J – 2710

Reg. No. : ....

Name : ....

Second Semester B.Sc. Degree Examination, May 2020.

First Degree Programme Under CBCSS

Physics

Complementary Course for Statistics

PY 1231.3 – THERMAL PHYSICS AND STATISTICAL MECHANICS

(2018 Admission Onwards)

Time : 3 Hours

Max. Marks : 80

SECTION – A

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

1. What are the modes of transfer of heat from one place to another?

2. State Wiedermann-Franz law.

3. What is expression for Isothermal elasticity?

4. Name the operations in a carnot cycle in the order of occurrence?

5. Mention the Claussius statement.

6. Define entropy.

7. Is a process with decrease in entropy of an isolated system possible?

P.T.O.

8. Give the expression for entropy of a perfect gas in terms of temperature and volume.

9. State Plank's Radiation law.

10. What is an ensemble?

SECTION – B

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

11. What is an indicator diagram?

12. What are the conditions for reversibility of a heat engine?

13. The change in entropy of an adiabatic process is zero.Why?

14. What is the physical significance of entropy?

15. Distinguish between conduction and convection.

16. Explain the Lee's disc method for a bad conductor.

17. Distinguish between Maxwell- Boltzmann statistics and Bose-Einstein statistics

18. State and explain the Principle of equal A priori probability.

19. What is the condition for the application of MB statistics?

20. What are the basic postulates of Bose Einstein Distribution law?

21. Prove that the slope of adiabatic is γ times the slope of the isothermal.

22. Explain Grand canonical ensemble.

(8 × 2 = 16 Marks)

SECTION – C

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

23. The opposite faces of A metal plate of 0.2 cm thickness are at a difference of temperature of 100°C and the area of the plate is 200 sq cm. Find the quality of heat that will flow through the plate in one minute if K=0.2 CGS units.

24. A motor car tyre has a pressure of 2 atmospheres at the room temperature of 27°C If the tyre suddenly bursts, find the resulting temperature.

25. Find the efficiency of the Carnot's engine working between the steam point and ice point.

26. A Carnot's engine whose lower temperature heat -sink is at 27°C has its efficiency 40%.What is the temperature of the heat source. By how much should the temperature of the source would be raised if the efficiency is to be raised to 70%.

27. Calculate the change in entropy when 5kg of water at 100°C is converted into steam at the same temperature.(Given ; Latent heat of steam = 540 cal/gram)

28. Calculate the change in entropy of 1 gram of nitrogen when its temperature rises from 50°C to 100°C while its volume is kept constant. Molar specific heat, $C_v = 0.18$ and molecular weight of nitrogen is 28.

29. A Carnot's engine whose temperature of the source is 400 K takes 200 calories of heat at this temperature and rejects 150 calories of heat to the sink. What is the temperature of the sink? Also calculate the efficiency of the engine.

30. 1 gram molecule of a monoatomic (γ = 5/3) perfect gas at 27°C is adiabatically compressed in a reversible process from an initial pressure of 1 atmosphere to a final pressure of 50 atmosphere. Calculate the resulting difference in temperature.

31. Efficiency of Carnot's cycle changes from 1/6 to 1/3 when source temperature is raised by 100K. Calculate the temperature of the sink.

(6 × 4 = 24 Marks)

SECTION – D

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

32. (a) What is a heat engine?

    (b) Explain the important parts of a Carnot's heat engine with diagram.

33. (a) Explain the operation of Carnot's engine and refrigerator.

    (b) What is meant by coefficient of performance of a refrigerator.

34. Obtain the expression for entropy of a perfect gas in terms of

    (a) temperature and volume

    (b) temperature and pressure

    (c) pressure and volume

35. (a) Obtain the general equation for Maxwell-Boltzmann distribution law.

    (b) What is MB energy distribution function for an ideal gas?

    (2 × 15 = 30 Marks)

Reg. No. : ....

Name : ....

Second Semester B.A./B.Sc./B.Com. Degree Examination, May 2020

First Degree Programme Under CBCSS

Language Course – English

Common For B.A./B.Sc. (EN 1212.1), B.Com (EN 1211.2) and Career Related 2(a) (EN 1211.3)

MODERN ENGLISH GRAMMAR AND USAGE

(2013 Admission to 2018 Admission)

Time : 3 Hours Max. Marks : 80

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

1. Choose the correct form of the verb:

   We ——————— (Packed/is packing) for our trip to Europe.

2. Choose the correct form of the verb:

   She ——————— (woke/ Wakes) up early on her trip last week.

3. Identify the preposition phrase:

   Is she really going out with that tall, gorgeous guy?

4. Identify the noun clause in the sentence:

   Whoever thought of the idea is a genius.

P.T.O.

5. Add the correct question tag:

    You haven't seen this film, _____

6. Correct the sentence:

    Gas in Alaska is the most cheapest gas in all the world.

7. Change the voice: He had written three books before 1867.

8. Correct the sentence:

    We're not sure he is enough experienced for the position.

9. Choose the correct option and complete the sentence:

    The customer was extremely upset. _____

    (a) He demanded refunding his money.

    (b) He demanded that we refunded his money.

    (c) He demanded we refund his money.

10. Identify the adjective in the sentence:

    The organisation invested in a lot of state-of-the-art technology.

    (10 × 1 = 10 Marks)

II. Answer **any eight** questions, **each** in a short paragraph exceeding **50 words.**

11. Combine and rewrite the sentences, beginning with As

    (a) Sarath couldn't write the exam. He was taken ill.

    (b) I am a copy editor. I correct many mistakes.

12. Rewrite the sentences, beginning each new sentence as instructed:

   (a) We got lost in the jungle because we didn't have a map. (If we had...)

   (b) The plane had hardly left the airport when the accident happened (No sooner...)

13. Rearrange the words to form meaningful sentences:

   (a) effect / we / in/ did/ much/ sales/ last/ not/ year/ improvement.

   (b) should/ you/ have/ coming/seen/ this.

14. Correct the sentences:

   (a) "Can we prepone the meeting to 2 pm? I need to leave a little early".

   (b) "Which year did you pass out from college?"

15. Read the answers and frame appropriate questions:

   (a) You will be treated as a friend.

   (b) They will stay with their relatives when they go to Delhi.

16. Change the following sentences into affirmatives.

   (a) They need not know what this is for.

   (b) No other poet is as great as Wordsworth.

17. Provide appropriate question tags

   (a) They live in Mumbai.

   (b) Reenu must stay.

18. Identify the complement in the given sentences:

   (a) My uniform is torn and dirty.

   (b) We find them very pleasant.

19. Identify the adverbial phrase in the given sentences:

   (a) The great horse raced like the wind.

   (b) The tenor sang with great feeling.

20. Fill in the blanks with the correct article

   (a) I want _____ apple from the basket.

   (b) _____ village by the sea is my dream retirement spot.

21. Supply the correct modals.

   (a) You ———————— have informed the insurance company immediately after the accident. Now it's too late.

   (b) You ———————— have driven if you had been drinking!

22. Change into indirect speech:

   (a) Ibrahim   : James works from home.

   (b) Vandana   : I've got to go, I am getting late.

<div align="right">(8 × 2 = 16 Marks)</div>

III.   Answer any six of the following as directed.

23. Complete the sentences with a suitable word from the list given below:

   (who, what, how, which, whom, where)

   (a) Sushmita is the one _____ is taking over my job next month.

   (b) I couldn't imagine _____ I would be able to find the courage to leave.

   (c) I've got a week to finish this _____ is just about enough time.

   (d) He really can't work out _____ he has to go to get the information he needs.

<div align="center">4</div>

24. Insert the correct articles wherever appropriate in the following sentences. If there is no article put a (X) sign.

(a) Are you coming to party next Saturday?

(b) I bought new TV set yesterday.

(c) I am crazy about reading history books.

(d) Do you want to go to restaurant where we first met?

25. Correct the following sentences.

(a) If we will be late, they will be angry.

(b) ˙ My father is thinking that I should stop smoking.

(c) I fell asleep while I watched TV.

(d) I have lived in Canada since 10 months.

26. Fill in the blanks with the correct prepositions.

(a) Don't waste so much money _____ new clothes.

(b) I have to hurry. I want to be ——————— time for the new presentation.

(c) All trains arriving from London are_____ time.

(d) The guard told us to keep _____ the lawn. It has been freshly cut.

27. Rewrite the sentences in the correct order.

(a) society / is / discipline / of/ foundation / the very

(b) great importance /one of the / essentials of life / it is/in all spheres/ and is of/ of life

(c) it life/ become / without / miserable / at home / will

(d) for/ is / our / progress / it / a must / country's

28. Use the correct forms of verbs and fill in the blanks.

   (a) The police _____ (leave) no stone unturned to trace the culprits.

   (b) The terrified people _____ (flee) to the mountains.

   (c) I _____ (visit) the Taj Mahal last month.

   (d) Your friends _____ (wait) for you for over an hour.

29. Use reflexive pronouns to complete the sentences.

   (a) Aneesh decided to reward _____ with a dinner out.

   (b) Seema pours a cup of tea for _____ every morning.

   (c) Eighty year old Indira made her supper _____

   (d) We _____ were forced to pilot the boat to safety.

30. Rewrite the passage correcting all the errors.

   Damu starts his job at a carpet-weaving factory. He had made new friends there and enjoying their company. Carpet-weaving intrigue him, yet when he started on the job he finds it very difficult. For weeks he was struggling with the job. He felt that he have made a mistake when he chose to work there. If he was determined to learn the art of carpet-weaving.

31. Identify the parts of speech in the underlined parts:

   (noun of gender, pre-modifier, transitive verb, uncountable noun)

   (a) There has been <u>a lot of research</u> into the causes of the spread of the Corona Virus.

   (b) France is popular with <u>her neighbours at the moment</u>.

   (c) Lee <u>bought</u> dozens of cakes from the bakery to gift his wife.

   (d) We have enjoyed some <u>extremely varied and consistently</u> excellent performances at this theatre.

   (6 × 4 = 24 Marks)

IV. Answer **any two** of the following.

32. Expand the proverb "Simple Living, High Thinking" in about two to three pages.

33. Write a short essay on "Friendship and Social Media" in about two to three pages.

34. Write a précis of the following passage:

In a big modern factory each worker contributes so little to the finished article that he does not think of it as the fruit of his own labours. Workers who repeat the same operation day after day can take no ire or pride in their work. Their chief pleasure in life is outside the factory. Their work is dull and they spend their time with one eye he clock. In spite of various attempts to brighten the lives of the workers, the average man in a factory is rather to be pitied than envied. The dullness of his life is one of the drawbacks of mass production.

Some people believe that man is becoming the slave of the machine. Certainly machines are playing an ever-increasing part in our lives. Let is hope that they will never become more important than the men they were intended to serve. Charlie Chaplin, in his film "Modern Times", drew attention to this danger. In the film he got a job in a factory that employed mass production method. He had to stand by a machine with a spanner in his hand. An endless belt passed in front of him carrying slowly an endless line of articles. As each one passed he tightened one nut on one bolt with his spanner. His work was one with one turn of the wrist repeated throughout the day. Very soon his mind became affected and the film shows the amusing things which he did as a result of his mental disorder. Although it is very funny, the film had a serious side. It showed that the kind of work which many people do, far from giving them pride and pleasure, is more likely to fit them for the lunatic asylum.

We must all hope that means will be found to retain the advantages arising out of mass production, while at the same time giving the worker some of the pride and pleasure of the old craftsman.

35. Arrange the sentences in the proper order. Sentence one and ten are in their correct order.

Though largely forgotten now, African presence in India, in itself, was not unusual. In the 1230s, queen Raziya of the Delhi Sultanate was accused of being closer than acceptable to Yakut, an African confidant. There existed for

decades in the 15th century a near-sovereign state in Jaunpur (U.P.) founded by an African. Their reputations were so fierce that "let there be but one of them on a ship and it will be avoided by ... pirates". It was a pretext used to justify her murder. Harems in the Deccan featured *habshi* women – so called after their origins in Abyssinia – and at least two sultans had black begums as consorts. This fact is unknown, perhaps, to many present-day residents of Uttar Pradesh. In the 14th century, the traveller Ibn Batuta recorded how they were "guarantors of safety" for ships that plied the Arabian Sea. Even in Bengal, a coup in 1487 by a group of warriors like Malik Ambar led to a short-lived ruling dynasty. Ambar, however, remains the greatest of the *habshis* who made history in India.

(2 × 15 = 30 Marks)

Reg. No. : ....

Name : ....

Second Semester B.A./B.Sc./B.Com. Degree Examination, May 2020

First Degree Programme under CBCSS

Language Course – English

(Common for B.A./B.Sc. (EN 1212.1), B.Com. (EN 1211.2) and Career Related 2 (a) (EN 1211.3))

ENGLISH GRAMMAR, USAGE AND WRITING

(2019 Admission)

Time : 3 Hours

Max. Marks : 80

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

1. Add the correct question tag:

    Kashi is a well behaved boy.

2. Choose the correct form of the verb:

    "It does not do to ————— (dwelt) on dreams Harry, and forget to live in the present"

3. State whether the underlined is the subject or predicate of the sentence:

    <u>The defensive tackle of the mid fielder</u> missed the opponent as he ran by him.

4. Rewrite the sentence using : Otherwise

    If lectures are boring, students will not want to attend.

5. Change into a declaratory sentence:

The mother told the children, 'Take milk twice a day to improve your health.' (Use advise)

6. Correct the sentence by adding a missing article.

As Harry squelched along deserted corridor he came across somebody who looked just as preoccupied as he was.

7. Change the voice :

The company requires staff to watch a safety video every year.

8. Correct the sentences.

The train left before he arrived.

9. Reorder the sentence to form a meaningful one.

Before/long/choose/them /our/and/we/we/joys/sorrows/experience.

10. Fill in the blanks using a suitable verb:

The police —————— (smell) a rat in the witness accounts.

(10 × 1 = 10 Marks)

II. Answer any **eight** questions, each in short paragraph exceeding **50** words.

11. Convert the sentences into its plural form:

(a) The baby cries; but its mother is missing.

(b) I look up, and a leaf falls from a branch and lands on my forehead.

12. Rearrange the words to form meaningful sentences:

(a) minutes/sofa/past/hiding/I/the/for/the/ten/have/under/been/

(b) here/many/I/room/legs/in/the/from/down/upside/see/can/

13. Rewrite the sentences, beginning each new sentence as instructed taking care not to change the meaning.

    (a) Unless the rain stops, the game will not resume.

    (Begin: If..)

    (b) A lot of people are capable of leading a team.

    (Rewrite using "capability")

14. Provide appropriate question tags

    (a) She couldn't let such a good job offer go.

    (b) He'd better hurry up.

15. Convert into simple sentences

    (a) We believe that he is innocent.

    (b) I have no money that I can lend you.

16. Change the following negative sentences into affirmative sentences without changing their meaning

    (a) You are not steady.

    (b) I am not impressed with your project proposal.

17. Read the answers and frame appropriate questions:

    (a) I came home early to watch the match.

    (b) Gauri decorated the hall.

18. Identify the adverbs in the given sentences:

    (a) She was so frightened, she could hardly speak.

    (b) I was late for a very important appointment.

19. Fill the blanks with suitable adjectives/adverbs.

    (a)   I like reading _____fiction.

    (b)   They _____ worked for their award.

20. Change into comparative degree.

    (a)   John is as tall as Mike.

    (b)   Hercules was the strongest man in the world.

21. Punctuate the sentences:

    (a)   On its twenty fifth anniversary the movie club of our city screened many movies Casablanca Life is Beautiful Schindler's List.

    (b)   The teacher asked so tell me who has read the novel Rebecca by Daphne du Maurier.

22. Convert to indirect speech:

    (a)   "I am not buying anything today" Bhuvi told the salesperson.

    (b)   "The train is late by an hour" informed Ritam.

(8 × 2 = 16 Marks)

III. Answer any **six** of the following as directed.

23. Complete the sentences with the correct preposition

    (a)   After payment, you'll receive the product _____ 10 business days.

    (b)   I have no experience, so I'm ——————— a disadvantage when it comes to this job interview.

    (c)   My grandparents lived in that same house _____ ages.

(d) He's Tamilian? For some reason I was _____ the impression that he was a Kannadiga.

(e) Where's Mashumita? She should have gotten here _____ now.

(f) We've put a lot of effort ——————— this project.

(g) We drove _____ the coastline of India.

(h) The scientist made an amazing discovery ——————— accident.

24. Insert the correct determiners wherever appropriate.

(a) Rescue efforts resumed in Beichuan, after entire city was evacuated

(b) He is an expert on languages, but he knows about mathematics.

(c) I usually get to work on foot and then come home on bus

(d) Hari had so going around him that he looked confused and distracted.

25. Fill in the blanks with the suitable modals.

(a) It's very cloudy today. Do you think it ——————— rain later?

(b) They ——————— to have filled the car with petrol before they set off.

(c) This is impossible, it ——————— be a mistake!

(d) Why are you wasting time? You ——————— have finished your work already.

26. Rewrite the jumbled words into meaningful sentences.

(a) that/ believe/ to/ seem/ people/ many old/ good/ disrupted/ has/ computers/ of/ advert/ the/ habits/ reading/ fashioned.

(b) statement/ true/ completely/ not/ is/ it/ above/ the/ to/ truth/ same/ be/ may/ there/ while.

(c)   actually/ computers/ have/ of/ advert/ the/ people/ to/ accessible/ more/ books/ made.

(d)   button/ a/ of/ click/ at/ the/ available/ to/ people/ before/ information/ books/ about /for/ libraries/ visit/ to/ needed/ people/ while.

27.   Rewrite the following passage underlining the determinatives, quantifiers and possessives in it:

It was at least two weeks ago that Abhishek and Aditya witnessed the robbery. Most people were at the temple festival. Their houses were thus empty. Several cars were parked nearby. The road was dark, only few lights shone. Abhishek and Aditya were waiting for an auto to take both of them back home. A bike stopped some distance away from them.

28.   Fill in the blanks using articles: Write (X) in case of no article:

(a)   Young unpublished author couldn't really hope for anything much after being turned down twelve times.

(b)   But Sorcerer's Stone hit shelves on July 26, 1997, to immediate success.

(c)   Overnight, Rowling was catapulted from her small apartment in Edinburgh to worldwide recognition.

(d)   With the success, came fame, which exposed Rowling to new chaos that she hadn't been prepared for.

29.   Rewrite the passage correcting all the errors.

The city of Teotihuacán, which laid about 50 kilometres northeast of modern-day Mexico City, begun its growth by 200 – 100 B.C. At its height, between about A.D. 150 and 700, it probably has a population of more than 125,000 peoples and covered at least 20 square kilometres. It has over 2,000 apartment complexes, a great market, the large number of industrial workshops, an administrative centre, a number of massive religious edifices, and a regular grid pattern of streets and buildings. Clearly, many planning and central control were involved in the expansion and ordering of this great metropolis. Moreover, the city has economic and perhaps religious contacts with most parts of Mesoamerica.

30. Prepare a questionnaire to assess how students view their college life.

31. Write a dialogue between a professor and a student on how to improve his/her grades in the coming examination.

(6 × 4 = 24 Marks)

IV. Answer any **two** of the following.

32. Expand the proverb "Every cloud has a silver lining" in about two to three pages.

33. Write a short essay on "Social Consciousness in an Increasingly Selfish Universe".

34. Write a report on the recently concluded Literary Fest in your college.

35. Based on the outline given below, construct a story:

Travelling by train — crowded — mother and two children — child crying — no place to sit — you ask passengers to give up seat — refuse — find the ticket examiner — people without tickets hurriedly get out — women and children get seat — thank you — you feel proud.

(2 × 15 = 30 Marks)

_____

Reg. No. : ....

Name : ....

Second Semester B.A./B.Sc. Degree Examination, May 2020

First Degree Programme under CBCSS

Language Course – III

EN 1211.1 — ENVIRONMENTAL STUDIES

(2015-2018 Admission)

Time : 3 Hours   Max. Marks : 80

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

1.   What is Sustainable development?

2.   What is Hydrosphere?

3.   What according to Wordsworth, is nature's holy plan?

4.   Expand WCED.

5.   Why is Britain reluctant to join the campaign to reduce emission?

6.   What is Asbestos?

7.   What is Biomedical waste?

8.   What is ozone?

9.   What is the quintessential Indian social unit?

10. Why does Assimov advocate the need to stop living by the code of the past?

(10 × 1 = 10 Marks)

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

11. The four dynamic constituents of environment.

12. Write a note on Plachimada issue.

13. Explain the theme of the poem 'Lines written in Early Spring'.

14. What is ex-situ conservation?

15. What is Ganga action plan?

16. What is Municipal Solid Waste (MSW)?

17. How is the poem 'The Poplar Field' related to ecology and aesthetics?

18. Dangers of radioactive waste.

19. Write a short note on Global Warming.

20. What does Chief Seattle say about rivers?

21. Chipko Andolan.

22. Women and child welfare.

(8 x 2 = 16 Marks)

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

23. Discuss the major environmental issues.

24. How are strategic minerals important to a nation's economy?

25. Explain the two major types of ecological succession.

26. What are the causes of water pollution?

27. Rain water harvesting.

28. Explain Pyrolysis and Gasification.

29. What are the family welfare programmes initiated by the Government of India?

30. Development and Environment.

31. India as a megadiversity nation.

<div align="right">(6 × 4 = 24 Marks)</div>

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

32. The role of youth in the conservation of nature.

33. Effective Solid waste management.

34. What are the issues related to environmental ethics and their solutions?

35. Environment and human health.

<div align="right">(2 × 15 = 30 Marks)</div>

Reg. No. : ....

Name : ....

Second Semester B.A./B.Sc. Degree Examination, May 2020

First Degree Programme Under CBCSS

Language Course (Additional Language II) – Hindi

HN 1211.1 FICTION, SHORT STORY AND NOVEL

(2017 Admission Onwards)

Time : 3 Hours　　　　　　　　　　　　　　　　Max. Marks : 80

PART – A

I.　एक या दो वाक्यों में उत्तर लिखिए।

1.　प्रेमचन्द का जन्म कब हुआ?

2.　'परदा' कहानी का केंद्र पात्र कौन है?

3.　अज्ञेय के नाटक का नाम लिखिए।

4.　'पीली छतरी वाली लड़की' का रचनाकार कौन है?

5.　मृदुला गर्ग की कहानी का नाम लिखिए।

6.　'दूध का दाम' कहानी का केंद्र पात्र कौन है?

7.　'आना इस देश' किसका उपन्यास है?

8.　अबीर की पत्नी कौन है?

9. कृष्णा अग्निहोत्री का जन्म कहाँ हुआ?

10. अबीर किस देश में रहता है?

PART – B

II. किन्हीं आठ प्रश्नों के उत्तर करीब 50 शब्दों में लिखिए।

11. 'दूध का दाम' का प्रतीकात्मक अर्थ क्या है?

12. 'परदा' कहानी का मुख्य उद्देश्य क्या है?

13. कैप्टन दयाल कौन है?

14. उपन्यासकार प्रेमचन्द का परिचय दीजिए।

15. हरी बिन्दी की नायिका क्या-क्या करती है?

16. 'नेलकटर' किसका प्रतीक है?

17. अज्ञेय की कहानियों का परिचय दीजिए।

18. "उसे मैं ने बहुत खोजा; बल्कि आज तक। कई वर्षों बाद भी। लेकिन वह कभी नहीं मिला। वह पता नहीं कहाँ खो गया था।" कथावाचक किसे खोजने की बात कहते हैं?

19. "लोग कहते हैं, दूध का दाम कोई नहीं चुका सकता और मुझे दूध का यह दाम मिल रहा है।" – सन्दर्भ व्यक्त कीजिए।

20. सुरैय्या कौन है?

21. सुरैय्या और अबीर के मिलन में डॉ. गीत की भूमिका क्या है?

22. 'आना इस देश' उपन्यास के शीर्षक की सार्थकता क्या है?

PART – C

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

23. मंगल का चरित्र-चित्रण कीजिए।

24. 'परदा' कहानी के शीर्षक की सार्थकता पर प्रकाश डालिए।

25. हीली बोन् अपने प्रिय बतखों की हत्या क्यों करती है?

26. 'नेलकटर' कहानी का उद्देश्य क्या है?

27. महिला-स्वतंत्रता का चित्रण 'हरि बिन्दी' में हुआ है। विचार कीजिए।

28. रचनाकार अज्ञेय और हिन्दी साहित्य।

29. 'आना इस देश' के भाषा और शिल्प पर विचार कीजिए।

30. अबीर का चरित्र-चित्रण कीजिए।

31. सुरैय्या के मानसिक एवं शारीरिक यातनाओं पर विचार कीजिए।

(6 × 4 = 24 Marks)

PART – D

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

32. 'प्रेमचन्द आज भी प्रासंगिक एवं समकालीन है।' पठित कहानी के आधार पर इस कथन पर विचार कीजिए।

33. भारतीय जीवन के दोहरे चरित्र के सच को 'परदा' कहानी में उद्घाटित किया गया है। इस कथन का मूल्यांकन कीजिए।

34. 'आना इस देश' में चित्रित समस्याओं पर प्रकाश डालिए।

35. उपन्यास के तत्वों के आधार पर 'आना इस देश' के कथानक की समीक्षा कीजिए।

(2 × 15 = 30 Marks)

Reg. No. : ....

Name : ....

Second Semester B.A./B.Sc. Degree Examination, May 2020

First Degree Programme under CBCSS

Malayalam Language

Language Course V – Additional Language

ML 1211.1 : ഗദ്യസാഹിത്യം

(2018 admission onwards)

Time : 3 Hours

Max. Marks : 80

I. ഒരു വാക്കിലോ രണ്ടു വാക്യത്തിലോ ഉത്തരം എഴുതുക.

1. 'സുന്ദരികളും സുന്ദരന്മാരും' എന്ന നോവൽ എഴുതിയതാര് ?

2. സി.വി. രാമൻ പിള്ള എഴുതിയ ഒരു ചരിത്ര നോവലിന്റെ പേരെഴുതുക.

3. 'അപ്ഫന്റെ മകൾ' എന്ന നോവലിന്റെ കർത്താവാര് ?

4. 'തിരസ്ക്കാരം' എന്ന നിരൂപണ ഗ്രന്ഥം എഴുതിയതാര് ?

5. എം.ടി. വാസുദേവൻ നായരുടെ രണ്ട് നോവലുകളുടെ പേര് എഴുതുക.

6. കുറ്റം ചെയ്യ പട്ടി വാലും മടക്കി നിൽക്കും പോലെ നിന്നതാര് ?

7. കമല എന്ന പെൺകുട്ടിക്ക് അവളുടെ പതിനാലാം പിറന്നാളിന് അച്ഛൻ നൽകിയ സമ്മാനം എന്ത് ?

8. "മരുമ്മാരെ നിങ്ങൾക്കു ഞാൻ പതിനഞ്ചു റുപ്പിക കടംവീട്ടാനുണ്ട് അല്ല, പതിനഞ്ച് റുപ്പികയും നാലണയും" - ആരുടെ വാക്കുകളാണിത് ?

9. 'ലന്തൻബത്തേരിയിലെ ലുത്തിനിയകൾ' എന്ന നോവൽ എഴുതിയതാര് ?

10. 'ഖസാക്കിന്റെ ഇതിഹാസം' എഴുതിയതാര് ?

(10 × 1 = 10 Marks)

II. ഒരു ഖണ്ഡികയിൽ കവിയാതെ എട്ടു ചോദ്യത്തിന് ഉത്തരം എഴുതുക.

11. വീടാത്ത കടങ്ങൾ പടച്ചവന്റെ സൂക്ഷിപ്പുകളാണ്, അത് അങ്ങനെ തന്നെ ഇരിക്കട്ടെ. സന്ദർഭം എഴുതി ആശയം വ്യക്തമാക്കുക.

12. അപരിചിതന്റെ സംഭാഷണം ഒരു കൊലക്കയറിനെപ്പോലെ വെള്ളായിയപ്പന്റെ കഴുത്തിൽ ചുറ്റി മുറുകി - എപ്പോൾ? വിശദമാക്കുക.

13. കാല്പനികത എന്നല്ല കാല്പനികതകൾ എന്നാണ് പറയേണ്ടത് എന്ന് ലവ്ജോ പറയുവാൻ കാരണമെന്ത്?

14. മലയാള ഗദ്യത്തിന്റെ വളർച്ചയിൽ ദിനപത്രത്തിന്റെ പങ്കിനെപ്പറ്റി ഇ.എം.എസിന്റെ അഭിപ്രായം എന്ത്?

15. "എന്റേതല്ലാത്ത മുതൽ റെയിൽ സ്റ്റേഷനിൽ നിന്നു എനിക്ക് കിട്ടിയാൽ ഞാൻ ആ മുതൽ ആരുടെ പക്കൽ ഏൽപ്പിക്കണം ?" - സന്ദർഭം എഴുതി വിശദമാക്കുക.

16. ഉതുപ്പാനെ ഭ്രാന്തനെന്ന് വിളിക്കാൻ കാരണമെന്ത് ?

17. ചെറിയച്ഛന്റെ മരണത്തെക്കാൾ വീട്ടിലുള്ളവർക്ക് സങ്കടം ഉളവാക്കിയ സംഭവമായിരുന്നു അത്. - ഏത് ?

18. വാർത്താസ്സോടനങ്ങൾ ഇക്കാലത്ത് നടക്കുന്നതെങ്ങനെ ?

19. സാഹിത്യത്തെ സി.വി. സമ്പന്നമാക്കിയത് എങ്ങനെയെന്നാണ് കെ.പി. അപ്പൻ അഭിപ്രായപ്പെടുന്നത് ?

20. ആദ്യകാല കഥകളുടെ എല്ലാ പ്രത്യേകതകളും ഉൾക്കൊള്ളുന്ന കഥയാണ് ആരാന്റെ കുട്ടി. വിശദമാക്കുക.

21. ഫുട്ബോളുമായുള്ള ഗ്രീവർഗീസച്ചന്റെ ബന്ധം അപഗ്രഥിക്കുക.

22. ക്യാൻസറിനോട് പട പൊരുതി വിജയം നേടിയ നൗഷാദിനെപ്പറ്റി എഴുതുക.

(8 × 2 = 16 Marks)

III. 120 വാക്കിൽ കവിയാതെ ആറു ചോദ്യത്തിന് ഉത്തരം എഴുതുക.

23. ഫലിതം കാഴ്ചപ്പാടിന്റെ മഹത്ത്വത്തിൽ നിന്ന് ജനിക്കുന്ന ചിരിയല്ല എന്നു പറയാൻ കാരണം എന്ത്?

24. ഉമ്മാച്ചുവിലെ തറവാട് ഭാഗിക്കാൻ ഇടയായ സാഹചര്യം എഴുതുക.

25. ആദ്യകാല കഥകളുടെ വിഷയം സ്വഭാവം വിശകലനം ചെയ്യുക.

26. പെൺകുട്ടികളോടുള്ള സമൂഹത്തിന്റെ സമീപനം അനാവരണം ചെയ്യുന്ന കഥയാണ് കൃഷ്ണഗാഥ - വിശദീകരിക്കുക.

27. ഹിഗ്വിറ്റയിൽ അവതരിപ്പിക്കുന്ന സാമൂഹ്യ പ്രശ്നങ്ങൾ എന്തെല്ലാം?

28. സരസ്വതിയമ്മയുടെ ജീവിതവീക്ഷണം 'പെൺബുദ്ധി' എന്ന കഥയിൽ ആവിഷ്കൃതമാകുന്നത് എങ്ങനെ ?

29. മാധ്യമങ്ങൾ നമ്മുടെ മനസ്സിനെ എങ്ങനെയെല്ലാം സ്വാധീനിക്കുന്നു ? വിശദീകരിക്കുക.

30. മലയാളഭാഷ ഏതുവിധത്തിൽ നിലനിർത്തണമെന്നാണ് ഇ.എം.എസ്. അഭിപ്രായപ്പെടുന്നത് ?

31. 'തല്ലം' എന്ന കഥയുടെ സമകാലപ്രസക്തി എന്ത് ?

(6 × 4 = 24 Marks)

IV. മൂന്നു പുറത്തിൽ കവിയാതെ രണ്ടു ചോദ്യത്തിന് ഉത്തരം എഴുതുക.

32. എം.ടി. കഥകളുടെ പൊതുസ്വഭാവം പ്രകടിപ്പിക്കുന്ന ഒരു കഥയാണ് കർക്കിടകം. ചർച്ച ചെയ്യുക.

33. മലയാള നോവൽ സാഹിത്യത്തിലെ അതിശക്തമായ ഒരു സ്ത്രീ കഥാപാത്രമാണ് ഉമ്മാച്ചു - നിരൂപിക്കുക.

34. ഹിഗ്വിറ്റയിലെ ജീവിതദർശനം എന്ത്? ചർച്ച ചെയ്യുക.

35. മലയാള പ്രതിഭയുടെ മൗനം കെ.പി. അപ്പൻ അവതരിപ്പിച്ചിരിക്കുന്നത് എങ്ങനെയെന്ന് പരിശോധിക്കുക.

(2 × 15 = 30 Marks)

Reg. No. : ....

Name : ....

Second Semester B.Sc. Degree Examination, May 2020

First Degree Programme under CBCSS

Statistics

Foundation Course

ST 1221 – STATISTICAL METHODS II

(2018 Admission onwards)

Time : 3 Hours   Max. Marks : 80

SECTION – A

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

1. What is meant by perfect correlation?

2. Define correlation ratio.

3. Define multiple correlation.

4. Write the standard error of correlation coefficient.

5. What is artificial neural network?

6. What is the application of nearest neighbour techniques?

7. How to find the product of two matrices using excel?

8. Write the suitable functions in excel to find the exponential and square root of a value.

9. What is the usage of # operator in R?

10. List any two data entry methods in R.

SECTION – B

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

11. Describe scatter diagram. How to interpret it?

12. Karl Pearson's coefficient of correlation between X and Y is 0.6 and the slope of the regression line of X on Y is 0.45. Find the slope of the regression line of Y on X.

13. Derive the angle between two lines of regression.

14. Distinguish between correlation and partial correlation.

15. Write the principle of least squares.

16. What is meant by curve fitting?

17. What is OLAP?

18. Write the significance of clustering in data mining.

19. Write short note on data warehousing.

20. How to draw a pie chart in excel?

21. What are the mathematical operators in R?

22. How to fit a straight line R?

(8 × 2 = 16 Marks)

SECTION – C

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

23. Two hotels are ranked by 6 customers and ranks are given. Calculate rank correlation coefficient for the data.

$$\text{Hotel A} \quad 1 \quad 2 \quad 3 \quad 4 \quad 5 \quad 6$$

$$\text{Hotel B} \quad 1 \quad 5 \quad 3 \quad 6 \quad 4 \quad 2$$

24. Prove that correlation coefficient is not affected by the change of origin and scale of measurement.

25. If the regression lines are $y = 4 + 0.5x$ and $x = 2.5 + 0.6y$ find the means and the coefficient of correlation between x and y.

26. Fit a curve of the form $y = ae^{bx}$ to the given data.

$$x: \quad 1 \quad 2 \quad 3 \quad 4 \quad 5 \quad 6$$

$$y: \quad 3 \quad 5 \quad 9 \quad 15 \quad 24 \quad 40$$

27. Explain the least square method for fitting the curve $y = ax^b$.

28. Describe decision trees.

29. Explain logistic regression.

30. Describe the functions available in excel for statistical analysis.

31. Explain various logical operators in R.

(6 × 4 = 24 Marks)

SECTION – D

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

32. (a) Calculate Pearson's coefficient of correlation from the following data.
$$x: \quad 77 \quad 52 \quad 14 \quad 35 \quad 90 \quad 56 \quad 60$$
$$y: \quad 35 \quad 40 \quad 45 \quad 40 \quad 35 \quad 34 \quad 38$$

    (b) Derive Spearman's rank correlation coefficient formula.

33. The amount of money spends on advertisement by a company is believed have an effect on their gross sales. Data for the last 10 years is given. Fit a linear regression for the data and Compute the Coefficient of determination.

Advertisement amount (in Rs. 1,00,000)	2.8	3.2	3	4	2.6	3.8
Gross sales (in Rs. 10,00,000)	6	6.8	6.5	7.2	5.9	7

Advertisement amount (in Rs. 1,00,000)	3.4	3.2	4.7	5.2
Gross sales (in Rs. 10,00,000)	5.8	6.8	9.05	9.5

34. Describe data mining and its applications. Explain various tools used for data mining.

35. Explain classification problem. Discuss Bayesian classifiers.

(2 × 15 = 30 Marks)