e^{-x} dx = n!$. **8**

(b) Find the surface area of a cone formed by rotating about the x–axis the line $y = 2x$ between $x = 0$ and $x = h$. **7**

33. (a) Find the distance from the point $P(1,4,-3)$ to the line $L : x = 2 + t, y = -1 - t, z = 3t$. **5**

(b) A line is inclined at equal angles to the x, y and z – axes and passes through the origin. Another line passes through the point (1, 2,4) and (0,0,1). Find the minimum distance between the two lines. **10**

34. (a) Find an equation of the plane that contains the line $x = 3t, y = 1 + t, z = 2t$ and is parallel to the intersection of the planes $2x - y + z = 0$ and $y + z + 1 = 0$. **7**

(b) Sum the series $S(x) = \frac{x^4}{3(0!)} + \frac{x^5}{4(1!)} + \frac{x^6}{5(2!)} + \ldots$ **8**

35. (a) If you invest Rs. 1000 on the first day of each year, and interest is paid at 5% on your balance at the end of each year, how much money do you have after 25 years. **5**

(b) Find the Maclaurin series for

(i) $\ln\left(\frac{1+x}{1-x}\right)$;

(ii) $\sin^2 x$. **10**

(2 × 15 = 30 Marks)

St. Xavier's College

(Pages : 4) **H – 2101**

Reg. No. : .....

Name : .....

First Semester B.Sc. Degree Examination, November 2019

First Degree Programme under CBCSS

Complementary Course I for Chemistry and Polymer Chemistry

MM 1131.2 : MATHEMATICS I – CALCULUS WITH APPLICATIONS IN CHEMISTRY – I

(2018 Admissions Onwards)

St. Xavier's College

Time : 3 Hours Max. Marks : 80

PART – I

Answer **all** questions. **Each** question carries **1** mark.

1. Find the derivative of $\frac{1}{x^3+2x-3}$ with respect to x.

2. Use implicit differentiation to find $\frac{dy}{dx}$ if $4x^2-2y^2=9$.

3. Find the argument of the complex number $z=2-3i$.

4. Give the polar form of the complex number $2i$.

5. Find the conjugate of the complex number $z=(x+5i)^{(3y+2ix)}$.

6. Find $\frac{dy}{dx}$ where $y=\cosh(x^3)$.

P.T.O.

7. Evaluate $\int xe^{3}dx$.

8. Two particles have velocities $\vec{v}_1 = \hat{i} + 3\hat{j} + 6\hat{k}$ and $\vec{v}_2 = \hat{i} - 2\hat{k}$ respectively. Find the velocity $\vec{u}$ of the second particle relative to the first.

9. Find a unit vector normal to both the vectors $\vec{a} = \hat{i} + 2\hat{j} - 3\hat{k}$ and $\vec{b} = -4\hat{i} + \hat{j} + 2\hat{k}$.

10. Give the equation of the line through the fixed point A with position vector $\vec{a}$ and having a direction $\vec{b}$.

PART – II

Answer any **eight** questions. **Each** question carries **2** marks.

11. Find the third derivative of the function $f(x) = x^2 \cos x$, using Leibnitz' theorem.

12. Verify Rolle's theorem for the function $f(x) = x^2 + 6x$ on $[-6, 0]$.

13. Find $f'(x)$ if $f(x) = \sqrt{4 + \sqrt{3x}}$.

14. Find the interval on which $f(x) = 5 + 12x - x^3$ is increasing.

15. Find the general value of $Ln(-i)$.

16. Express $z = \dfrac{x - 2i}{-1 + 4i}$ in the form $x + iy$.

17. Prove that $\cosh x - \cosh y = 2\sin\left(\dfrac{x+y}{2}\right)\sinh\left(\dfrac{x-y}{2}\right)$.

18. Evaluate $\int_0^2 (2-x)^{-1/4}\,dx$.

19. Find the mean value of the function $f(x) = x^2$ over $[-1, 2]$.

20. Find the angle between the vectors $\vec{a} = \hat{i} - 2\hat{j} + 2\hat{k}$ and $\vec{b} = -3\hat{i} + 6\hat{j} - 6\hat{k}$.

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21. Find the area of a triangle which is determined by the points $P_1(2,0,-3)$, $P_2(1,4,5)$ and $P_3(7,2,9)$.

22. Find an equation of the line in space that passes through the points $P_1(2,4,-1)$ and $Q(5,0,7)$.

PART – III

Answer any **six** questions. **Each** question carries **4** marks.

23. Find the positions and natures of the stationary points of the function $f(x)=x^3-3x^2+3x$.

24. Show that the radius of curvature at the point (x,y) on the ellipse $\frac{x^2}{a^2}+\frac{y^2}{b^2}=1$ has magnitude $\frac{(a^4y^2+b^4x^2)^{3/2}}{a^4b^4}$ and the opposite sign to y.

25. Verify Mean Value theorem for $f(x)=x^3+x-4$ in $[-1,2]$. Find all values of c in that interval which satisfy the conclusion of the theorem.

26. Express $\cos 4\theta$ in powers of $\cos\theta$ and $\sin\theta$.

27. Prove that $\cos^7\theta=\frac{1}{64}(\cos 7\theta+7\cos 5\theta+21\cos 3\theta+35\cos\theta)$.

28. Find all values of $(-1)^{1/6}$.

29. Find the volume of the parallelepiped with sides $\vec{a}=\hat{i}+2\hat{j}+3\hat{k}$, $\vec{b}=4\hat{i}+5\hat{j}+6\hat{k}$ and $\vec{c}=7\hat{i}+8\hat{j}+10\hat{k}$.

30. Find the minimum distance from the point P with sides coordinates $(1,2,1)$ to the line $\vec{r}=\vec{a}+\lambda\vec{b}$, where $\vec{a}=\hat{i}+\hat{j}+\hat{k}$ and $\vec{b}=2\hat{i}-\hat{j}+3\hat{k}$.

31. A line is given by $\vec{r}=\vec{a}+\lambda\vec{b}$, where $\vec{a}=\hat{i}+2\hat{j}+3\hat{k}$ and $\vec{b}=4\hat{i}+5\hat{j}+6\hat{k}$. Find the coordinates of the point P at which the line intersects the plane $x+2y+3z=6$.

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PART – IV

Answer any **two** questions. **Each** question carries **15** marks.

32. (a) At what point does $y = e^x$ have maximum curvature? (7)

(b) Solve the equation $z^6 + z^4 + z^2 + 1 = 0$. (8)

33. (a) If $I_n = \int_0^{\pi/2} \sin^n x\,dx$ and if n is any positive integer, show that $I_n = \frac{n-1}{n} I_{n-2}$.

Hence evaluate $\int_0^{\pi/2} \sin^6 x\,dx$. (7)

(b) Find the area and perimeter of the Cardiod $\rho = 1 - \cos\phi$. (8)

34. (a) Find the area of the surface that is generated by revolving the portion of the curve $y = x^2$ between $x = 1$ and $x = 2$ about the $y-axis$. (7)

(b) Find an equation of the plane that contains the line $x = -2 + 3t, y = 4 + 2t, z = 3 - t$ and is perpendicular to the plane $x - 2y + z = 5$. (8)

35. (a) Find an equation of the plane whose points are equidistant from $(2,-1,1)$ and $(3,1,5)$. (5)

(b) Find the radius ρ of the circle that is the intersection of the plane $\hat{n}.\vec{r} = p$ and the sphere of radius a centered on the point with position vector $\vec{c}$. (10)

St. Xavier's College

(Pages : 4) **H – 2102**

Reg. No. : .....

Name : .....

First Semester B.Sc. Degree Examination, November 2019

First Degree Programme under CBCSS

Complementary Course for Chemistry

PY 1131.2 – ROTATIONAL DYNAMICS AND PROPERTIES OF MATTER

(2018 Admission Onwards)

St. Xavier's College

Time : 3 Hours Max. Marks : 80

SECTION – A

Answer **all** questions in **one** or **two** sentences. **Each** question carries **1** mark.

1. Define moment of inertia in terms of torque.
2. The moment of inertia of a thin uniform rod about an axis passing through the centre of mass and perpendicular to its length is $Ml^2/12$. What is its moment of inertia about an axis passing through one end of the rod and perpendicular to its length? Identify the theorem involved.
3. Can we consider quartz as a perfectly plastic body? Explain.
4. What are the two types of normal stress? What is its main feature?
5. What are the functions of Ostwald's viscometer?
6. Write the unit of surface tension based on dimensional analysis.
7. What is the principle of Jaeger's method?
8. Why does a periodic motion be called harmonic motion?

P.T.O.

9. What is zero point energy?

10. What is meant by energy flux of a progressive wave?

(10 × 1 = 10 Marks)

SECTION – B

Answer any **eight** questions, **not** exceed one paragraph.
Each question carries **2** marks.

11. Compare the moment of inertia of solid circular disc with that of a wheel, having the same mass and the same external radius.

12. How do you calculate the kinetic energy of a rolling body with circular symmetry when it rolls over a plane surface?

13. Explain the significance of I section girders.

14. You have given two cylinders of same length, mass and material. One is hollow and the other is solid. Which one out of these would you prefer to make a shaft? Explain.

15. List the limitations of Poiseuille's formula.

16. How do you compare friction and viscosity?

17. Explain the essential requirements necessary for measuring the surface tension of a liquid.

18. Distinguish between streamline flow and turbulent flow.

19. What are the properties of progressive waves?

20. Does a diatomic molecule represent a two body harmonic oscillator? Explain.

21. Draw the potential energy curve and energy level diagram of a diatomic molecule.

22. Define a wave motion. Give its one dimensional differential equation.

(8 × 2 = 16 Marks)

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SECTION – C

Answer any **six** questions. **Each** question carries **4** marks.

23. A circular disc of diameter 20cm and mass 100g is rotating at the rate of 10 revolutions per second about an axis at right angles to its plane and passing through its centre. Find the work that must be done to increase the rate of revolution to twice the present rate.

24. Find the moment of inertia of a solid iron sphere of diameter 20cm and relative density 7.8 about its diameter and tangent.

25. A wire of 2mm diameter and 1 m length is twisted through 9^0. Where does the shearing stress be maximum? Find the maximum angle of shear. If the modulus of rigidity is 8GPa, what is the torsional couple?

26. A cantilever of length 1 m and uniform cross section shows a depression of 1cm at the loaded end. Calculate the depression at a distance 50cm from the fixed end.

27. A liquid is flowing through a 20cm long tube of 0.5mm internal diameter due to a pressure of 10cm of mercury. Calculate the volume of the liquid flowing in one minute and the velocity of the liquid on the axis of the capillary. Coefficient of viscosity of liquid 0.85m Nsm^{-2}.

28. Find the force required to separate two thin circular glass plates of diameter 2cm, which have a thin layer of water of thickness 1 μm in between them. Given the surface tension of water 72m N/m.

29. A particle of 1 g mass moves along the y-axis and is attracted towards origin by a force 4y. If the particle is initially at rest at y = 8 cm, find the differential equation of motion, amplitude, period and frequency of vibration.

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30. If the transition from one energy level to an adjacent one involves an energy change of 0.5eV in the case of hydrogen, calculate the energy involved in a similar transition in the case of HCl.

31. If in air a plane wave of frequency 512Hz and amplitude 1 μm is produced, calculate the radiated energy per unit volume and the energy current. Velocity of sound = 340m/s and the density of air = 1.3kgm^{-3}.

(6 × 4 = 24 Marks)

SECTION – D

Answer any **two** questions. **Each** question carries **15** marks.

32. With necessary theory give the details of the experiment to determine moment of inertia of a flywheel.

33. Describe the theory of the bending of beams and derive the expression for bending moment and flexural rigidity.

34. How do conclude the resultant force of surface tension on liquid surface from its shape? Obtain the expression for the difference of pressure across a curved liquid surface.

35. Discuss the theory of a compound pendulum and derive the equation of the period of oscillations. Hence explain the method of finding the acceleration due to gravity at a place using asymmetric compound bar pendulum.

(2 × 15 = 30 Marks)

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(Pages : 4) H – 2138

Reg. No. : .....

Name : .....

First Semester B.Com. Degree Examination, November 2019

First Degree Programme under CBCSS

Language Course – Latin

LT 1111.2 : COMMUNICATION SKILLS IN LATIN

(2015 Admission onwards)

Time : 3 Hours Max. Marks : 80

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I. Very Short Answer Questions. Answer **all**. (1 mark each)

1. Expande conctractiones

   a) R.I.P b) N.B

2. Scribe verba dissimilia.

   a) Audire, Punire, Sentire, Regere

   b) Poeta, insula, regina, sagitta

3. Delige verbum aptum ex verbis datis.

   Ancilla rosas ———— (poetae, poeta, poetam) dat.

4. Indica vera (T) an falsa (F)

   a) The accusative plural of 'servus' is 'servi'

   b) Dative case is used for the indirect object.

5. Redde Latine.

I love the daughter of the queen.

Redde Anglice.

6. Stellas poetae monstras.

7. Fiat voluntas tua sicut in coelo et in terra.

8. Nonne linguam Latinam amatis?

9. Scribe numerum Romanum

a) XL b) CD

10. Explica significationem in lingua Anglica

a) Felix b) Amabel

(10 × 1 = 10 Marks)

II. Short Answer Questions. Answer any eight of the following. (2 marks each)

Scribe Latina verba quae derivantur de verbis datis :

11. A **docile** child is easily taught.

12. A factory might ***produce*** clothing, baseball gloves, or chocolate candy.

13. You don't **humiliate** anybody.

14. He is watching an **amateur** film.

Indica numerum, genus et casum:

15. Templa

16. Poetarum

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17. Construe sententiam utens verbo: 'Laudare'

Explica in lingua Anglica.

18. Mars filios suos ad ripam Tiberis portat.

19. Feminae Romanae deas in templis et in casis suis saepe adorant.

Corrige :

20. Magna sunt fama Italiae.

21. Hodie in Italia deos multas non adorant.

22. Vesta casas curant.

(8 × 2 = 16 Marks)

III. Short Essay Questions. Answer **any six** of the following. (**4** marks each)

Explica significationem et scribe brevem dissertationem Anglice :

23. Prima facie

24. Ipso facto

25. Errare hurnanum est

26. Laborare est orare

Responde et explica :

27. Mercurius est nuntius deorum.

28. Mars filios suos ad ripam Tiberis portat.

29. et frumentum curat.

30. Dea lunae etiam est et silvas amat.

31. Sicilia et Sardinia et corsica sunt magnae et pulchrae insulae.

(6 × 4 = 24 Marks)

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IV. Long Essay Questions. Answer **any two** of the following. (**15** marks each)

32. What are the waves of Latin influence on English language and culture as discussed by Prof. P.L. Josey.

33. Dei Antiqui et Deae Antiquae.

Comple excerptum aptis verbis ex verbis datis.

34. _____1_____ (Italiae, Italiam, Italia) est _____2_____ (Peninsulam, Peninsula, Peninsularum) _____3_____ (in, propiter, de) Europa. Peninsula _____4_____ (est, sunt, esse) longa et _____5_____ (latam, latarum, lata). _____6_____ (incola, incolae, incolis) _____7_____ (multae, multus, multorum) sunt _____8_____ (agricolis, agricolar, agricolae) et nautae. Italia _____9_____ (sum, est, sum) clara et antiqua. Magna est fama _____10_____ (Italiae, Italiam, Italia). In Italia _____11_____ (sunt, ero, sumus) viae _____12_____ (multus, multarum, multae) et _____13_____ (longarum, longis longae). Incolae _____14_____ (patriam, patriae, patria) amant et _____15_____ (male, ad, bene) laborant.

35. Quod Romulus et Remus filii _____1_____ (ero, erat, erant) dei armorum et _____2_____ (bellarum, belli, bellum) populus Romanus proelia _____3_____ (amabat, amo, amamus). _____4_____ (Ero, Eramus, Erant) etiam filii Rheae Silviae. Amulius _____5_____ (ero, erat, eramus) avunculus Rheae Silviae et Albam Longam regnabat, sed pueros non _____6_____ (amabat, amabo, amabunt). Amulius filios Rheae Silviae _____7_____ (necavit, necare, necamus) parabat, sed servus in _____8_____ (aqua, aquam, aquae) in arca _____9_____ (pueri, puer, pueros) locat et vitas puerorum _____10_____ (servas, servat, servamus). Mars filios _____11_____ (suos, suas, suus) ad ripam Tiberis _____12_____ (portamus, porto, portat). Lupa pueros ibi _____13_____ (curo, curabat, curam). Tum Agricola _____14_____ (bonus, bona, bonam) ad casam suam Romulum et Remum _____15_____ (porto, portamus, portat).

(2 × 15 = 30 Marks)

St. Xavier's College

(Pages : 4) H – 2142

Reg. No. : .....

Name : .....

First Semester B.Com. Degree Examination, November 2019

First Degree Programme under CBCSS

Malayalam Language

Language Course II – Additional Language I

ML 1111.2 : നോവൽ, നാടകം, സഞ്ചാരസാഹിത്യം

(2018 admission onwards)

St. Xavier's College

Time : 3 Hours Max. Marks : 80

I. ഒരു വാക്കിലോ പരമാവധി രണ്ടു വാക്യത്തിലോ ഉത്തരമെഴുതുക.

1. ബന്യാമിന് ജെ.സി.ബി. പുരസ്കാരം നേടിക്കൊടുത്ത കൃതിയേത്?

2. സരസ്വതീവിജയം എന്ന നോവൽ എഴുതിയതാര്?

3. ആദ്യകാലസംഗീതനാടകങ്ങളുടെ കൂട്ടത്തിൽ അദ്വിതീയസ്ഥാനം കല്പിക്കപ്പെടുന്ന കെ.സി. കേശവപിള്ളയുടെ നാടകമേത്?

4. സഞ്ചാരികളുടെ സ്വർഗ്ഗമെന്നു വിശേഷിപ്പിക്കപ്പെടുന്ന നാട്?

5. 'അക്കാലത്തെ ഒരു ആറ്റംബോബ്' എന്ന് കെ. കേളപ്പൻ വിശേഷിപ്പിച്ച നാടകം.

6. ഒടിവിദ്യയും മറ്റും വശമുള്ള ബാലിയിലെ മഹാമന്ത്രവാദികൾക്കു പറയുന്ന പേര്.

7. മലയാളനോവൽ സാഹിത്യചരിത്രം എന്ന കൃതിയുടെ രചയിതാവ്?

P.T.O.

8. കെ.പി.എ.സി.യുടെ ആദ്യനാടകമേത്?

9. പുപ്പുത്താൻ എന്ന വാക്കിന്റെ അർത്ഥമെന്ത്?

10. സിനിമയുടെ ബ്ലൂപ്രിന്റ് എന്നറിയപ്പെടുന്നത് എന്താണ്?

(10 × 1 = 10 Marks)

II. ഒരു ഖണ്ഡികയിൽ കവിയാതെ **എട്ടു** ചോദ്യത്തിന് ഉത്തരമെഴുതുക.

11. വൈവിധ്യങ്ങളുടെ ചിത്രശാലകളെന്ന് മലയാ ദ്വീപുകളിലെ വനഭൂമികളെ പൊറ്റെക്കാട്ട് വിശേഷിപ്പിക്കുന്നതെന്തുകൊണ്ട്?

12. വർത്തമാനപ്പുസ്തകം - കുറിപ്പെഴുതുക.

13. നജീബിന്റെ മരുഭൂമിയിലെ ലോകം ഏപ്രകാരമുള്ളതായിരുന്നു?

14. മേലിൽ ഇന്ത തപ്പെ വരകൂടാത്. ഫസ്റ്റ് വന്തവർ ഫസ്റ്റ്. ലാസ്റ്റ് വർറ ആള് ലാസ്റ്റ് തെരിഞ്ചിതാ - ആരുടെ വാക്കുകൾ? സന്ദർഭം വ്യക്തമാക്കുക.

15. ഏഷ്യയുടെ ഏറ്റവും ഒടുവിലത്തെ മൈൽക്കുറ്റിയെന്ന് ബാലിദ്വീപിനു പേരു വരാൻ കാരണമെന്ത്?

16. വേദനകളും ദുഃഖങ്ങളും ഉറഞ്ഞുപോയ ഒരു ജീവിതം മാത്രമാണ് എനിക്കവിടെ കാണാൻ കഴിഞ്ഞത് - ആർക്ക്? എവിടെ?

17. ഗോഗോക്ക് എന്നാൽ എന്താണ്?

18. മാമച്ചന് അതൊരു ശവത്തിന്മേൽ കുത്തലാണെന്നു മനസ്സിലായി - സൂചിതമെന്ത്?

19. വികാരങ്ങൾക്ക് ഭാഷ ആവശ്യമില്ലെന്ന് നജീബ് ചിന്തിച്ചാൻ കാരണമെന്ത്?

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20. മലയാളനാടകവേദിയും കെ.ടി. മുഹമ്മദും - കുറിപ്പെഴുതുക.

21. ഈ ഒരോട്ടംകൊണ്ട് നിനക്കതിൽനിന്നു രക്ഷപ്പെടാൻ കഴിയുമോ? - ആരുടെ വാക്കുകൾ? സൂചിതമെന്ത്?

22. നീ പോലീസിൽ ചേർന്നതും ഇങ്ങോട്ട് ട്രാൻസ്ഫർ വാങ്ങിവന്നതും ഈ ഒരൊറ്റക്കാര്യത്തിനാണെന്നു തോന്നുമല്ലോ? - വിവക്ഷിതം വ്യക്തമാക്കുക.

(8 × 2 = 16 Marks)

III. **നൂറ്റിയിരുപതു** വാക്കിൽ കവിയാതെ **ആറു** ചോദ്യത്തിന് ഉത്തരമെഴുതുക.

23. മലയാളത്തിലെ ആദ്യകാല സഞ്ചാരസാഹിത്യത്തെക്കുറിച്ച് വിവരിക്കുക.

24. ഭാമിനിയ്ക്കു മുന്നിൽ പവിത്രൻ വെളിപ്പെടുത്തിയ രഹസ്യം എന്ത്?

25. ആടുജീവിതത്തിൽ ആവിഷ്കരിക്കുന്ന ഭീകരജീവിയുടെ ചിത്രം എപ്രകാരമാണ്?

26. ബട്ട്വാഞ്ഞിയിലെ ജോഗേ നൃത്തം കാണാൻ പോയ അനുഭവം പൊറ്റെക്കാട്ട് എപ്രകാരമാണ് വിവരിക്കുന്നത്?

27. പ്രതീക്ഷയുടെ ചിഹ്നങ്ങളെ ആടുജീവിതത്തിൽ എപ്രകാരം ചിത്രീകരിച്ചിരിക്കുന്നു? വിശദീകരിക്കുക.

28. തനതുനാടകവേദി എന്തെന്നു വിശദമാക്കുക.

29. ലാസം രംഗകേസരി എന്ന ലഗോങ് കഥ വിവരിക്കുക.

30. ഗൃഹാതുരത്വം എപ്രകാരമാണ് ആടുജീവിതത്തിൽ കടന്നുവരുന്നത്?

31. ഭരണകൂടത്തിന്റെ തെറ്റായ നയങ്ങൾ കാരണം ജീവിതം നഷ്ടപ്പെടുന്ന സാധാരണ മനുഷ്യരുടെ വ്യഥകളാണ് നാൽക്കവല ചർച്ച ചെയ്യുന്നത് - സമർത്ഥിക്കുക.

(6 × 4 = 24 Marks)

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IV. **മൂന്നു** പുറത്തിൽ കവിയാതെ **രണ്ടു** ചോദ്യത്തിന് ഉത്തരമെഴുതുക.

32. സഞ്ചാരസാഹിത്യരംഗത്തെ നിത്യാദ്ഭുതമാണ് ബാലിദ്വീപ് - സമർത്ഥിക്കുക.

33. ഏറെ പുതുമയൊന്നുമില്ലാത്ത ഒരു സംഭവത്തിലൂടെ നമ്മുടെ സമൂഹത്തിന്റെയും ജീവിതത്തിന്റെയും ഒരു മാത്രാചിത്രം അവതരിപ്പിക്കുയാണ് നാൽക്കവല - നിരൂപണം ചെയ്യുക.

34. ദയനീയമായ മനുഷ്യാവസ്ഥയുടെ പരിച്ഛേദമാണ് ആടുജീവിതം - വിലയിരുത്തുക.

35. സിനിമയുടെ പാഠം എന്ന നിലയിൽ തിരക്കഥയുടെ പ്രസക്തി വിശദീകരിക്കുക.

(2 × 15 = 30 Marks)

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Reg. No. : .....

Name : .....

First Semester B.A./B.Sc./B.Com. Degree Examination, November 2019

Career Related First Degree Programme under CBCSS

Language Course II

ML 1111.3 (Additional Language I) : ഗദ്യസാഹിത്യം

(2018 Admission Onwards)

St. Xavier's College

Time : 3 Hours Max. Marks : 80

I. ഒരു വാക്കിലോ പരമാവധി രണ്ടു വാക്യത്തിലോ ഉത്തരമെഴുതുക.

1. തകഴിയുടെ ആദ്യ നോവൽ ഏത്?

2. 'അഗ്നി' എന്ന ചെറുകഥ രചിച്ചതാര്?

3. 'പാരമ്പര്യവും വ്യക്തിപരമായ വാസനാവിശേഷവും' എന്ന ലേഖനം ആരുടേതാണ്?

4. വൃദ്ധസദനത്തിന്റെ ഡയറക്ടറുടെ പേരെന്ത്?

5. "ഇന്ത്യയുടെ മംഗളമണിദീപമായ മഹാത്മജിയെ ദൈവാംശമാക്കുമ്പോൾ മാത്രമേ അദ്ദേഹം മരിക്കുന്നുള്ളൂ" - ഇങ്ങനെ പ്രസ്താവിച്ചതാര്?

6. ശരിയായ പദം എടുത്തെഴുതുക.

   (a) അതിഥി – അഥിതി

   (b) സൃഷ്ടാവ് – സ്രഷ്ടാവ്

P.T.O.

7. വാക്യശുദ്ധി വരുത്തുക
മണ്ണിനടിയിൽപ്പെട്ടത് ഏകദേശം മുപ്പതോളം പേരാണ്.

8. "ഒരാൾക്കെങ്ങനെ പ്രാണവായു വില്ലാനും വാങ്ങാനുമാകും? ഭൂമിയുടെ ഊഷ്മളത നിങ്ങൾക്ക് വാങ്ങാനാവുമോ?" - ആരുടെ വാക്കുകളാണിത്?

9. 'പെരുങ്കളിയാട്ടം' എന്ന നോവൽ രചിച്ചതാര്?

10. ശർക്കര പൊതിഞ്ഞുകൊണ്ടുവന്ന കടലാസിൽനിന്ന് വി.ടി. ആദ്യമായി കുട്ടിവായിച്ചതെന്ത്?

(10 × 1 = 10 Marks)

II. ഒരു ഖണ്ഡികയിൽ കവിയാതെ എട്ടു ചോദ്യത്തിന് ഉത്തരമെഴുതുക.

11. "മരണത്തിന്റെ അർത്ഥം അവർ അറിഞ്ഞിരുന്നില്ല. തീർച്ച." ഇങ്ങനെ കരുതാൻ കാരണമെന്ത്?

12. ഭൂതകാലത്തിൽ നിന്ന് പുതിയ എഴുത്തുകാരൻ ഉൾക്കൊള്ളുന്ന സംസ്കാരം ചലനാത്മകമായ പാരമ്പര്യമായിത്തീരുന്നത് എപ്പോളാണ്?

13. "ഹോ, എനിക്കു നിങ്ങളുടത്ര പ്രായമായിരുന്നെങ്കിൽ ഈ പരസ്യം വായിച്ചാലുടനെ ചാടിപ്പുറപ്പെടുമായിരുന്നു" - ആരുടെ വാക്കുകൾ? സന്ദർഭം വ്യക്തമാക്കുക.

14. പരിസ്ഥിതിമൗലികവാദം എന്നാലെന്ത്? അത് പ്രകൃതിവിരുദ്ധവും മനുഷ്യവിരുദ്ധവും ആകുന്നതെങ്ങനെ?

15. മാരന്റെ ദഹനശേഷിയിൽ സംശയം തോന്നാതിരിക്കാൻ കണ്ണടക്കാരൻ കണ്ടെത്തിയ ഉപായമെന്ത്?

16. "ഏതു ഭാഷക്കാരനും ഏതു ചൊവ്വാഗ്രഹവാസിക്കും ആശയം മനസ്സിലാകും" - എന്തുകൊണ്ട്?

17. "അപ്പനീ കാണിച്ച പണി, ഒരപ്പനും മക്കളോട് കാണിക്കാൻ പാടില്ലാത്തതാണ്" - ഏതു പണി?

18. ദുരന്തപാത്രങ്ങളായ സ്ത്രീകളെ ചിത്രീകരിച്ച സാഹിത്യം പഴഞ്ചൻ സാമൂഹ്യനീതിയെ ധീരമായി ചോദ്യം ചെയ്യാനുള്ള മനസ്ഥിതി ജനിപ്പിക്കാത്തതെന്തുകൊണ്ട്?

19. "ഒരു പിരിലൂസനായ കവിയിരുന്ന് പുല്ലുപറിച്ചാൽ അതനുഭവത്തിന്, ഞാൻ പറിച്ചാലോ അത് കിറുക്ക്" - പറഞ്ഞതാര്? സൂചിതമെന്ത്?

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20. ജീവചരിത്രം, ആത്മകഥ, യാത്രാനുഭവം എന്നീ സാഹിത്യരൂപങ്ങളെ പരിചയപ്പെടുത്തുക.

21. "തന്റെ കവിതയുടെ നേർക്ക് ആളുകൾ പല തരത്തിൽ സ്നേഹം കാണിക്കുന്നത് ചങ്ങമ്പുഴ മുമ്പും അനുഭവിച്ചറിഞ്ഞിട്ടുണ്ട്" - എം.കെ. സാനു ചൂണ്ടിക്കാണിക്കുന്ന ദൃഷ്ടാന്തമെന്ത്?

22. വി.ടി. തിയ്യാടിപ്പെൺകുട്ടിയുടെ ശിഷ്യത്വം സ്വീകരിക്കാനിടയായതെങ്ങനെ?

(8 × 2 = 16 Marks)

III. **നൂറ്റിയിരുപതു** വാക്കിൽ കവിയാതെ ആറ് ചോദ്യത്തിന് ഉത്തരമെഴുതുക.

23. മനുഷ്യസ്വഭാവത്തിന്റെ ആന്തരികവൈചിത്ര്യങ്ങളെ ചിത്രീകരിക്കുകയാണ് 'വെള്ളപ്പൊക്കത്തിൽ' എന്ന കഥ. പരിശോധിക്കുക.

24. 'അനാഥമായ ആ മൃതദേഹത്തെയെടുത്ത് സ്വയം കുഴിവെട്ടി ഞാൻ മറവുചെയ്യുകളഞ്ഞു. അതോടെ ഞാൻ യാഥാർത്ഥ്യത്തിലേക്കു വന്നു' - സന്ദർഭവും ആശയവും വിശദമാക്കുക.

25. മലയാളത്തിലെ പരിസ്ഥിതിക്കവിതകളുടെ സവിശേഷതകളായി ലേഖകൻ ചൂണ്ടിക്കാട്ടുന്നത് എന്തെല്ലാം?

26. "ശരിയാ... അമ്മ അസ്സല് നെയ്പായസാ ഉണ്ടാക്കീത്" - കഥയുടെ ഭാവതലത്തിൽ ഈ സംഭാഷണശകലത്തിന്റെ പ്രാധാന്യം വിവരിക്കുക.

27. പാരമ്പര്യത്തെക്കുറിച്ചുള്ള ടി.എസ്. എലിയറ്റിന്റെ കാഴ്ചപ്പാടുകൾ കെ.പി. അപ്പൻ വിശദീകരിക്കുന്നത് എപ്രകാരമാണ്?

28. "വ്യദ്ധസദനത്തിലെ കഥാപാത്രങ്ങളുടെ വ്യക്തിബന്ധങ്ങളെ നിർണ്ണയിക്കുന്ന പ്രധാന ഘടകം സാമ്പത്തികമാണ്" - ശരിയോ?

29. 'സാഹിത്യത്തിലെ സ്ത്രീ' എന്ന ലേഖനത്തിൽ കുമാരനാശാന്റെ രചനകളെ മുണ്ടശ്ശേരി വിലയിരുത്തുന്നത് എപ്രകാരമാണ്?

30. മനുഷ്യത്വരഹിതമായ കൗതുകക്കാഴ്ചകൾ വിളമ്പുവാൻ ദൃശ്യമാധ്യമങ്ങൾ നടത്തുന്ന പരിഹാസ്യമായ ഉദ്യമങ്ങൾ 'മണ്ണ്' എന്ന രചനയിൻ വിമർശനവിധേയമാകുന്നതെങ്ങനെ?

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31. മലയാളത്തിലേക്ക് വിവർത്തനം ചെയ്യുക.

The man and writer in Kovilan are highly critical of the contemporary society and its dubious value system. Self-critically, he asserts that "Ours is a criminal society". His articles and speeches are cannons trained against the establishment. Neither age nor fame could dampen the fighting spirit of this old soldier.

(6 × 4 = 24 Marks)

IV. മൂന്നു പുറത്തിൽ കവിയാതെ രണ്ട് ചോദ്യത്തിന് ഉത്തരമെഴുതുക.

32. ഭാഷയുടെ തെളിച്ചവും അനുഭവങ്ങളുടെ ചൂരും കണ്ണീരും കിനാവും എന്ന ആത്മകഥയെ ഹൃദ്യമാക്കുന്നു - പരിശോധിക്കുക.

33. നാടകത്തിന്റെ അരങ്ങും അണിയറയും കർണ്ണപർവ്വത്തിന്റെ പ്രമേയാവിഷ്കാരത്തിൽ വഹിക്കുന്ന പങ്ക് വിലയിരുത്തുക.

34. കവിയുടെ ജീവചരിത്രം കവിതയുടെ അകപ്പൊരുൾ കണ്ടെത്തുന്ന അന്വേഷണമാണെന്ന് 'സ്പന്ദിക്കുന്ന അസ്ഥിമാടം' സമർത്ഥിക്കുന്നതെങ്ങനെ?

35. 'വൃദ്ധസദനം' എന്ന നോവലിനെ വ്യതിരിക്തമാക്കുന്നത് അതിന്റെ ഭാഷയും ആഖ്യാനസവിശേഷതകളുമാണ്. പരിശോധിക്കുക.

(2 × 15 = 30 Marks)

St. Xavier's College

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Reg. No. : .....

Name : .....

First Semester B.A. Degree Examination, November 2019

Career Related First Degree Programme under CBCSS

Malayalam and Mass Communication

Foundation Course I

MX 1121 : സർഗ്ഗാത്മക രചന

(2018 Admission Onwards)

St. Xavier's College

Time : 3 Hours Max. Marks : 80

I. ഒരു വാക്കിലോ പരമാവധി രണ്ടു വാചകത്തിലോ എല്ലാ ചോദ്യങ്ങൾക്കും ഉത്തരമെഴുതുക.

1. എം.ടി. വാസുദേവൻ നായർ സർഗ്ഗപ്രക്രിയയുടെ വിവിധ വശങ്ങൾ വിവരിക്കുന്ന കൃതി ഏത്?

2. 'സാഹിത്യവിദ്യ' ആരുടെ കൃതി?

3. ഇംഗ്ലീഷിലെ 'Style' എന്ന പദത്തിനു പകരമായി മലയാളത്തിൽ ഉപയോഗിക്കുന്ന പദം.

4. 'എന്താണു കല?' എന്ന പ്രസിദ്ധ ഗ്രന്ഥത്തിന്റെ രചയിതാവ്.

5. നവനവോന്മേഷശാലിയായ പ്രജ്ഞയ്ക്ക് ഭാരതീയ കാവ്യശാസ്ത്രം അനുസരിച്ച് പറയുന്ന പേര്?

6. 'ഖസാക്കിന്റെ ഇതിഹാസം' രചിക്കുന്നതിലേക്ക് തന്നെ നയിച്ച സാഹചര്യങ്ങൾ വിശദമാക്കുന്ന ഒ.വി. വിജയന്റെ ഗ്രന്ഥം.

7. ഒരു സാഹിത്യരൂപം മറ്റൊരു രൂപത്തിലേക്കു പരിവർത്തനപ്പെടുത്തുന്നതിനു പറയുന്ന പേര്.

P.T.O.

8. 2018-ൽ എഴുത്തച്ഛൻ പുരസ്കാരം ലഭിച്ചതാർക്ക്?

9. വേർഡ്സ്വർത്തിന്റെ പ്രസിദ്ധമായ കാവ്യ നിർവ്വചനം അടങ്ങുന്ന കൃതി?

10. നാടോടിക്കഥകൾ എന്നാൽ എന്ത്?

(10 × 1 = 10 Marks)

II. **ഒരു** ഖണ്ഡികയിൽ കവിയാതെ **എട്ടു** ചോദ്യത്തിന് ഉത്തരമെഴുതുക.

11. വേർഡ്സ്വർത്ത് കവിതയ്ക്കു നൽകുന്ന നിർവ്വചനം എഴുതി വ്യാഖ്യാനിക്കുക.

12. "പുൽപ്പറമ്പിലും അരയാലിലും വീണ ദർശനത്തിന്റെ മഴയിൽ നിന്നാണ്" ഖസാക്കിന്റെ ഇതിഹാസം മുളപൊട്ടിയതെന്ന് ഒ.വി. വിജയൻ സമർത്ഥിക്കുന്നതെങ്ങനെ?

13. പ്രതിഭയും സർഗ്ഗാത്മകതയും തമ്മിലുള്ള ബന്ധമെന്ത്?

14. സർഗ്ഗാത്മകതയ്ക്ക് ഏകീകൃതമായ നിർവ്വചനം സാധ്യമല്ലെന്നു പറയുന്നതെന്തുകൊണ്ട്?

15. ഭാരതീയ കാവ്യശാസ്ത്രത്തിൽകവിക്കു നൽകുന്ന ഏതെങ്കിലുമൊരു നിർവ്വചനം എഴുതി വ്യാഖ്യാനിക്കുക.

16. ഏതെങ്കിലും ഒരു കലാരൂപത്തിന്റെ അരങ്ങും അവിഷ്കാരരീതിയും വിശദീകരിക്കുക.

17. സാഹിത്യം സാമൂഹിക ഇടപെടലിനുള്ള മാധ്യമമാണെന്ന വാദത്തെ നിങ്ങൾ അംഗീകരിക്കുന്നുണ്ടോ? കാരണമെന്ത്?

18. കഥയ്ക്ക് ഒരു കഥ വേണമെന്നില്ലെന്ന അഭിപ്രായത്തോട് നിങ്ങൾ യോജിക്കുന്നുവോ?

19. ദൃശ്യകല എന്തുകൊണ്ട് അർത്ഥമാക്കുന്നതെന്ത്?

St Xavier's College

20. നിരൂപണത്തെ സർഗ്ഗാത്മകസാഹിത്യമായി കണക്കാക്കാനാവുമോ?

21. കവിത്വസിദ്ധി ജന്മവാസനയാണെന്ന അഭിപ്രായം വിലയിരുത്തുക.

22. ഇതിവൃത്തം എന്നതുകൊണ്ട് അർത്ഥമാക്കുന്നതെന്ത്?

(8 × 2 = 16 Marks)

III. **നൂറ്റിയിരുപതു** വാക്കിൽ കവിയാതെ. **ആറു** ചോദ്യത്തിന് ഉത്തരമെഴുതുക.

23. 'കല സാർവ്വലൗകിക സാഹോദര്യം സൃഷ്ടിക്കുന്നു' എന്ന ടോൾസ്റ്റോയിയുടെ കാഴ്ചപ്പാട് വിശദീകരിക്കുക.

24. സാഹിത്യത്തിൽ എഴുത്തുകാരൻ പ്രശ്നമല്ല, എഴുത്തേ പ്രശ്നമാവുന്നുള്ളുവെന്ന അഭിപ്രായം എം.ടി. വാസുദേവൻ നായർ വിശദമാക്കുന്നതെങ്ങനെ?

25. സാഹിത്യകൃതി ഉടലെടുക്കുന്നതിനു മുമ്പുള്ള വിവിധ ഘട്ടങ്ങൾ "എന്റെ പണിപ്പുരയിൽ നിന്ന്" എന്ന ലേഖനത്തിൽ ഇടശ്ശേരി വിവരിക്കുന്നതെങ്ങനെ?

26. നിങ്ങൾ എഴുതുവാൻ പോകുന്ന ആത്മകഥയിൽ ഉൾപ്പെടുത്താതെ പറ്റില്ലെന്നു തോന്നുന്ന ഒരു സന്ദർഭം എഴുതുക.

27. കഥ തിരക്കഥയാകുമ്പോൾ ശ്രദ്ധിക്കേണ്ട കാര്യങ്ങൾ എന്തെല്ലാം?

28. ഒരാളെ എഴുത്തിലേക്കു നയിക്കുന്നതിൽ അനുഭവം മുഖ്യഘടകമാണോ? വിശദീകരിക്കുക.

29. മികച്ചതെന്നു നിങ്ങൾ കരുതുന്ന ഒരു ചെറുകഥ ചൂണ്ടിക്കാട്ടി മികവിനുള്ള കാരണങ്ങൾ വിശദമാക്കുക.

30. പരിസ്ഥിതിദർശനം വിഷയമാക്കി ഒരു കവിത എഴുതുക.

31. നിങ്ങളെ കൗതുകം കൊള്ളിച്ച ഒരു സംഭവം അടിസ്ഥാനമാക്കി വാർത്താക്കുറിപ്പ് തയ്യാറാക്കുക.

(6 × 4 = 24 Marks)

St. Xavier's College

IV. **മൂന്നു** പുറത്തിൽ കവിയാതെ ഏതെങ്കിലും **രണ്ടു** ചോദ്യത്തിന് ഉത്തരമെഴുതുക.

32. എഴുത്തിന്റെ വിവിധ ഘട്ടങ്ങളെക്കുറിച്ച് ഉപന്യസിക്കുക.

33. വിദ്യാഭ്യാസത്തിന്റെ പ്രാധാന്യം വ്യക്തമാക്കുന്ന ഒരു ഹ്രസ്വചിത്രത്തിന് തിരക്കഥ തയ്യാറാക്കുക.

34. 'ഭാഷയുടെ അപൂർണ്ണത' നിമിത്തം എഴുത്തുകാരൻ അഭിമുഖീകരിക്കുന്ന പ്രശ്നങ്ങൾ ചർച്ച ചെയ്യുക.

35. 'മതേതരത്വം' എന്ന വിഷയം അടിസ്ഥാനമാക്കി ഒരു ഉപന്യാസം തയ്യാറാക്കുക.

(2 × 15 = 30 Marks)

St. Xavier's College

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Reg. No. : .....

Name : .....

First Semester B.A. Degree Examination, November 2019

Career Related First Degree Programme under CBCSS

Malayalam and Mass Communications

Core Course II

MX 1142 : നോവലും ചെറുകഥയും

(2018 Admission Onwards)

St. Xavier's College

Time : 3 Hours Max. Marks : 80

I. ഒരു വാക്കിലോ പരമാവധി രണ്ടു വാക്യത്തിലോ എല്ലാ ചോദ്യങ്ങൾക്കും ഉത്തരമെഴുതുക.

1. മലയാളത്തിലെ ആദ്യത്തെ ചെറുകഥ ഏതാണ്?

2. 'പ്രതിപാത്രം ഭാഷണഭേദം' എഴുതിയതാര്?

3. അതിരാണിക്കൽ റിസോർട്ട്സ് ആന്റ് ഹൗസ് ബോട്ട്സ്-ന്റെ മോട്ടോ എന്തായിരുന്നു?

4. 'രണ്ടിടങ്ങഴി'യിലെ കഥ നടക്കുന്ന സ്ഥലം ഏതാണ്?

5. "വിപ്ലവത്തിന്റെ അഗ്നിജ്വാലകൾ എങ്ങും ആളിപ്പടർന്ന് ഉയരട്ടെ! ഇന്നത്തെ സമുദായഘടനയെല്ലാം കത്തി ദഹിച്ച് സുഖസമ്പൂർണ്ണവും സമത്വസുന്ദരവുമായ പുതിയ ലോകം സംജാതമാവട്ടെ!" - ആരുടെ വാക്കുകൾ?

6. 'മധുരംഗായതി'യിലെ നായകിയുടെ പേര്?

P.T.O.

7. 'ചെറുകഥാപ്രസ്ഥാനം' എഴുതിയതാര്?

8. "എനിക്കൊരു വലിയ മനുഷ്യന്റെ സഹായം കിട്ടി" ധർമ്മപാലൻ ഉദ്ദേശിച്ചത് ആരെയായിരുന്നു?

9. 'ഉറൂബ്' എന്ന തൂലികാനാമത്തിൽ അറിയപ്പെടുന്ന എഴുത്തുകാരൻ ആരാണ്?

10. 'പിക്കാറെസ്ക് നോവൽ' എന്നറിയപ്പെടുന്ന ആദ്യകാല കൃതി ഏത്?

(10 × 1 = 10 Marks)

II. **ഒരു** ഖണ്ഡികയിൽ കവിയാതെ ഏതെങ്കിലും **എട്ടു** ചോദ്യത്തിന് ഉത്തരമെഴുതുക.

11. കഥാനായകന് ഫുക്കുവോക്കയോടുള്ള ആദരവിന് കാരണം എന്തായിരുന്നു?

12. മലയാളത്തിലെ ആദ്യകാല നോവലുകളേതെല്ലാം?

13. "ക്യാമറയ്ക്ക് മുന്നിൽ ചടഞ്ഞിരുന്ന് മണ്ണുതിന്നുന്ന മാരനെ ഒരു സിക്സറിൽ തൊഴിച്ചുയർത്താൻ തോന്നി അയാൾക്ക്" കാരണമെന്ത്?

14. ചുരുതയെ വിവാഹം കഴിക്കാൻ കാശുണ്ടാക്കുന്നതിനായി കോരൻ കണ്ടെത്തിയ മാർഗ്ഗം എന്തായിരുന്നു?

15. 'ഈ പറമ്പിൽനിന്ന് ഒരു മരവും മുറിക്കില്ല. മരം നട്ടുപിടിപ്പിച്ചാൽ മാത്രം മതി. മുറിക്കുക്കയൊന്നും വേണ്ട.' - ആരുടെ വാക്കുകൾ? കാരണമെന്ത്?

16. ദേവദത്തനിൽ നിന്ന് ആൽമരത്തെ മൃത്യുഞ്ജയൻ രക്ഷിച്ചതെങ്ങനെ?

17. "മുജ്ജൻമത്തില് അങ്ങനൊരു യോഗംണ്ടാവും" - സൂചിതമെന്ത്?

18. കോട്ടാറ് ആശുപത്രിയിലെ ഡോക്ടർക്ക് തന്റെ ഔദ്യോഗിക ജീവിതത്തെക്കുറിച്ച് ധർമ്മപാലനോട് പറയാനുണ്ടായിരുന്നത് എന്തായിരുന്നു?

19. ജന്മദിനത്തിന് കഥാനായകന് ലോകത്തിന് നൽകാനുള്ള സന്ദേശമെന്തായിരുന്നു?

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20. 'ബോധധാരാനോവൽ' എന്നാലെന്ത്? വിവരിക്കുക.

21. ഒറ്റയ്ക്കുപോയി കളവു ചെയ്യുന്നതിന്റെ മെച്ചം എന്തെന്നാണ് ഇക്കണ്ടക്കുറുപ്പ് പറയുന്നത്?

22. "പെണ്ണരശുനാട്ടിൽ 'പെൺപടതിന്നു ചന്തു; ആൺപട അലന്നു ചന്തു' പിന്നെങ്ങിനെ നോവാറുവാർ?" - അരത്തമ്മപ്പിള്ളത്തങ്കച്ചിയോട് കേശവൻ ഇങ്ങനെ വഴക്കിടാൻ കാരണമെന്ത്?

(8 × 2 = 16 Marks)

III. ഓരോന്നിനും **നൂറ്റിയിരുപതു** വാക്കിൽ കവിയാതെ ഏതെങ്കിലും **ആറു** ചോദ്യത്തിന് ഉത്തരമെഴുതുക.

23. "മണ്ണ് അതിന്റെ ആദിവാസനകളെ എന്നിലേയ്ക്ക് കുടഞ്ഞിട്ടു" - സൂചിതമെന്ത്? വിശദമാക്കുക.

24. ഉഗ്രശാന്തന്മാർ തമ്മിലും ഉഗ്രനും പടത്തലവനും തമ്മിലും നടക്കുന്ന സംവാദങ്ങളുടെ പ്രത്യേകത വിവരിക്കുക.

25. 'കണ്ണടക്കാരന്റെ ഷൂസ്സിനടിയിൽ പാതാളത്തിലേയ്ക്ക് താഴ്ന്നു പോകാൻ തയ്യാറായി മാരൻ കമഴ്ന്നുകിടന്നു' - അർത്ഥവ്യാപ്തി വ്യക്തമാക്കുക.

26. ചിരുത കോരനോട് 'ഒന്ന് പെറണം' എന്ന് പറയുന്നതിലെ ദൈന്യത വ്യക്തമാക്കുന്നതെന്താണ്?

27. "എറണാകുളത്ത് ഈ അന്തരീക്ഷം ഒരിക്കലും ഉണ്ടാക്കാൻ പറ്റില്ല" - എന്നു പറയുന്നതെന്തുകൊണ്ട്?

28. മധുരംഗായതിയെ ഒരു സയൻസ് ഫിക്ഷനാക്കുന്ന ഘടകങ്ങൾ എന്തെല്ലാം?

29. രണ്ടു കാലങ്ങൾ തമ്മിലുള്ള അഭിമുഖീകരണമാണ് വാനപ്രസ്ഥം എന്ന കഥയുടെ കേന്ദ്രത്തിലുള്ളത് - വിശദമാക്കുക.

30. സിവിൽ സർവ്വീസിനുള്ള ഇന്റർവ്യൂ ധർമ്മപാലൻ നേരിട്ടതെങ്ങനെ?

31. ബഷീർ 'ജന്മദിന'ത്തിൽ സ്വയം വിലയിരുത്തുന്നതെങ്ങനെയാണ്?

(6 × 4 = 24 Marks)

IV. **മൂന്നു** പുറത്തിൽ കവിയാതെ ഏതെങ്കിലും **രണ്ടു** ചോദ്യത്തിന് ഉത്തരമെഴുതുക.

32. മണ്ണും മനുഷ്യനും തമ്മിലുള്ള ബന്ധംപോലെ അറുത്തുമാറ്റാൻ പറ്റാത്ത ഒന്നാണ് പിതാവും പുത്രനും തമ്മിലുള്ള ജൈവികബന്ധം - ഒറ്റ വൈക്കോൽ വിപ്ലവത്തെ ആസ്പദമാക്കി വിവരിക്കുക.

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33. അസാമാന്യ വ്യക്തിത്വമുള്ള കഥാപാത്രങ്ങളുടെ അവതരണമാണ് ധർമ്മരാജയിൽ - നിരൂപണം തയ്യാറാക്കുക.

34. നിസ്സഹായതയും ദയനീയതയും മനുഷ്യനെ ചിലപ്പോൾ അസാധാരണനാക്കുകയും അതും മാർക്കറ്റ് ചെയ്യപ്പെടുകയും ചെയ്യുന്നു. മാധ്യമങ്ങളുടെ ആ കച്ചവടക്കണ്ണുകളിലേയ്ക്കാണ് മണ്ണ് വെളിച്ചം വീശുന്നത് - ഉപന്യസിക്കുക.

35. നായാടി എന്നാൽ നായാടി നടക്കുന്നവൻ എന്നല്ല കാലത്തിന്റെ വിവക്ഷ, നായാടപ്പെട്ടുകൊണ്ടിരിക്കുന്നവൻ എന്ന് തന്നെയാണ് - നൂറുസിംഹാസനങ്ങളെ മുൻനിർത്തി വിശദമാക്കുക.

(2 × 15 = 30 Marks)

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Reg. No. : .....

Name : .....

First Semester B.Sc. Degree Examination, November 2019

First Degree Programme under CBCSS

Complementary Course

PY 1131.1 : MECHANICS AND PROPERTIES OF MATTER

(For Mathematics)

(2014-2017 Admissions)

St. Xavier's College

Time : 3 Hours Max. Marks : 80

SECTION – A

Answer **all** questions in **1** or **2** sentences. Each question carries **1** mark :

1. Define the term neutral axis of bended beam.
2. Write down the expression for geometrical moment of inertia of a beam of circular cross section with radius *r*.
3. Define torsional rigidity.
4. Define rigidity modulus.
5. How viscosity of liquid varies with temperature?
6. Define surface tension.
7. Write down the expression to find excess pressure inside a soap bubble.

P.T.O.

8. Write down the differential of simple harmonic motion and explain the terms.

9. Write an expression to find intensity of progressive wave and explain the terms.

10. Write the general equation of plane progressive wave and explain the terms.

(10 × 1 = 10 Marks)

SECTION – B

Answer **any eight** questions not exceeding in a paragraph. Each question carries **2** marks :

11. State and explain Parallel axis theorem.

12. Why girders are made in the form of letter I.

13. What are the limitations of Poiseuille's formula?

14. Briefly discuss about viscosity and viscous force.

15. What you mean by radius of gyration.

16. State and explain simple harmonic motion.

17. Obtain expression for average value of potential energy of a particle undergoing simple harmonic motion.

18. Derive an expression for time period of torsion pendulum.

19. Explain the variation of potential and kinetic energy with displacement for a particle executing SHM.

20. Briefly discuss about spherical wave.

21. What you mean by zero point energy of molecule?

22. Briefly explain about compound pendulum.

(8 × 2 = 16 Marks)

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SECTION – C

Answer **any six** questions. Each question carries **4** marks.

23. A circular ring of diameter 20 cm and mass 2 kg is rotating with a rate of 5 revolutions per second about an axis perpendicular to its plane passing through the centre. Find the work to be done to stop the ring with in 10 seconds.

24. Find the moment of inertia of uniform circular disc of radius R about an axis passing through the centre and perpendicular to its plane.

25. A cantilever depressed by 10 mm at the free end. Calculate the depression at the middle end of cantilever.

26. The couple required to twist one end of wire of length 1 m and radius 1.5 mm through an angle of 90° is 0.6 Nm. Calculate the rigidity modulus of the material of wire.

27. If the excess pressure inside the spherical bubble of radius 1 cm is balanced by that due to a column of oil with density 800 kg/m^3 and 2 mm high. Find the surface tension of soap bubble.

28. Calculate the mass of water flowing in 10 minutes through a tube 0.1 cm radius and 1 m length. The constant pressure applied is 3000 N/m^2. The coefficient of viscosity of water is 0.00089 SI unit.

29. Maximum velocity of particle executing SHM is 3 m/s and period is 1 s. Find the amplitude and maximum acceleration.

30. A solid cylinder of radius 10 cm is suspended by vertical wire. Axis of cylinder is along the wire. Find the couple per unit twist of the wire. Mass of cylinder is 1 kg and period of oscillation is 3 s. Take π^2 as 10.

31. A progressive harmonic wave in a string is given by $y = 5\sin 2\pi(0.01x - 50t)$ with length expressed in cm and time in second. Find the amplitude, frequency and velocity of wave.

(6 × 4 = 24 Marks)

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SECTION – D

Answer **any two** questions. Each question carries **15** marks.

32. What is flywheel? Explain about it with a neat diagram. With proper theory explain the experiment to find moment of inertia of flywheel.

33. Derive an expression for bending moment. Derive an expression for the depression at the free end cantilever which is loaded at free end.

34. Derive an expression for excess pressure on a curved surface. Obtain the expression for it in the case of spherical and cylindrical surface.

35. With necessary theory explain about Ostwald's Viscometer. With necessary theory explain how it is used to compare the viscosities of two liquid.

(2 × 15 = 30 Marks)

St. Xavier's College

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Reg. No. : .....

Name : .....

First Semester B.A./B.Sc./B.Com. Degree Examination, November 2019

First Degree Programme Under CBCSS

Language Course – I

EN 1111.1, EN 1111.2 & EN 1111.3 : LISTENING, SPEAKING AND READING

(Common for B.A/B.Sc. (EN 1111.1), B.Com. (EN 1111.2) & Career Related 2(a) (EN 1111.3))

(2016 Admission to 2018 Admission)

St. Xavier's College

Time : 3 Hours Max. Marks : 80

I. Answer **all** questions, each in a **word** or sentence.

1. Write the IPA symbol for the last sound in the word Singing.
2. "The sun rises in the east". What intonation would be associated with this statement?
3. Given here is an incorrect transcription of the word Engineering. Correct the mistake and rewrite. / endʒɪni:rɪŋ/
4. Using the IPA symbols, provide an example for a long vowel.
5. Give at least three different spellings for the long vowel /i: /
6. Transcribe the word Author.
7. Give an expression that is commonly used while greeting a guest.
8. You bumped into someone while walking on the road. How would you apologise?
9. What is a blog?
10. Who is Mrs. Shorrocks?

(10 × 1 = 10 Marks)

P.T.O.

II. Answer any **eight,** each in a short paragraph not exceeding **50** words.

11. Transcribe the following words : Creative, Tumbler, Laminate, Printed.

12. Write a short note one-mails.

13. Create a short exchange between a librarian and a student at the library.

14. Indicate the type of reading technique you'd employ while reading :

    (a) Telephone Directory,

    (b) Railway Time Table,

    (c) Newspaper Report,

    (d) Tabular Data

15. Identify the diphthongs in the following words : Loan, Bound, Manure, Coin.

16. List some techniques and practices to improve one's vocabulary.

17. What is intonation?

18. How did Jean and Pierre trick Marion and Gaultier?

19. How did Lady Muriel and Lady Grace react when the queen stopped them from accompanying her?

20. How does the spat between his daughters lead to Abel Merryweather discovering the truth?

21. If you were looking for a particular train in a train time table, would you be skimming or scanning a page? How are the two processes different?

22. Bring out the irony in the title of the play "The Dear Departed".

(8 × 2 = 16 Marks)

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III. Answer any **six, each** in a paragraph not exceeding **100** words.

23. You are at a reputed garment store in the city. You have come to return some dresses that you've purchased previously because you are unhappy with them. Frame a dialogue between you and the customer service personnel.

24. How important are images and graphics in texts?

25. You are looking for hostel accommodation. Complete the dialogue between you and the hostel warden based on the dialogue cues.

You	Hostel Warden
Enters the room, introduces	Greets and welcomes you
States purpose of visit, enquires about hostel facilities, type of room etc	Responds, gives details about the facilities and rooms
Asks about timings and rules	Gives details
Asks about hostel fees	Provides details
Thanks the warden	Asks to fill registration form before leaving.

26. You are Mayank and you've just missed a train. Complete the conversation with the station master :

Station master : Good afternoon. How can I help you?

Mayank : _____

Station master : Oh! Where were you going?

Mayank : _____

Station manager : Ah yes. That train left just a few minutes ago.

Mayank : _____

Station master : Let's see. The next train leaves at 17:15 from platform 2.

Mayank : _____

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Station master : No, there are no trains before that.

Mayank : _____

Station master : No, you will have to take a new ticket. Your previous one was for a passenger train. This is an express train.

Mayank : _____

Station master : That will be Rs. 48.

Mayank : _____

Station master : Platform number 2. You can take the stairs to the left of this counter.

Mayank : _____

Station master : Safe journey.

27. It is a holiday and you and your friend want to go for a movie. Construct a dialogue in which both of you discuss and decide on which movie to watch and why.

28. Read the poem and answer the questions below :

Sundays too my father got up early
and put his clothes on in the blueblack cold,
then with cracked hands that ached
from labor in the weekday weather made
banked fires blaze. No one ever thanked him.

I'd wake and hear the cold splintering, breaking.
When the rooms were warm, he'd call,
and slowly I would rise and dress,
fearing the chronic angers of that house,

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Speaking indifferently to him,
who had driven out the cold
and polished my good shoes as well.
What did I know, what did I know
of love's austere and lonely offices?

(a) What colour does the poet use to describe the cold?

(b) What days did the father get up to make the fire?

(c) Were the father's actions were appreciated? How can you tell?

(d) Provide an appropriate title for the poem.

29. Darton's expedition was a doomed expedition. Comment.

30. Write a short note on the different varieties of English.

31. Read the passage and answer the questions that follow :

Do you remember when you were twelve years old? It was a confusing time for me. When I was twelve, I had a very embarrassing situation. I went to the family barber, Mr. Willard, and he cut my hair very short. All my friends had long hair back then. That was the style. Mr. Willard didn't care much for style. I didn't want to be different, and I looked like a plucked chicken. I even missed a few days of school because of my embarrassment. My sister was amused. She told me not to be disappointed. After all, she said, the hair will grow back. Still, to me, it was very upsetting.

I learned a valuable lesson from this situation. Today, when I go to the barber, I always say exactly how I want my hair. I advise you to do the same. Speak to the barber before you sit down in that revolving chair. Explain exactly what you want. Watch carefully in the mirror as the barber cuts your hair. Don't be frightened to speak up. Barbers want their customers to be happy. They welcome your instructions.

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I was probably too sensitive about my hair then. Now, at my age, I am just proud of the hair that I have. By the way, Mr. Willard no longer cuts my hair. He's retired. His daughter Wilhelmina, a hairstylist, runs the shop. She not only cuts my hair, but she I so styles the hair of my wife and children. No more plucked chickens.

(a) What happened to the writer when he was twelve?

(b) How is the writer different now?

(c) Why did the narrator miss a few days of school?

(d) The phrase plucked chicken implies?

(6 × 4 = 24 Marks)

IV. Answer any **two** in about **300** words :

32. Create conversations based on the prompts given :

(a) You and your friend are planning to go out for dinner. Decide on where you want to go, giving reasons for choosing a particular restaurant.

(b) At the restaurant, choose items from the menu that both of you would like to order.

(c) Give your order to the waiter. The waiter will give his/her suggestions, based on which you will alter your choice of food.

33. Attempt the appreciation of the story "Under Fire".

34. The Organs of speech.

35. Transcribe the following words: speaker, coffee, cassette, climate, roller coaster, plantation, minority, hardbound, cellular, contrary, sty, leather, lather, pizza, application.

(2 × 15 = 30 Marks)

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