2018/TDC/ODD/ENGC–101T/001

TDC (CBCS) Odd Semester Exam., 2018

ENGLISH

(1st Semester)

Course No. : ENGHCC–101T

(British Poetry and Drama : 14th to 17th Centuries)

Full Marks : 70
Pass Marks : 28

Time : 3 hours

The figures in the margin indicate full marks for the questions

Answer **all** questions

UNIT—I

1. Answer any *two* questions :   2×2=4

   (a) What is a morality play?

   (b) Name any four dramatists among the university wits.

   (c) Note any two chaaracteristic features of the Elizabethan theatre.

(2)

2. Answer any *one* questions : 10

(a) Write a note on English poetry written during the Renaissance period.

(b) Discuss the chief features of a Shakespearean tragedy.

Unit—II

3. Answer any *two* questions : 2×2=4

(a) Write briefly about the clothes and equipments of the Knight.

(b) What was written on the broach of the Prioress and what does it signify?

(c) The lover and the beloved are compared to which animals in Sonnet No. 67 by Edmund Spenser?

4. Answer any *one* question : 10

(a) Assess Chaucer's art of characterization in the *Prologue* with reference to the characters of the Knight and the Prioress.

(b) Attempt a critical analysis of Spenser's Sonnet No. 67 from Amoretti.

(3)

Unit—III

5. Answer any *two* questions : 2×2=4

(a) What does John Donne mean by 'both th'Indias of spice and mine'?

(b) Explain very briefly She's all states, and all princes I."

(c) Which time of the year is referred to in Sonnet No. 73 and why?

6. Answer any *one* question : 10

(a) Analyse the central theme of John Donne's poem, *The Sunne Rising*.

(b) Discuss Shakespeare's Sonnet No. 73 as a poem dealing with the issues of age of love.

Unit—IV

7. Answer any *two* questions : 2×2=4

(a) Who is Mephistopheles?

(b) Name two friends of Dr. Faustus.

(c) What are the prophecies made by the witches with regard to Macbeth during their first meeting?

8. Answer any *one* question :

(a) Critically discuss Christopher Marlowe's *Doctor Faustus* as a morality play.

(b) Analyse the character of Macbeth as a tragic hero.

UNIT—V

9. Answer any *two* questions :   2×2=

(a) Who is Mac Flecknoe and what is his real identity?

(b) *Mac Flecknoe* is written in which literary form? Explain briefly.

(c) Which literary work motivated Dryden to compose *Mac Flecknoe* and when was it published?

10. Answer any *one* question :

(a) Do you think *Mac Flecknoe* is a satire? Give reasons for your answer.

(b) Attempt a critical analysis of the poem, *Mac Flecknoe*.

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TDC (CBCS) Odd Semester Exam., 2018

ENGLISH

(1st Semester)

Course No. : ENGHCC–102T

(**Indian Writing in English**)

Full Marks : 70

Pass Marks : 28

Time : 3 hours

The figures in the margin indicate full marks for the questions

UNIT—I

Answer any *two* of the following questions :

2×2=4

a) Name any two shorter lyrics of Toru Dutt.

b) Mention two pioneering Indian English novelists of the pre-independence era.

c) Name two volumes of R. K. Narayan's short stories.

2. Answer any *one* of the following questions : 10

(a) Write a note on the development of Indian English poetry from 1857 to 1920.

(b) Write an essay on the growth of Modern Indian English drama.

UNIT—II

3. Answer any *two* of the following questions : 2×2=4

(a) What was the reason behind the 'hartal' or strike in *Swami and Friends*?

(b) Describe the room of Swami's grandmother.

(c) Who were the friends of Swami?

4. Answer any *one* of the following questions : 10

(a) Give a character sketch of Swaminathan in R. K. Narayan's *Swami and Friends*.

(b) Discuss the relationship between Swami and his friends.

UNIT—III

5. Answer any *two* of the following questions : 2×2=

(a) Why is the air in grandmother's house described as frozen?

(b) What does the Casuarina tree symbolize?

(c) How did the mother respond after the recovery in Ezekiel's *The Night of The Scorpion*?

6. Answer any one of the following questions : 10

(a) Examine the theme of the poem, *The Night of The Scorpion.*

(b) Attempt a critical appreciation of Toru Dutt's *Our Casuarina Tree.*

UNIT—IV

7. Answer any *two* of the following questions : 2×2=4

(a) What is Roopa's role in the play, *Tara*?

(b) What does the name 'Tara' signify in the text?

(c) What role did Dr. Thakkar play in the life of Tara?

8. Answer any *one* of the following questions : 10

(a) Examine the theme of female identity in Mahesh Dattani's *Tara.*

(b) Give a character sketch of Chandan in *Tara.*

UNIT—V

9. Answer any *two* of the following questions : 2×2

(a) Why did Lala Jhinda Ram marry twice?

(b) What does the sea symbolize in Shashi Deshpande's story, *The Intrusion?*

(c) How does the woman surrender in *The Intrusion?*

10. Answer any *one* of the following questions :

(a) Comment on the theme of Indianness in the context of Mulk Raj Anand's *Two Lady Rams.*

(b) Critically examine the crisis of female autonomy in Shashi Deshpande's story, *The Intrusion.*

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2018/TDC/ODD/ENGAEC-101T/004

TDC (CBCS) Odd Semester Exam., 2018

ENGLISH

(1st Semester)

Course No. : ENGAEC-101T

(English Communication)

Full Marks : 50

Pass Marks : 20

Time : 3 hours

The figures in the margin indicate full marks for the questions

Answer **all** questions

UNIT—I

Answer any *three* questions of the following :   1×3=3

1. (a) What is communication?

   (b) Name the two major types of communication.

   (c) Define written communication.

   (d) Define interpersonal communication.

2. Answer any *one* of the following :   2

   (a) Explain briefly the meaning of business communication.

   (b) State any two demerits of verbal communication.

3. Answer any *one* of the following question :   5

    (a) Bring out the salient features of verbal communication.

    (b) State the importance and objectives of business communication.

UNIT—II

4. Answer any *three* of the following questions :

                                                  $1 \times 3 = 3$

    (a) Define monologue.

    (b) What is effective communication?

    (c) What is dialogue?

    (d) What do you mean by group discussion?

5. Answer any *one* of the following questions :   2

    (a) Mention any two skills required to participate in a group discussion.

    (b) State any two steps of effective communication.

6. Answer any *one* of the following questions :   5

    (a) State some possible causes of miscommunication.

    (b) Suggest some essential steps for conducting a job interview.

UNIT—III

7. Answer any *three* of the following questions :

                                                  $1 \times 3 = 3$

    (a) What do you mean by close reading?

(Continued)

(b) What is comprehension?

(c) What do you mean by summarising a text?

(d) What is paraphrasing?

8. Answer any *one* of the following questions : 2

(a) Briefly describe the meaning of comprehension. Mention two features of comprehension.

(b) Suggest two steps to be taken care of while paraphrasing a text.

9. Answer any *one* of the following questions : 5

(a) Discuss close reading of a text.

(b) Describe the strategies of text comprehension.

UNIT—IV

10. Answer any *three* of the following questions :

1×3=3

(a) What do you mean by a document?

(b) State the importance of note making.

(c) Mention one of the features of a good note.

(d) What is documenting?

11. Answer any *one* of the following questions : 2

(a) Briefly explain the meaning of note making.

(b) State the importance of documenting.

12. Answer any *one* of the following questions : 5

(a) Describe the types of documenting.

(b) Describe the various stages of note making.

UNIT—V

13. Answer any *three* of the following questions :

1×3=3

(a) What do you mean by report writing?

(b) Name one type of informal letter.

(c) What are lateral reports?

(d) What is the importance of business letters?

14. Answer any *one* of the following questions : 2

(a) Show the difference between formal and informal letters.

(b) What are functional reports?

15. Answer any *one* of the following questions : 5

(a) Write a report on the poor road condition of your locality.

(b) Write a letter to the Editor of a newspaper about the activities of antisocial elements in your locality.

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TDC (CBCS) Odd Semester Exam., 2018

ENGLISH

(1st Semester)

Course No. : ENGLAN-101T

(English Language—I)

Full Marks : 70

Pass Marks : 28

Time : 3 hours

The figures in the margin indicate full marks for the questions

Answer **all** questions

UNIT—I

Put appropriate determiners (any *four*) :   1×4=4

(a) There is _____ university at Banaras.

(b) Who is _____ happiest of all?

(c) _____ good in him revolted at this.

(d) This is _____ honour for me.

(e) Metre is _____ unit of length.

050

(Turn Over)

(2)

2. Insert appropriate preposition (any *one*) : 2

(a) When the train reached Madhupur, I saw my friend waiting _____ the platform _____ his brother.

(b) I reached my friend's house _____ about five _____ the evening.

3. Rewrite the following sentences according to the directions given in the brackets (any *eight*) : 1×8=8

(a) I _____ him to come to my place several times. (ask)

(Rewrite using the verb given in the bracket in correct tense form)

(b) My sister _____ many stories. (write)

(Rewrite using the verb given in the bracket in correct tense form)

(c) The boy _____, don't disturb him. (sleep)

(Rewrite using the verb given in the bracket in correct tense form)

(d) They fought a good fight.

(Change the voice)

(e) He was punished for misconduct.

(Change the voice)

(3)

(f) One of the nails _____ sticking out. (is/are)

(Agree the verb)

(g) Tom, along with his brothers _____ going to the city. (is/are)

(Agree the verb)

(h) He went to school _____ the age of five.

(Insert preposition)

(i) He looked _____ the answer paper.

(Insert preposition)

(j) Do you like _____ dress?

(Put determiner)

UNIT—II

4. Put appropriate question tags (any *four*) :

1×4=4

(a) You aren't hungry.

(b) You never met him.

(c) He couldn't answer him.

(d) These houses are large.

(e) The students have done well.

5. Do as directed (any *one*) :

(a) He was ill, and so he could not come.
(Change into a simple sentence)

(b) In spite of his illness, he will come.
(Change into a complex sentence)

6. Answer *either* (a) and (b) or (c) and (d) : 5+3=8

(a) Change the narration of the following :
The teacher became angry with the students and said, "why have you again disturbed the class in this way? I have told you before that when I am speaking, you should be silent. Leave the room, and do not return today."

(b) Combine the following sentences :
I heard a loud noise. It was like the bursting of a bomb. It came from a house nearby. This was followed immediately by cries from many voices. All this happened a few minutes after my arrival.

Or

(c) Change the narration of the following :
"Oh beautiful lady", said the fisherman, "Why have you come to this island in such a strange ship? Who are you, and where do you come from? You look like king's daughter and the boy looks like the son of a god."

(d) Combine the following sentences :
I saw an old man. This was on my way to school. He was poor. He was also bent down with age. He was standing at the door of a house.

UNIT—III

7. Answer any *four* from the following : 1×4=4

(a) Where is Tawang located?

(b) From which book of Elwin, *A Pilgrimage to Tawang* is taken?

(c) What was the Getompa?

(d) When was *Twelve Million Black Voices* published?

(e) What does the term 'negro' carry according to Richard Wright?

8. Answer any *one* from the following : 2

(a) What were the two occasions when Tawang came into the world news?

(b) What does the essay, *Twelve Million Black Voices* deal with?

9. Answer any *one* from the following :

(a) Why does Elwin call his journey to Tawang a pilgrimage? Give reasons for your answer.

(b) Discuss the chief theme of the essay, *Twelve Million Black Voices*.

UNIT—IV

10. Answer any *four* from the following : 1×4

(a) What is M. Loisel's profession?

(b) How much money does Mathilde ask to buy a new dress?

(c) At what time do M. and Mme. Loisel leave the party?

(d) Name the merchant in *God Sees the Truth, But Waits*.

(e) What did Aksionov learn in prison to earn a little money?

11. Answer any *one* from the following :

(a) What did Aksionov do just before he left the first inn?

(b) Why is Madame Loisel unhappy with her life at the beginning of the story?

(Continued)

12. Answer any *one* from the following : 8

(a) In what ways is Mathilde Loisel responsible for her own downfall?

(b) What are the series of events that led to Aksionov's imprisonment?

UNIT—V

13. Write a short paragraph on any *one* of the topics given below : 6

(a) The scene at a railway station

(b) Uses of a college library

(c) A visit to a book fair

14. You are Kamala/Rajan. You have seen an advertisement for the post of a Mathematics Teacher in Rani Public School, Kolkata. Write a letter in response to the advertisement applying for the post. Give your detailed bio-data. 8

Or

You are Preeti/Pritam. Recently you read an advertisement for the post of Sales Manager in Wisdom Publishers Ltd. Write an application for the job along with your detailed resume.

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2018/TDC/ODD/BNGC–102T/065

TDC (CBCS) Odd Semester Exam., 2018

BENGALI

(1st Semester)

Course No. : BNGHCC–102T

(প্রাচীন ও মধ্যযুগের বাংলা সাহিত্য)

পূর্ণমান : ৭০

উত্তীর্ণমান : ২৮

সময় : ৩ ঘণ্টা

পার্শ্বস্থ সংখ্যা পূর্ণমান নির্দেশক

ক—বিভাগ

১। যে কোনো দুটি প্রশ্নের সংক্ষিপ্ত উত্তর দাও :   ২×২=৪

(ক) 'হাজার বছরের পুরানো বাংলা ভাষায় বৌদ্ধ গান ও দোঁহা' নামক গ্রন্থটি কার সম্পাদনায়, কোন্ প্রকাশন সংস্থা থেকে প্রকাশিত হয়েছিল ?

(খ) শূন্যস্থান পূর্ণ করো :

"অপণা মাংসেঁ _____ _____ ।"

(গ) 'চর্যাপদ'-এর যে কোনো দুজন পদকর্তার নাম লেখো।

২। (ক) 'চর্যাপদ'-এ প্রতিফলিত সামাজিক জীবনযাত্রার চিত্র বর্ণনা করো।   ১০

অথবা

(খ) ''ভবণই গহণ গম্ভীর বেগেঁ বাহী।''
চাটিলপাদ বিরচিত পাঁচ সংখ্যক এই পদটির মর্মার্থ
বিশ্লেষণ করো।

খ—বিভাগ

৩। যে কোনো দুটি প্রশ্নের সংক্ষিপ্ত উত্তর দাও :   ২×২

(ক) রূপ গোস্বামী শৃঙ্গার বা উজ্জ্বল রসকে দু'ভাগে ভাগ
করেছেন। ভাগ দুটি কী কী ?

(খ) ''ঘরের বাহিরে   দণ্ডে শতবার''
এই বৈষ্ণব পদটি কোন্ পর্যায়ের এবং পদকর্তা কে ?

(গ) শূন্যস্থান পূর্ণ করো :

''কণ্টক গাড়ি _____ পদতল
মঞ্জীর _____ ঝাঁপি।''

৪। (ক) তোমার পাঠ্যতালিকাভুক্ত 'পূর্বরাগ' পর্যায়ের পদগুলির
কাব্যসৌন্দর্য বিচার করো।

অথবা

(খ) 'অভিসার' পর্যায়ের শ্রেষ্ঠ কবির নাম উল্লেখ করে এই
পর্যায়ের পদরচনায় কবির কৃতিত্বের পরিমাপ করো।

গ—বিভাগ

৫। যে কোনো দুটি প্রশ্নের সংক্ষিপ্ত উত্তর দাও :   ২×২=৪

(ক) মুকুন্দরাম চক্রবর্তীর 'চণ্ডীমঙ্গল' কাব্যের খণ্ড দুটির নাম
কী কী ?

(খ) কালকেতু-ফুল্লরা স্বর্গের কোন্ দুইজন শাপভ্রষ্ট
দেব-দেবী ?

(গ) ''সোনারূপা নহে বাপা   এ বেঙা পিতল।
ঘসিয়া মাজিয়া বাপু করেছ উজ্জ্বল॥''
এখানে কোন্ বস্তুকে পিতলের বলা হয়েছে এবং বক্তা
কে ?

৬। (ক) ''কবিকঙ্কণ মঙ্গলকাব্যের চিরাচরিত বারমাস্যার বর্ণনাকে
জীবন্ত করে তুলেছেন—নারী মনস্তত্ত্বের রূপায়ণে।''
মুকুন্দরামের 'চণ্ডীমঙ্গল' কাব্যের 'ফুল্লরার বারমাস্যা'
অংশটি আলোচনা করে উক্তিটির যাথার্থ্য নিরূপণ করো।   ১০

অথবা

(খ) ''এ যুগে জন্মগ্রহণ করিলে তিনি যে কবি না হইয়া
একজন ঔপন্যাসিক হইতেন, তাহাতে সংশয়মাত্র নাই।''
মুকুন্দরামের 'চণ্ডীমঙ্গল' কাব্যের কালকেতুর কাহিনিতে
উপন্যাস-লক্ষণের উপস্থিতি প্রসঙ্গে বিশিষ্ট সমালোচকের
এই মন্তব্যটি বিশদ করো।   ১০

ঘ—বিভাগ

৭। যে কোনো দুটি প্রশ্নের সংক্ষিপ্ত উত্তর দাও :   ২×২=৪

(ক) চৈতন্যদেবের জন্মস্থান ও পিতৃভূমির নাম লেখো।

(খ)   ''হইল পাপিষ্ঠ জয় না হৈল তখনে।
      ইহলাভ বঞ্চিত সে মুখ দরশনে॥''
'চৈতন্যভাগবত'-এর আদিখণ্ডের দশম অধ্যায়ে এই আক্ষেপটি কার এবং এমন আক্ষেপের কারণ কী?

(গ) 'চৈতন্যভাগবত'-এর প্রথম নাম কি ছিল? চৈতন্যলীলার ব্যাস কাকে বলা হয়?

৮। (ক) 'চৈতন্যভাগবত'-এর আদিখণ্ড অবলম্বনে চৈতন্যের বাল্যলীলা বর্ণনা করো।   ১০

অথবা

(খ) '' 'চৈতন্যভাগবত' ভক্তের রচনা হলেও ভক্তির সঙ্গে সমাজমনস্কতাও জড়িত।'' গ্রন্থ অবলম্বনে তৎকালীন গ্রাম-সমাজের সংক্ষিপ্ত পরিচয় দাও।   ১০

ঙ—বিভাগ

৯। যে কোনো দুটি প্রশ্নের সংক্ষিপ্ত উত্তর দাও :   ২×২=৪

(ক) 'শাক্ত পদাবলী'র কোন্ দুটি পর্যায় তোমাদের পাঠ্য এবং এই পর্যায়ের পদগুলোর প্রধান রস কী?

(খ) কোন্ শাক্ত পদকর্তার উপাধি 'কবিরঞ্জন' এবং এই উপাধি কে দিয়েছেন?

(গ)   ''ওরে নবমী নিশি না হইওরে অবসান,
      শুনি দারুণ তুমি, না রাখ সতের মান।''
পংক্তি দুটি কোন্ পর্যায়ের এবং কার রচনা?

১০। (ক) '' 'শাক্ত পদাবলী'র 'আগমনী' ও 'বিজয়া' পর্যায়ের পদে হিমালয় ও মেনকার গার্হস্থ্যজীবন ও তৎকালীন সমাজের পরিচয় পাওয়া যায়।'' আলোচনা করো।   ১০

অথবা

(খ) ''গিরি, এবার আমার উমা এলে আর উমা
                    পাঠাবো না।
বলে বলবে লোকে মন্দ, কারো কথা শুনব না।''
'আগমনী' পর্যায়ের এই শাক্ত পদটিতে মাতৃহৃদয়ের যে আকুতি প্রকাশিত হয়েছে তা সংক্ষেপে আলোচনা করো।   ১০

★★★

TDC (CBCS) Odd Semester Exam., 2018

BENGALI

(1st Semester)

Course No. : BNGAEC–101T

(সংযোগের রূপ, রীতি ও প্রয়োগ)

(For Arts, Science, Commerce—Hons. and Pass Course)

পূর্ণমান : ৫০

উত্তীর্ণমান : ২০

সময় : ৩ ঘণ্টা

পার্শ্বস্থ সংখ্যা পূর্ণমান নির্দেশক

UNIT—I

১। অতি সংক্ষিপ্ত উত্তর দাও (যে কোনো তিনটি) :   ১×৩=৩

(ক) সংযোগের ইংরেজি প্রতিশব্দ 'communication' এসেছে ল্যাটিন প্রতিশব্দ communis/communas থেকে।

(শুদ্ধ উত্তরটি লেখো)

(খ) একক কথনের একটি বৈশিষ্ট্য লেখো।

(Turn Over)

(গ) বাংলা পরিভাষা লেখো (যে কোনো একটি) :

(i) Monologue

(ii) Group Discussion

(ঘ) কোন্ ধরনের সাক্ষাৎকারে একসঙ্গে কয়েকজন প্রার্থীর সঙ্গে কথা বলা হয় ?

২। সংক্ষিপ্ত উত্তর দাও (যে কোনো একটি) : ২

(ক) সংযোগের দুটি রূপ কী কী ?

(খ) সাক্ষাৎকারের উদ্দেশ্য কী ?

৩। যে কোনো একটি প্রশ্নের উত্তর দাও : ৫

(ক) সমবেত সংলাপে প্রার্থীকে কী কী বিষয়ে গুরুত্ব আরোপ করতে হবে, আলোচনা করো।

(খ) লেখ্য ও মৌখিক সংযোগের কয়েকটি পার্থক্য উল্লেখ করে একটি আলোচনা প্রস্তুত করো।

UNIT—II

৪। অতি সংক্ষিপ্ত উত্তর দাও (যে কোনো তিনটি) :

(ক) নথি সংরক্ষণের মাধ্যমকে কী বলা হয় ? ১×৩=৩

(খ) যে সমস্ত নথিপত্র প্রায়ই দৈনন্দিন প্রশাসনিক কাজে ব্যবহৃত হয় তাকে কী নথি বলা হয় ?

(গ) কোন্ ধরনের প্রতিবেদনে শিরোনাম, প্রতিবেদকের নাম ও স্থানের উল্লেখ বাঞ্ছনীয় ?

(ঘ) বাংলা পরিভাষা লেখো (যে কোনো একটি) :

(i) Report

(ii) Summary

৫। সংক্ষিপ্ত উত্তর দাও (যে কোনো একটি) : ২

(ক) প্রতিবেদন বলতে কী বোঝ ?

(খ) নথি কতপ্রকার ও কী কী ?

৬। যে কোনো একটি প্রশ্নের উত্তর দাও : ৫

(ক) নথিকরণের বিভিন্ন পর্যায় সম্পর্কে আলোচনা করো।

(খ) নিম্নলিখিত অনুচ্ছেদটির সারসংক্ষেপ প্রস্তুত করো :

দেশে প্রকৃত প্রস্তাবে শান্তি ও সুবিচার প্রতিষ্ঠিত করতে গেলে প্রচলিত শাসনতন্ত্রের বিরোধ ও স্বেচ্ছাচারিতার প্রতিরোধ প্রয়োজন। এরূপ প্রতিরোধের অভাবে প্রাচীন ও মধ্যযুগে শান্তি ও সুশাসন দুর্লভ ছিল। এই প্রতিরোধকে কার্যকর করতে গেলে, ধীরভাবে সংযতভাবে চালাতে গেলে, স্থায়ী করতে গেলে প্রতিরোধ যারা করবে তাদের দলবদ্ধ হওয়া চাই। দল না থাকলে বহু সুচিন্তিত বিধান বিধিবদ্ধ হতে পারত না; অতি প্রয়োজনীয় পরিবর্তনও সম্ভব হত না, স্বাধীন রাজ্যের নীতির কোনো স্বাধীনতা

থাকত না—সমাজ চপলমতির ক্রীড়নক হয়ে দাঁড়াত। বিশেষত, রাষ্ট্রীয় স্বাধীনতা নির্ভর করে ইচ্ছামতো কর্ম করার শক্তির উপর। সে শক্তি অর্জন করতে হলে জনগণের মধ্যে সমবায়ের ক্ষমতা অনেক পরিমাণে থাকা চাই। নতুবা ভ্রান্ত, উন্মত্ত, অত্যাচারী স্বাধীনতার অপপ্রয়োগ করতে থাকবে, তখন বিরোধী দলের সৃষ্টি না হলে তার বিরুদ্ধে দাঁড়াবে কে ?

UNIT—III

৭। অতি সংক্ষিপ্ত উত্তর দাও (যে কোনো তিনটি) :   ১×৩=৩

(ক) 'বীরাঙ্গনা কাব্য' কত খ্রিস্টাব্দে প্রকাশিত হয় ?

(খ) 'বীরাঙ্গনা কাব্য'-এর মোট পত্রসংখ্যা কত ?

(গ) "গুরুপত্নী আমি/তোমার, পুরুষরত্ন," গুরুপত্নীর পরিচয় কী ?

(ঘ) শূর্পণখা কে ছিলেন ?

৮। সংক্ষিপ্ত উত্তর দাও (যে কোনো একটি) :   ২

(ক) নীলধ্বজ কোন্ রাজ্যের রাজা ছিলেন ? তাঁর পুত্রের নাম কী ?

(খ) "কে তুমি, বিজন বনে ভ্রম হে একাকী।" কে, কাকে উদ্দেশ্য করে কথাটি বলেছেন ?

৯। যে কোনো একটি প্রশ্নের উত্তর দাও :

(ক) 'বীরাঙ্গনা কাব্য'-এ প্রতিফলিত 'ড্রামাটিক মনোলগ'-ধর্মিতার লক্ষণ যে কোনো একটি পঠিত কবিতা অবলম্বনে আলোচনা করো।

(খ) পত্র-কবিতা হিসাবে 'বীরাঙ্গনা কাব্য'-এর সার্থকতা আলোচনা করো।

(Continued)

UNIT—IV

১। অতি সংক্ষিপ্ত উত্তর দাও (যে কোনো তিনটি) :   ১×৩=৩

(ক) রবীন্দ্রনাথ কত খ্রিস্টাব্দে নোবেল পুরস্কার লাভ করেন ?

(খ) রবীন্দ্রনাথের কোন্ কবিতায় ছোটগল্পের সংজ্ঞাটি আছে ?

(গ) শৈলবালা কে ?

(ঘ) ফটিকের মামার নাম কী ?

১। সংক্ষিপ্ত উত্তর দাও (যে কোনো একটি) :

(ক) "বাবা, আমাদের তবে এবার পথে ভাসালে।" কথাটি কে, কাকে বলেছে ? কীভাবে বাবা ছেলেকে পথে ভাসালেন ?

(খ) "ছেলেমানুষ, উহাকে তুমি বড় বেশি পরিশ্রম করাইতেছ, উহার শরীর তেমন সবল নহে।" এখানে বক্তা কে ? 'উহাকে' বলতে কাকে বোঝানো হয়েছে ?

২। যে কোনো একটি প্রশ্নের উত্তর দাও :   ৫

(ক) "মা, এখন আমার ছুটি হয়েছে মা, এখন আমি বাড়ি যাচ্ছি।" এই উক্তির মধ্যে গল্পের নামকরণের প্রতি যে গূঢ় সংকেত রয়েছে তা কতদূর সার্থক হয়েছে, আলোচনা করো।

(খ) 'রামকানাইয়ের নির্বুদ্ধিতা' গল্পে সংলাপ ব্যবহারের বৈশিষ্ট্য সম্পর্কে আলোচনা করো।

(Turn Over)

UNIT—V

১৩। অতি সংক্ষিপ্ত উত্তর দাও (যে কোনো তিনটি) : ১×৩=৩

   (ক) নিচের কোন্ উৎসবটি শরৎকালে উদ্‌যাপিত হয় ?

      (i) দুর্গোৎসব

      (ii) বসন্তোৎসব

   (খ) বরাক উপত্যকার প্রাণকেন্দ্রে প্রতি বৎসর অনুষ্ঠিত ঐতিহ্যবাহী মেলাটির নাম কী ?

   (গ) কোনো কর্তৃপক্ষের কাছ থেকে অনুমোদন আদায়ের জন্য যে প্রতিবেদন লেখা হয় তার নাম ব্যক্তিগত প্রতিবেদন/প্রাতিষ্ঠানিক প্রতিবেদন।

                      (শুদ্ধ উত্তরটি লেখো)

   (ঘ) ''গ্রন্থ পরিক্রমায় সমালোচকের দার্শনিক অন্তর্দৃষ্টি থাকা প্রয়োজন।'' মন্তব্যটি সঠিক না ভুল ?

১৪। সংক্ষিপ্ত উত্তর দাও (যে কোনো একটি) : ২

   (ক) কৃষির সঙ্গে সংযুক্ত দুটি উৎসবের নাম লেখো।

   (খ) বহিরঙ্গন ক্রীড়া (outdoor games) ও অন্তরঙ্গন ক্রীড়া (indoor games)-এর দুটি পার্থক্য উল্লেখ করো।

১৫। যে কোনো একটি প্রশ্নের উত্তর দাও : ৫

   (ক) তোমার দেখা কোনো একটি অঞ্চলের বন্যাপীড়িত মানুষের দুরবস্থা বর্ণনা করে সংবাদপত্রে প্রকাশের জন্য একটি পত্র লেখো।

   (খ) বর্তমান সময়ে বইমেলার প্রয়োজনীয়তা ও গুরুত্ব সম্পর্কে আলোচনা করো।

★ ★ ★

TDC (CBCS) Odd Semester Exam., 2018

BENGALI

(1st Semester)

Course No. : BNGGEC–101T/
BNGDSC–101T

(বাংলা সাহিত্যের ইতিহাস : প্রাচীন ও মধ্যযুগ)

পূর্ণমান : ৭০

উত্তীর্ণমান : ২৮

সময় : ৩ ঘণ্টা

পার্শ্বস্থ সংখ্যা পূর্ণমান নির্দেশক

প্রতিটি গুচ্ছ থেকে উত্তর দেওয়া আবশ্যিক

গুচ্ছ—১

১। অতি সংক্ষিপ্ত উত্তর দাও (যে কোনো চারটি) :   ১×৪=৪

(ক) বাংলা সাহিত্যের ইতিহাসকে কয়টি যুগে ভাগ করা
হয়েছে ?

(খ) 'চর্যাপদ'-এর পুথিটি কোথা থেকে আবিষ্কৃত হয়েছে ?

(গ) 'চর্যাপদ'-এর পুথিতে সর্বমোট কয়টি পদ ছিল ?

(Turn Over)

(ঘ) 'চর্যাপদ'-এর কবিরা নিজেদের নামের সঙ্গে কি উপাধি ধারণ করতেন ?

(ঙ) 'চর্যাপদ' বাংলা সাহিত্যের কোন্ যুগের গ্রছ ?

২। সংক্ষিপ্ত উত্তর দাও (যে কোনো একটি) :

(ক) 'চর্যাপদ'-এর ভাষাকে 'সন্ধ্যাভাষা' বলা হয়েছে কেন ?

(খ) 'চর্যাপদ' কে আবিষ্কার করেন ? প্রকাশকালে তার নাম কি দেওয়া হয়েছিল ?

৩। যে কোনো একটি প্রশ্নের উত্তর দাও :

(ক) 'চর্যাপদ' গ্রছটিতে তৎকালীন সমাজজীবনের যে পরিচয় পাওয়া যায় তা সংক্ষেপে বর্ণনা করো।

(খ) বাংলা সাহিত্যের ইতিহাসে 'চর্যাগীতি'র ঐতিহাসিক মূল্য নির্ধারণ করো।

গুচ্ছ—২

৪। অতি সংক্ষিপ্ত উত্তর দাও (যে কোনো চারটি) :   ১×৪=৪

(ক) কবি বড়ু চণ্ডীদাস কোন্ দেবীর উপাসক ছিলেন ?

(খ) 'শ্রীকৃষ্ণকীর্তন' গ্রছে সর্বমোট কয়টি খণ্ড আছে ?

(গ) কবি বিদ্যাপতি মূলত কোন্ ভাষায় তাঁর বৈষ্ণব পদগুলি রচনা করেছিলেন ?

(ঘ) কবি জ্ঞানদাসকে কোন্ কবির ভাবশিষ্য বলা হয় ?

(ঙ) গোবিন্দদাসকে কোন্ রস পর্যায়ের শ্রেষ্ঠ কবি বলা হয় ?

৫। সংক্ষিপ্ত উত্তর দাও (যে কোনো একটি) :   ২

(ক) 'শ্রীকৃষ্ণকীর্তন' গ্রছটি কে, কোথা থেকে আবিষ্কার করেন ?

(খ) পদাবলীর চণ্ডীদাস চৈতন্য-পূর্ববর্তী না চৈতন্য-পরবর্তী যুগের কবি ? কোন্ গ্রামে তাঁর বাস ছিল বলে পণ্ডিতদের অনুমান ?

৬। যে কোনো একটি প্রশ্নের উত্তর দাও :   ৮

(ক) 'শ্রীকৃষ্ণকীর্তন' গ্রছটির ঐতিহাসিক গুরুত্ব উল্লেখ করে এর সংক্ষিপ্ত পরিচয় দাও।

(খ) কবি গোবিন্দদাসের সংক্ষিপ্ত পরিচিতি উল্লেখ করে বৈষ্ণব পদ রচনায় তাঁর দক্ষতার পরিচয় দাও।

গুচ্ছ—৩

৭। অতি সংক্ষিপ্ত উত্তর দাও (যে কোনো চারটি) :   ১×৪=৪

(ক) বিজয়গুপ্তের 'মনসামঙ্গল'-এর পুথিটি কি নামে পরিচিত ছিল ?

(খ) 'চণ্ডীমঙ্গল'-এর আদি কবি বলে পরিচিত কবির নাম কী ?

(গ) 'শূন্যপুরাণ' কার লেখা ?

(ঘ) কোন্ অঞ্চলে ধর্ম ঠাকুরের পূজা সমধিক প্রচলিত ছিল ?

(ঙ) ভারতচন্দ্রের 'অন্নদামঙ্গল' কোন্ শতাব্দীর কাব্য ?

৮। সংক্ষিপ্ত উত্তর দাও (যে কোনো একটি) :

(ক) মুকুন্দরামের 'অভয়ামঙ্গল'-এ কয়টি খণ্ড আছে ? খণ্ডগুলির নাম কী কী ?

(খ) সপ্তদশ শতাব্দীর দুজন জনপ্রিয় 'মনসামঙ্গল'-এর কবির নাম লেখো।

৯। যে কোনো একটি প্রশ্নের উত্তর দাও :

(ক) যে কোনো দুজন 'মনসামঙ্গল' কাব্য রচয়িতার কবিকৃতি সম্পর্কে সংক্ষেপে আলোচনা করো।

(খ) "মধ্যযুগে জন্মগ্রহণ করেও জীবনদৃষ্টি ও জীবনচেতনার প্রশ্নে মুকুন্দরাম ছিলেন স্বতন্ত্র ব্যক্তিত্ব।" এই মন্তব্যের নিরিখে মুকুন্দরাম চক্রবর্তীর উৎকৃষ্ট সাহিত্য রচনার কৃতিত্ব আলোচনা করো।

গুচ্ছ—৪

১০। অতি সংক্ষিপ্ত উত্তর দাও (যে কোনো চারটি) : ১×৪=৪

(ক) মূল বাল্মীকি 'রামায়ণ' কয়টি কাণ্ডে বিভক্ত ?

(খ) 'রামায়ণ'-এর সব থেকে প্রসিদ্ধ বাংলা অনুবাদকের নাম কী ?

(গ) বাংলা 'রামায়ণ' অনুবাদের ধারায় একজন মহিলা কবি ছিলেন তাঁর নাম কী ?

(ঘ) 'মহাভারত'-এর প্রথম বাংলা অনুবাদক কাকে বলা হয় ?

(ঙ) কবি কাশীরাম দাস কোন্ শতকের কবি ?

১১। সংক্ষিপ্ত উত্তর দাও (যে কোনো একটি) : ২

(ক) কবি কৃত্তিবাস কোন্ গ্রামের অধিবাসী ছিলেন ? তাঁর অনূদিত 'রামায়ণ' গ্রন্থটির নাম কী ?

(খ) কবি কাশীরাম দাসের কৌলিক উপাধি কি ছিল ? তিনি 'মহাভারত'-এর কয়টি পর্বের অনুবাদ করেছিলেন বলে পণ্ডিতদের অনুমান ?

১২। যে কোনো একটি প্রশ্নের উত্তর দাও : ৮

(ক) কবি কৃত্তিবাস ওঝার কবি পরিচিতি ও সংক্ষিপ্ত জীবনতথ্য উল্লেখ করে অনুবাদক হিসেবে তাঁর অবদান আলোচনা করো।

(খ) 'মহাভারত'-এর শ্রেষ্ঠ অনুবাদক কবি কাশীরাম দাসের অনূদিত গ্রন্থটির বৈশিষ্ট্য সম্পর্কে লেখো।

গুচ্ছ—৫

১৩। অতি সংক্ষিপ্ত উত্তর দাও (যে কোনো চারটি) : ১×৪=৪

(ক) শাক্ত পদাবলী কোন্ শতকের রচনা ?

(খ) "গিরি এবার আমার উমা এলে, আর উমা পাঠাব না বলে বলবে লোকে মন্দ, কারো কথা শুনবো না।" উদ্ধৃত কবিতা অংশটি শাক্ত পদাবলীর কোন্ পর্যায়ের অন্তর্ভুক্ত ?

(গ) 'সাধকরঞ্জন' গ্রন্থটি কার রচিত ?

(ঘ) কোন্ বিখ্যাত রোমান্টিক আখ্যান কাব্যের জন্য কবি দৌলতকাজী প্রসিদ্ধ ?

(ঙ) 'পদ্মাবতী' কাব্যটি কার রচিত ?

১৪। সংক্ষিপ্ত উত্তর দাও (যে কোনো একটি) : ২

(ক) শাক্ত পদাবলীর দুজন উল্লেখযোগ্য কবির নাম লেখো।

(খ) দৌলতকাজী কোন্ রাজসভার কবি ছিলেন ? তাঁর রচিত অর্ধসমাপ্ত কাব্য 'সতী ময়না'র অবশিষ্ট অংশ কে রচনা করেন ?

১৫। যে কোনো একটি প্রশ্নের উত্তর দাও : ৮

(ক) 'আগমনী' ও 'বিজয়া' শীর্ষক পদগুলিতে বাঙালি মাতা ও কন্যার যে অসহায়তা ও হৃদয়বেদনা প্রকাশ পেয়েছে, যে কোনো একজন শাক্ত পদকারের পদ অবলম্বনে তার পরিচয় দাও।

(খ) মধ্যযুগের বাংলা সাহিত্যে আরাকান রাজসভার কবিদের উল্লেখযোগ্য ভূমিকা রয়েছে, আলোচনা করো।

★★★

TDC (CBCS) Odd Semester Exam., 2018

POLITICAL SCIENCE

(1st Semester)

Course No. : PLSHCC–101T

(Understanding Political Theory)

Full Marks : 70
Pass Marks : 28

Time : 3 hours

*The figures in the margin indicate full marks
for the questions*

Answer **all** questions

UNIT—I

1. Answer any *two* questions of the following :

2×2=4

(a) Write George H. Sabine's definition of Political Theory.

(b) Mention two differences between negative liberalism and positive liberalism.

(c) Point out two features of Conservatism.

(Turn Over)

2. *(a)* What is Political Theory? What are its functions? 5+5

Or

(b) Discuss any three principles of Marxism. Is Marxism relevant today? 6+4

UNIT—II

3. Answer any *two* questions of the following : 2×2

(a) What is Normative Political Theory?

(b) Mention two criticisms against the Historical Approach to Political Theory.

(c) Write two characteristics of Empirical Political Theory.

4. *(a)* Discuss the features of the Historical Approach to Political Theory. What is the importance of the Historical Approach? 6+4

Or

(b) What are the main points of differences between Normative Political Theory and Empirical Political Theory? In what category do you place modern political theory? 6+4

UNIT—III

5. Answer any *two* questions from the following : 2×2=4

(a) What is the difference between sex and gender?

(b) Mention any two types of Feminism.

(c) What is meta-narrative?

6. *(a)* Critically examine the main features of Feminism. 10

Or

(b) Write a note on post-modernism in Political theory.

UNIT—IV

7. Answer any *two* questions from the following : 2×2=4

(a) Write a definition of democracy.

(b) Give two reasons why direct democracy is not possible in India.

(c) Write two safeguards of democracy.

(4)

8. (a) Explain the evolution and growth of democracy as an ideal. 10

Or

(b) What is Procedural Democracy? Is Substantive Democracy an improvement over Procedural Democracy? 4+6=10

UNIT—V

9. Answer any *two* questions of the following : 2×2=4

(a) Mention the names of two exponents of Deliberative Democracy.

(b) Define Political Participation.

(c) Write two methods of Minority Representation.

10. (a) Discuss the features of Deliberative Democracy. 10

Or

(b) What is Representation? Is representation a pre-condition of democracy? 4+6=10

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2018/TDC/ODD/PLSC-101T/04

TDC (CBCS) Odd Semester Exam., 2018

POLITICAL SCIENCE

(1st Semester)

Course No. : PLSHCC–102T

(Constitutional Government and Democracy in India)

Full Marks : 70
Pass Marks : 28

Time : 3 hours

The figures in the margin indicate full marks for the questions

UNIT—I

1. Answer any *two* questions of the following : 2×2=4

(a) Mention two features of the Indian Constitution.

(b) When was the Constitution of India enacted and from which date did it come into operation?

(c) Mention two socialist principles from the Directive Principles of State Policy.

(Turn Over)

(2)

2. *(a)* Discuss the meaning and significance of the Preamble of the Indian Constitution. 10

Or

(b) What are the Fundamental Rights enshrined in the Constitution of India? Distinguish between Fundamental Rights and Directive Principles of the State Policy. 6+4=10

UNIT—II

3. Answer any *two* questions of the following : 2×2=4

(a) Who becomes the Prime Minister of India? Who administers his oath of office?

(b) What are the different types of ministers in the Union Council of Ministers?

(c) How is the President of India elected?

4. *(a)* How is the Prime Minister of India appointed? Discuss his powers and functions. 2+8=10

Or

(b) Critically discuss the emergency powers of the President of India. 10

(3)

UNIT—III

5. Answer any *two* questions of the following : 2×2=4

(a) Mention two powers of the Speaker of the Lok Sabha.

(b) Mention two special powers of the Rajya Sabha.

(c) What is the Advisory Jurisdiction of the Supreme Court of India?

6. *(a)* Discuss the composition and functions of the Lower House of the Indian Parliament. 2+8=10

Or

(b) Discuss the composition and jurisdiction of the Supreme Court of India. 2+8=10

UNIT—IV

7. Answer any *two* questions of the following : 2×2=4

(a) Mention two subjects of the Union List.

(b) Mention two emergency provisions of the Constitution of India.

(c) Under what circumstances can the Union Government make laws on the subjects of the State List?

(4)

8. (a) Indian Constitution is federal in form but unitary in spirit. Discuss.   10

   Or

   (b) Discuss the division of executive powers between the Centre and the States.   10

UNIT—V

9. Answer any *two* questions of the following :   2×2=4

   (a) Mention two features of the 73rd (Constitution) Amendment Act.

   (b) What are the different forms of Local Self-Government in India?

   (c) Mention two functions of Municipal Board.

10. (a) Discuss the composition and functions of Gram Panchayat.   2+8=10

    Or

    (b) How is the Autonomous District Council in Assam Constituted? Discuss its powers and functions.   2+8=10

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TDC (CBCS) Odd Semester Exam., 2018

POLITICAL SCIENCE

(1st Semester)

Course No. : PLSGEC-101T/PLSDSC-101T

(Introduction to Political Theory)

Full Marks : 70
Pass Marks : 28

Time : 3 hours

The figures in the margin indicate full marks for the questions

UNIT—I

1. Answer any *four* from the following questions :   1×4=4

   (a) Who first used the term 'politics'?

   (b) What is the root of the term 'theory'?

   (c) Who defined politics as the process of shaping and sharing of Power?

(d) From which language is the word 'politics' derived?

(e) Which theory refers to politics as the 'struggle for power'?

2. *(a)* What is the modern meaning of politics?

Or

(b) Write any two differences between normative and modern political theory.

3. Answer *either (a) or (b)* :

(a) What is politics? Explain the significance of politics. 3+5=8

(b) Discuss the nature and scope of political theory. 3+5=8

UNIT—II

4. Answer any *four* from the following questions : 1×4=4

(a) What is the meaning of the Greek word 'demos'?

(b) Who has given first the concept of 'distributive justice'?

(c) Name any two kinds of equality.

(d) Who stated that "all men are equal by nature"?

(e) Who is called the champion of individual liberty?

5. *(a)* Write any two differences between negative liberty and positive liberty. 2

Or

(b) Mention any two modern devices of direct democracy.

6. Answer *either (a) or (b)* :

(a) What is liberty? How can liberty be safeguarded? 3+5=8

(b) Define democracy. What are the necessary conditions for the success of democracy? 3+5=8

UNIT—III

7. Answer any *four* as directed from the following : 1×4=4

(a) What is the source of the Latin word 'citizen'?

(b) When did UN General Assembly adopt Universal Declaration of Human Right?

(c) "State is a partnership of virtues." Who said it?

(d) Is right to work a political right?

(Write Yes or No)

(e) Who is the originator of the concept of social citizenship?

8. (a) What is global citizenship?

Or

(b) Mention any two civil rights of a citizen.

9. Answer *either* (a) or (b) :

(a) Define citizenship. How can citizenship be acquired? 3+5=8

(b) What is civil society? Explain the relationship between the Civil Society and the State. 3+5=8

UNIT—IV

10. Answer any *four* from the following questions : 1×4=4

(a) Who developed the concept of 'Lee Thesis'?

(b) Who is the author of the book, *The Argumentative Indian*?

(c) What is the source of the term 'censorship'?

(d) Who is known as the father of 'Socialism'?

(e) "A well to do nation is more likely to maintain democracy than a poor one." Who said it?

11. (a) Mention any two types of censorship.

Or

(b) Give two arguments in favour of democratic model of economic growth.

12. Answer *either (a) or (b)* :

(a) Define economic growth. Is democracy compatible with economic growth? Give reasons in support of your answer. 3+5

(b) What is censorship? Give arguments for and against censorship. 2+3+3

UNIT—V

13. Answer any *four* as directed from the following : 1×4

(a) Who has termed justice as fairness?

(b) Is child marriage a social evil?

(Write Yes or No)

(c) Who does speak of the family as 'the first society'?

(d) When was Domestic Violence Act Passed in India?

(e) "The State is the march of God upon earth." Who said it?

(Continued)

14. (a) What is meant by principle of fairness? 2

Or

(b) Mention any two areas where State can not intervene in the family.

15. Answer *either (a) or (b)* :

(a) What is protective discrimination? Does protective discrimination violate the principles of fairness? Discuss. 3+5=8

(b) What is family? Should State intervene in family affairs? Give reasons in support of your answer. 3+5=8

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2018/TDC/ODD/ECOC–101T/042

TDC (CBCS) Odd Semester Exam., 2018

ECONOMICS

(1st Semester)

Course No. : ECOHCC–101T

(Introductory Microeconomics)

Full Marks : 70

Pass Marks : 28

Time : 3 hours

The figures in the margin indicate full marks for the questions

Answer **two** short questions (*2* marks) and **one** broad question (*10* marks) from each Unit

UNIT—I

1. Answer any *two* of the following :   2×2=4

   (a) Define microeconomics.

   (b) Point out two features of scarcity definition of economics.

   (c) State two points of significance of studying economics.

2. *(a)* *(i)* Discuss the scope of economics.

(ii) What are the two methods of investigation that can be adopted for exploration in economic analysis? How can these methods be integrated? 5+2+3=10

Or

(b) Discuss the central problems of an economy. Explain briefly the factors that lead to an economic problem. 5+5=10

UNIT—II

3. Answer any *two* of the following : 2×2=4

(a) Mention two determinants of individual demand.

(b) What is consumer's surplus?

(c) Give two causes of a leftward shift of supply curve.

4. *(a)* Distinguish between market demand schedule and market supply schedule. Explain how a market demand curve is derived from individual demand curves. 4+6=10

Or

(b) Explain the concept of producer's surplus with the help of a diagram. What is the relationship between total surplus (aggregate of producer and consumer surplus) and economic efficiency? 5+5=10

UNIT—III

5. Answer any *two* of the following : 2×2=4

(a) What is marginal rate of substitution?

(b) Mention two assumptions of indifference curve analysis of consumer's equilibrium.

(c) What is budget constraint? Write down the equation of a budget line.

6. *(a)* *(i)* Distinguish between income effect and substitution effect.

(ii) Show price effect is the sum of the income effect and the substitution effect. 3+7=10

Or

(b) What is indifference curve? Discuss its properties. 2+8=10

UNIT—IV

7. Answer any *two* of the following :   2×2=4

   (a) Give two reasons for the emergence of monopoly.

   (b) Differentiate between explicit costs and implicit costs.

   (c) Define anti-trust policy with the help of an example.

8. *(a)* How can LAC (long-run average costs) be derived from the SAC (short-run average costs)? Why is LAC curve U-shaped?   7+3=10

   Or

   (b) Explain the conditions leading to maximization of profits by a producer using—

   (i) marginal cost and marginal revenue approach;

   (ii) total cost and total revenue approach.   5+5=10

UNIT—V

9. Answer any *two* of the following :   2×2=4

   (a) Distinguish between direct demand and derived demand.

   (b) In land market, why is the price of land demand determined?

   (c) Show the relationship between marginal product of labour (MP_L) and marginal revenue product of labour (MRP_L) with their meaning.

10. *(a)* What is competitive labour market? How are wages determined in a competitive labour market?   2+8=10

    Or

    (b) Write short notes on the following :   5+5=10

    (i) Causes of shifts in labour demand curve

    (ii) Public policy and the changing labour market

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TDC (CBCS) Odd Semester Exam., 2018

ECONOMICS

(1st Semester)

Course No. : ECOHCC–102T

(Mathematical Methods in Economics—I)

Full Marks : 70

Pass Marks : 28

Time : 3 hours

The figures in the margin indicate full marks for the questions

Answer **all** questions

UNIT—I

1. Answer any *two* of the following :   2+2=4

    (a) Find the truth values of ~ P when P is T and P is F.

    (b) Find the following :

        (i) $A \cup A'$

        (ii) $A \cap \phi$

    (c) Write the two roots of the quadratic function $ax^2 + bx + c = 0$.

(*Turn Over*)

(2)

2. Answer either (a) or (b) :

(a) (i) Prove that the following function is continuous at $x = 3$:

$$f(x) = \frac{x^2 - x - 6}{x - 3}, \quad x \neq 3$$
$$= 5 \qquad\qquad , \quad x = 3$$

(ii) In a class of 96 students, 50 play cricket and 32 play cricket but not football. Determine through set algebra the number of students who play both cricket and football; and the number of students who play football, but not cricket.

(b) (i) Construct the truth table for the statements $p \vee \sim (p \wedge q)$ and $(p \wedge q) \wedge \sim (p \vee q)$.

(ii) Convert the following into their fractional form :

$$1 \cdot 6666...$$
$$1 \cdot 222...$$

UNIT—II

3. Answer any two of the following : 2+2=4

(a) Give one example each of an explicit function and an implicit function.

(3)

(b) Draw a free-hand graph of the function $y = \frac{1}{x}$.

(c) What is the nth term of the following series?

$$2 \qquad 6 \qquad 18 \ ...$$

4. Answer either (a) or (b) :

(a) (i) Calculate the sum of the first n natural numbers. 5

(ii) If a, b and c are three consecutive integers, prove that

$$\log (1 + ac) = 2 \log b \qquad 5$$

(b) (i) Find the sum of the following series : 5

$$1^2 + 2^2 + ... + 9^2$$

(ii) Discuss the convergence of

$$\frac{1}{1 \cdot 2 \cdot 3} + \frac{3}{2 \cdot 3 \cdot 4} + \frac{5}{3 \cdot 4 \cdot 5} + ... \infty \qquad 5$$

UNIT—III

5. Answer any two of the following : 2+2=4

(a) If $y = f(x)$, define $\frac{dy}{dx}$.

(4)

(b) Write the differential quotient of e^{mx} and x^n.

(c) Find $\dfrac{d}{dx}\left(x^5 + x^3 + \dfrac{1}{x}\right)$.

6. Answer either (a) or (b) :

(a) (i) If $x = at^2$ and $y = 2at$, find $\dfrac{dy}{dx}$.   3

(ii) Write out the conditions of maximum and minimum for the function $y = f(x)$.   3

(iii) Find $\dfrac{dy}{dx}$ of the function

$$z = 2x^2 + 5x^2 y + xy^2 + y^2$$ 4

(b) (i) Find for what value of x, the following expression is maximum or minimum :

$$y = 2x^3 - 21x^2 + 36x - 20$$

Find also the maximum and minimum values.   5

(ii) Given that $z = x^3 e^{2y}$, find all the second-order partial derivatives.   5

(5)

UNIT—IV

7. Answer any *two* of the following :   2+2=4

(a) Show graphically local and global maxima.

(b) If $y = f(x)$ is a function, write out the condition for its convexity.

(c) Determine whether $y = 1 + 2x - x^2$ rises, falls or remains stationary at $x = 1$.

8. Answer either (a) or (b) :

(a) (i) A firm produces an output of x tonnes of a certain product at a total cost of $c = x^3 - 4x^2 + 7x$. Find at what level of output average cost is minimum and what level is it?   5

(ii) The demand function of a particular commodity is $y = 15e^{-x/3}$ for $0 < x \le 8$, where y is the price per unit and x is the number of units demanded. Determine the price, and the quantity for which revenue is the maximum.   5

(6)

(b) (i) The cost function for producing x units of a product is $C(X) = x^2 - 12x^2 + 48x + 11$ and the revenue function is $R = 83x - 4x^2 - 21$. Find the output for which profit is maximum. Also find the maximum profit.

(ii) Following are the demand functions for two commodities x_1 and x_2. Determine whether the commodities are complementary or competitive :

$$x_1 = p_1^{-1.7} p_2^{0.8} \text{ and } x_2 = p_1^{0.5} p_2^{-0.2}$$

UNIT—V

9. Answer any *two* of the following : 2+2

(a) Write the value of $\int x^n dx$ and $\int \frac{1}{x} dx$.

(b) Determine the integral of $x^3 + 5x^2 - 6x + 8$.

(c) Determine $\int e^{mx} dx$.

(Continued)

(7)

10. Answer either (a) or (b) :

(a) Find integral of the following functions : 10

(i) $\int \frac{3x+4}{6x+7} dx$

(ii) $\int \frac{dx}{\sqrt{x+1} - \sqrt{x}}$

(iii) $\int x \log x \, dx$

(iv) $\int \frac{3x+4}{x^2 + x - 6} dx$

(b) (i) Evaluate—

(1) $\int_2^4 4x \, dx$

(2) $\int_0^1 \frac{e^x}{1+e^x} dx$ 2+3=5

(ii) If the demand function is $P = 35 - 2x - x^2$ and the demand x_0 is 3, then find the consumer's surplus. 5

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2018/TDC/ODD/ECOG–101T/044

TDC (CBCS) Odd Semester Exam., 2018

ECONOMICS

(1st Semester)

Course No. : ECOGEC–101T/ECODSC–101T

(Principles of Microeconomics—I)

$$\frac{\textit{Full Marks} : 70}{\textit{Pass Marks} : 28}$$

Time : 3 hours

The figures in the margin indicate full marks for the questions

UNIT—I

1. Answer any *four* questions of the following : 1×4=4

   (a) What is economics?

   (b) Define scarcity.

   (c) What is opportunity cost?

(2)

(d) Define market equilibrium.

(e) Write the meaning of the word 'capitalism'.

2. (a) What is elasticity of demand? Write one determinant of it. $1+1=2$

Or

(b) What is shift in demand curve? What is the shape of market demand curve? $1+1=2$

3. (a) What is economic system? Explain the various types of economic system. $2+6=8$

Or

(b) Explain the theory of law of demand with suitable diagram. Mention any three limitations of this law. $5+3=8$

UNIT—II

4. Answer any *four* questions of the following : $1\times4=4$

(a) Define utility.

(b) What is price line in economics?

(3)

(c) Explain the meaning of the term indifference curve.

(d) Who invent the concept of water-diamond paradox?

(e) Give an example of time utility.

5. (a) Explain any two characteristics of indifference curve. 2

Or

(b) Define the concept of 'consumer surplus' with an example. 2

6. (a) Discuss the concept of income effects and substitution effects with suitable diagram. $4+4=8$

Or

(b) Explain the theory of law of diminishing marginal utility using proper diagram. Write any two assumptions of this law. $6+2=8$

UNIT—III

7. Answer any *four* questions of the following :

1×4=4

(a) Define cost of production.

(b) What is marginal revenue?

(c) Give an example of total fixed cost.

(d) What is the shape of short-run industry supply curve?

(e) What is profit maximization?

8. (a) Distinguish between fixed cost and variable cost. 2

Or

(b) Mention any two relations between average revenue and marginal revenue. 2

9. (a) Define economies of scale. What are the causes of economies and diseconomies of scale? 2+6=8

(Continued)

Or

(b) What is the shape of long-run average cost curve? "Long-run average cost curve can be derived from the short-run average cost curves." Explain. 1+7=8

UNIT—IV

10. Answer any *four* questions of the following :

1×4=4

(a) What do you mean by 'production' in economics?

(b) What is production function?

(c) What is choice of technology?

(d) Define iso-quant.

(e) Define returns to scale.

11. (a) Draw an iso-cost line assuming two factors of production. 2

Or

(b) What is producer's surplus? 2

(Turn Over)

12. *(a)* Graphically explain the law of variable proportions. 8

Or

(b) Explain in detail any four characteristics of iso-quant curve. 8

UNIT—V

13. Answer any *four* questions of the following : 1×4=4

(a) Define market.

(b) What is the shape of demand curve under perfect competition market?

(c) What is the condition of equilibrium of a firm during long period under perfect competition market?

(d) What is increasing cost industry?

(e) What is normal price?

14. *(a)* What are the two basic conditions of equilibrium of a firm under perfect competition market? 2

Or

(b) Why P = AR = MR under perfectly competitive market? 2

(Continued)

15. *(a)* What are the assumptions of perfectly competitive market? Illustrate the characteristics of perfectly competitive market. 4+4=8

Or

(b) How do competitive firm and industry attain equilibrium during long period? Explain with the help of diagram. 8

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TDC (CBCS) Odd Semester Exam., 2018

PHILOSOPHY
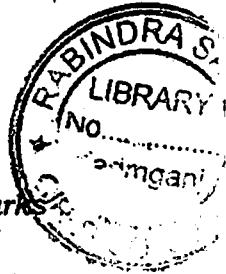
(1st Semester)

Course No. : PHPHCC–101T

[Epistemology and Metaphysics (Indian)]

$$\frac{Full\ Marks\ :\ 70}{Pass\ Marks\ :\ 28}$$

Time : 3 hours

The figures in the margin indicate full marks
for the questions

Answer **all** questions

UNIT—I

1. Answer any *two* of the following questions : 2×2=4

   (a) Write two distinctive features that distinguish Indian Philosophy from Western Philosophy.

   (b) Write names of Ṣaḍdarśana.

   (c) Is Indian Philosophy pessimistic?

(Turn Over)

2. Discuss Indian concept of Law of Karma. Is it fatalistic?

8+2=10

OR

3. "The infinite is not beyond the finite, but in the finite." Discuss the relation between Brahman and Ātman in the light of Upaniṣad.

10

UNIT—II

4. Answer any *two* of the following questions : 2×2=4

   (a) What, according to Cārvāka, are the basic elements of matter?

   (b) What does 'Anekāntavāda' mean?

   (c) What is the summum bonum of human life, according to Cārvāka?

5. What, according to Cārvāka, is the valid source of knowledge? How does Cārvāka prove it? 1+9=10

OR

6. Discuss critically Jaina theory of knowledge (Syādvāda).

10

UNIT—III

7. Answer any *two* of the following questions : 2×2=4

   (a) What are the Four Noble Truths of Buddhism?

   (b) What are the eight-fold path (Aṣṭāṅgika Mārga) of Buddhism?

   (c) Is Buddhism atheistic?

8. Discuss Buddhist doctrine of dependent origination (Pratītyasamutpāda). 10

OR

9. Does Buddha believe in permanent soul? Discuss critically.

10

UNIT—IV

10. Answer any *two* of the following questions : 2×2=4

    (a) What are the different sources of knowledge, according to Nyāya?

    (b) Name the categories (Padārtha) accepted by Vaiśeṣika system.

    (c) Distinguish between Svārthānumāna and Parārthānumāna.

11. Discuss Nyāya theory of perception (Pratyakṣa) and its classification. 10

OR

12. Discuss, after Vaiśeṣika system, the category of non-existence (Abhāva). 10

UNIT—V

13. Answer any *two* of the following questions : 2×2=4

(a) Name ultimate realities recognized by Sāṁkhya system.

(b) Write two arguments forwarded by Sāṁkhya system to prove the existence of Puruṣa.

(c) Name two aspects of Māyā.

14. Discuss Sāṁkhya theory of evolution. Is it mechanical? Explain. 8+2=10

OR

15. Discuss Advaita Vedānta concept of Brahman. 10

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2018/TDC/ODD/PHIC-102T/052

TDC (CBCS) Odd Semester Exam., 2018

PHILOSOPHY

(1st Semester)

Course No. : PHPHCC–102T

(Logic—I)

Full Marks : 70
Pass Marks : 28

Time : 3 hours

The figures in the margin indicate full marks for the questions

UNIT—I

1. Answer any *two* of the following questions : 2×2=4

(a) What is logic?

(b) Write any two characteristics of symbolic logic.

(c) Give examples of variables and constants.

2. (a) Explain briefly the nature of logic. 5

(b) Explain with examples the concept of 'truth' and 'validity'. 5

(Turn Over)

(2)

OR

3. *(a)* What is an argument?

(b) How does an argument differ from argument form? Explain with examples.

UNIT—II

4. Answer any *two* of the following questions : 2×2

(a) Name two kinds of elementary proposition.

(b) What kind of opposition exists between *A* and *O* proposition, and *A* and *E* proposition?

(c) Give examples of general proposition and class membership proposition.

5. *(a)* What is compound proposition?

(b) Explain with examples different kinds of compound proposition.

OR

6. *(a)* Discuss traditional square of opposition.

(b) How does it differ from Aristotelian view? Explain with diagram.

(3)

7. Answer any *two* of the following questions : 2×2=4

(a) No men are perfect. (Obvert)

(b) When does the fallacy of negative premises occur?

(c) Mention two special rules of the first figure.

8. *(a)* What is syllogism? What are the rules of syllogism mentioned by I. M. Copi? 2+6=8

(b) Name the valid moods of third figure. 2

OR

9. Use Venn diagram technique to test the validity and invalidity of the following arguments and name the mood if any : 5+5=10

(a) EAE—1

(b) OAO—3

UNIT—IV

10. Answer any *two* of the following : 2×2=4

(a) Construct truth table of implicative function.

(b) If *A* and *B* are true statements and *x* and *y* are false statements, determine the truth value of the following expression :

$$(A \supset x) \supset (y \supset B)$$

(c) What is *reductio ad absurdum* method?

11. Use truth table to characterize the following statement forms as tautologous, contingent or contradictories : 2½×4=10

   (i) $(p \supset q) \supset [\sim(q \cdot r) \supset \sim(r \cdot p)]$

   (ii) $(p \supset p) \supset [\sim p \supset (q \vee \sim q)]$

   (iii) $(p \supset q) \equiv (\sim p \supset \sim p)$

   (iv) $(\sim p \cdot q) \cdot (q \supset p)$

OR

12. Explain shorter truth-table technique. Use shorter truth-table technique to determine whether or not the following arguments are valid : 4+3+3=10

   (i) If the weather is warm and the sky is clear then we go swimming and we go boating. It is not the case that if the sky is clear then we go swimming. Therefore, the weather is not warm.

   (ii) $p \supset q$
   $p \vee q$
   $\therefore p$

UNIT—V

13. Answer any *one* of the following : 4

   (a) What is formal proof of validity?

   (b) How many elementary rules of inference are there? State the rules of modus ponens and modus tollens.

   (c) State the rule of inference by which its conclusion follows from its premise :

   $(D \vee E) \cdot (F \vee G)$

   $\therefore D \vee E$

14. Construct formal proof of validity of the following arguments : 2½×4=10

   (i) $A \supset B$
   $C \supset D$
   $A \vee C$
   $\therefore (A \cdot B) \vee (C \cdot D)$

   (ii) $M \vee N$
   $\sim M \cdot \sim Q \; / \therefore N$

(iii) $A \supset B$

$A \vee (C \cdot D)$

$\sim B \cdot \sim E$

$\therefore C$

(iv) A

$B / \therefore (A \vee C) \cdot B$

OR

15. (a) Explain the importance of formal proof of validity in the development of the method of deduction. 2

(b) State the rules of inference with examples. 8

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2018/TDC/ODD/PHIC-102T/052

TDC (CBCS) Odd Semester Exam., 2018

PHILOSOPHY

(1st Semester)

Course No. : PHIGEC–101T/PHPDSC–101T

(Logic)

Full Marks : 70

Pass Marks : 28

Time : 3 hours

The figures in the margin indicate full marks for the questions

Answer **all** questions

UNIT—I

1. Answer any *four* questions : 1×4=4

(a) The word 'Logic' is derived from which Greek word?

(b) What kind of science Logic is?

(c) "Logic is concerned with both formal truth and material truth." Is this statement true?

(d) Can validity or invalidity be predicated of proposition?

(e) What do you mean by the term 'validity'?

(Turn Over)

(2)

2. Answer any *one* question : 2

   (a) What is an argument form?

   (b) When an argument is invalid?

3. (a) Explain the nature and scope of Logic. 4+4=8

   Or

   (b) Explain the relation between truth and validity with examples. 8

UNIT—II

4. Answer any *four* questions : 1×4=4

   (a) How many terms are there in a proposition?

   (b) What is the symbol of universal negative proposition?

   (c) Give a symbolic example of particular affirmative proposition.

   (d) Which term is distributed in particular negative proposition?

   (e) Illustrate class-membership proposition.

(3)

5. Answer any *one* question : 2

   (a) How many kinds of oppositions are there in Aristotelian square of opposition? Name them.

   (b) What is a general proposition?

6. (a) What is simple proposition? What are its different forms? Explain them with examples. 1+2+5=8

   Or

   (b) Explain traditional square of opposition with examples. 8

UNIT—III

7. Answer any *four* questions : 1×4=4

   (a) What is immediate inference?

   (b) State one rule of conversion.

   (c) Convert the statement, "No men are perfect."

   (d) How many valid moods are there in the Third Figure?

   (e) Name one valid mood of First Figure.

8. Answer any *one* question : 2

(a) Obvert the following :

  (i) All men are perfect.

  (ii) Some men are wise.

(b) Contrapose the statement, "No reptiles are warm-blooded animals."

9. (a) What is standard form categorical syllogism? State Copi's six rules of categorical syllogism and name the fallacies arising out of violation of these rules.
2+6=8

Or

(b) Test the validity or invalidity of the following arguments by means of Venn diagram technique :
4+4=8

  (i) Some reformers are philosophers, so some idealists are philosophers, since all reformers are idealists.

  (ii) No Indians are Greeks but some Indians are Aryans, therefore, some Greeks are not Aryans.

UNIT—IV

10. Answer any *four* questions : 1×4=4

(a) What is the symbol for negation?

(b) What is ideogram?

(c) What is variable?

(d) What is the symbol of implication?

(e) If p is true, q is false, then what is the truth value of $p \cdot q$?

11. Answer any *one* question : 2

(a) Symbolize the following sentences :

  (i) If papers are not easy, students will find it difficult.

  (ii) Either India will win the match or Pakistan will.

(b) What is truth function?

12. (a) Use truth table to characterize the following statement forms as tautologous, contradictory or contingent : 4+4=8

(i) $[(p \supset q) \cdot (q \supset r)] \supset (p \supset r)$

(ii) $p \supset [q \vee (p \equiv r)]$

Or

(b) Use truth table to determine the validity or invalidity of the following argument forms : 4+4=8

(i)
$p \supset q$
$q \supset p$
$\therefore p \vee q$

(ii)
$(p \vee q) \supset (p \cdot q)$
$p \vee q$
$\therefore p \cdot q$

UNIT—V

13. Answer any *four* questions : 1×4=4

(a) How many rules of inference are there?

(b) State the rule of Modus Ponens.

(c) State the rule of disjunctive syllogism.

(d) State the rule of conjunction.

(e) State the rule of Modus Tollens.

14. Answer any *one* question : 2

(a) State the rule of hypothetical syllogism.

(b) State the rule of constructive dilemma.

15. (a) (i) State the justification for each line that is not a premise for the following arguments : 3

1. $N \supset O$

2. $(N \cdot O) \supset P$

3. $\sim (N \cdot P) / \therefore \sim N$

4. $N \supset (N \cdot O)$

5. $N \supset P$

6. $N \supset (N \cdot P)$

7. $\sim N$

(ii) Construct formal proof of validity for the following argument : 5

$D \supset C$
$(D \supset B) \supset (A \vee C)$
$(D \cdot C) \supset B$
$\sim A / \therefore C$

Or

(b) Construct formal proof of validity for the following arguments : 4+4=8

    (i) $A \cdot B$

       $(A \vee C) \supset D / \therefore A \cdot D$

    (ii) $W \supset X$

       $(W \supset Y) \supset (Z \vee X)$

       $(W \cdot X) \supset Y$

       $\sim Z / \therefore X$

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2018/TDC/ODD/HISC–101T/074

TDC (CBCS) Odd Semester Exam., 2018

HISTORY

(1st Semester)

Course No. : HISHCC–101T

(History of India-I)

Full Marks : 70

Pass Marks : 28

Time : 3 hours

The figures in the margin indicate full marks for the questions

Answer **all** the questions

UNIT—I

1. Answer any *two* questions : 2×2=4

   (a) Name the authors of 'Rajtarangini' and 'Mudrarakshasa'.

   (b) Mention two archaeological sources of ancient Indian history.

   (c) Who were the authors of 'Indica' and 'Harshacharita'?

(2)

2. Answer any *one* of the following :

(a) Analyse the sources of ancient Indian history.

(b) Give an account of early Indian notions of history.

UNIT—II

3. Answer any *two* questions : 2×2

(a) What is the meaning of 'palaeolithic'? Mention one site of Palaeolithic Age in India.

(b) Name two tools of Palaeolithic Age.

(c) Name two sites of Mesolithic Age in India.

4. Answer any *one* of the following :

(a) Form an estimate of palaeolithic culture in India with special reference to the tools used by palaeolithic men for subsistence.

(b) Give an account of Mesolithic Age in India.

(3)

UNIT—III

5. Answer any *two* questions from the following : 2×2=4

(a) Who first coined the term 'Neolithic'? Mention the name of one Neolithic site in India.

(b) Name two characteristics of Neolithic Age.

(c) Did the people of Chalcolithic Age worship mother Goddess? To which Age did Ahar and Jorwe culture belong?

6. Answer any *one* from the following : 10

(a) Review the main characteristics of Neolithic culture in India.

(b) Give a vivid description of the basic features of Chalcolithic Age in India.

UNIT—IV

7. Answer any *two* questions from the following : 2×2=4

(a) Name two sites of Indus Valley civilization.

(b) Name two features of economic life of the people of Indus Valley.

(c) Who excavated Mohenjo Daro and Harappa?

(4)

8. Answer any *one* from the following : 10

(a) Discuss in brief the system of town planning that prevailed during Indus Valley civilization.

(b) Trace the circumstances leading to the decline of Indus Valley civilization.

UNIT—V

9. Answer any *two* questions from the following : 2×2=4

(a) What does the word 'Veda' mean? What is the meaning of 'Gana' in the Rig Veda?

(b) Name two institutions that acted as a check on the authority of the king in early Vedic Age.

(c) Name two epics of later Vedic Age.

10. Answer any *one* from the following : 10

(a) Review the socio-economic life of early Vedic Age.

(b) Give an account of the socio-political life of later Vedic Age.

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TDC (CBCS) Odd Semester Exam., 2018

HISTORY

(1st Semester)

Course No. : HISHCC–102T

(Social Formations and Cultural Patterns of the Ancient World)

Full Marks : 70
Pass Marks : 28

Time : 3 hours

The figures in the margin indicate full marks for the questions

Answer **all** the questions

UNIT—I

1. Answer any *two* questions : 2×2=4

(a) Define prehistory.

(b) What do you mean by protohistory?

(c) Name any two Palaeolithic sites.

(2)

2. Answer any *one* of the following : 10

(a) Give a brief account of the Palaeolithic culture.

(b) Examine the main features of the Mesolithic culture.

UNIT—II

3. Answer any *two* questions : 2×2=4

(a) What do you mean by the term 'Neolithic' age? Name any one Neolithic site.

(b) What is the scientific name of modern human beings? Name any one metal which was mostly used in Chalcolithic age.

(c) What is Chalcolithic culture?

4. Answer any *one* of the following : 10

(a) Form an estimate of Neolithic culture. 10

(b) Give an account of the growth and development of agriculture and animal husbandry during the Chalcolithic age. 5+5=10

(3)

UNIT—III

5. Answer any *two* questions from the following : 2×2=4

(a) What do you mean by pyramids?

(b) Name any two city-states of Sumer.

(c) What do you mean by the word 'Pharaoh'? Name any one Pharaoh.

6. Answer any *one* from the following : 10

(a) Give a brief account of the growth and development of Egyptian art and architecture.

(b) Form an estimate of Hammurabi's Code of Laws.

UNIT—IV

7. Answer *two* questions from the following : 2×2=4

(a) What do you mean by the words 'Janapada' and 'Mahajanapada'?

(b) Name any two Mahajanapadas.

(c) Name two orthodox sects which emerged in India during the sixth century BC.

8. Answer any *one* from the following :   10

(a) Trace the circumstances leading to the rise of Magadha.   10

(b) Discuss in brief about the life and teachings of Gautama Buddha.   3+7=10

UNIT—V

9. Answer *two* questions from the following :   2×2=4

(a) Name any two city-states which existed in ancient Greece.

(b) Name two historians of ancient Greece.

(c) Name two books authored by Homer.

10. Answer any *one* from the following :   10

(a) Review Aristotle's theory of slavery.

(b) Review the cultural contribution of ancient Greece.

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TDC (CBCS) Odd Semester Exam., 2018

HISTORY

(1st Semester)

Course No. : HISGEC-101T/HISDSC-101T

(**History of India from Earliest Times up to 300 CE**)

$\dfrac{\textit{Full Marks} : 70}{\textit{Pass Marks} : 28}$

Time : 3 hours

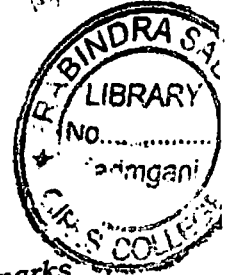*The figures in the margin indicate full marks for the questions*

Answer **all** questions

UNIT—I

1. Answer any *four* questions from the following :   1×4=4

(a) What do you mean by epigraphy?

(b) By whom was *Arthashastra* authored?

(c) In how many parts can the Stone age be divided?

(d) Name one tool of Mesolithic age.

(e) From which country did Hiuen Tsang come to India?

2. (a) What is pre-history?

Or

(b) What do you understand by the word palaeolithic?

3. (a) Write a note on the sources of ancient Indian history.

Or

(b) Throw a light on the palaeolithic cultures in India.

UNIT—II

4. Answer any *four* questions from the following :

1×4=4

(a) In which age of history did men become food producers?

(b) Name a center of the chalcolithic culture in India.

(c) In which year was the Indus Valley Civilization discovered?

(d) What does the word Mohenjo-daro mean?

(e) Which metal was unknown to the Indus people?

5. (a) Name two variations of chalcolithic culture in India.

2

Or

(b) Name two sites of the Harappan civilization situated in India.

2

6. (a) Write a note on the features of neolithic culture in India.

8

Or

(b) Discuss the town-planning system of the Indus Valley Civilization.

8

UNIT—III

7. Answer any *four* questions from the following :

1×4=4

(a) What type of civilization was the Vedic civilization?

(b) What was the basic unit of Aryan society?

(c) Name the oldest Veda.

(d) Where was Mahavira born?

(e) Where did Buddha preach his sermon for the first time?

8. (a) Mention the names of two Janapadas. 2

Or

(b) What are the two sects of Jainism? 2

9. (a) Discuss the socio-economic condition of the early Vedic period. 4+4=8

Or

(b) Make an estimate of the life and teachings of Gautama Buddha. 3+5=8

UNIT—IV

10. Answer any *four* questions from the following : 1×4=4

(a) When did Alexander invade India?

(b) Which Indian ruler did oppose Alexander?

(c) Which Nanda ruler was defeated by Chandragupta Maurya?

(d) Who was the grandson of Chandragupta Maurya?

(e) By whom was *Indika* authored?

11. (a) Which incident did change the mind of Ashoka? What change was brought in his policy? 1+1=2

Or

(b) Name the emissaries appointed by Ashoka for preaching his concept of Buddhism. 2

12. (a) Discuss the effects of Alexander's invasion in India. 8

Or

(b) Write a note on the Maurya administrative system. 8

UNIT—V

13. Answer any *four* questions from the following : 1×4=4

(a) What is the meaning of the word Sangam?

(b) Which language was used in the literature of Sangam age?

(c) Which school of art did develop during the Kushana period?

(d) In which part of India did the Satavahanas rule?

(e) Who was the greatest ruler of the Satavahana dynasty?

14. (a) Name two Kushana rulers.

Or

(b) Name two inscriptions which are the sources for the history of the Satavahana dynasty.

15. (a) Assess the role of Kanishka as a patron of art and culture.

Or

(b) Make an estimate of the career and achievements of Gautamiputra Satakarni.

★ ★ ★

TDC (CBCS) Odd Semester Exam., 2018

SANSKRIT

(1st Semester)

Course No. : SANGEC–101T/SANDSC–101T

(Sanskrit Poetry)

Full Marks : 70
Pass Marks : 28

Time : 3 hours

The figures in the margin indicate full marks for the questions

Answer **all** questions

UNIT—I

1. Answer any *four* questions :   1×4=4

(a) Who is the author of the epic, *Raghuvaṁśam*?

(b) What is the source of the epic, *Raghuvaṁśam*?

(c) How many Cantos are there in the *Raghuvaṁśam*?

(2)

(d) What is the title of the Second Canto of *Raghuvaṁśam*?

(e) Name the commentary of Mallinātha on *Raghuvaṁśam*.

2. Answer any one question of the following :

(a) Who is Vaśiṣṭha? Name the sacrificial cow of Vaśiṣṭha.

(b) Why the king Dilīpa followed the sacrificial cow?

3. Answer the following questions :

Either

(a) Translate into English :   4+4

(i) अथ प्रजानामधिपः प्रभाते
जाया प्रतिग्राहितगन्धमाल्याम्।
वनाय पीतप्रतिबद्धवत्सां
यशोधनो धेनुमृषेर्मुमोच॥

(ii) आस्वादवद्भिः कवलैस्तृणानां
कण्डूयनैर्दंशनिवारणैश्च।
अव्याहतैः स्वैरगतैः स तस्याः
सम्राट् समाराधनतत्परोऽभूत्॥

J9/1074

(3)

Or

(b) (i) ''मार्गं मनुष्येश्वरधर्मपत्नी श्रुतेरिवार्थं स्मृतिरन्वगच्छत्''
Who is मनुष्येश्वरधर्मपत्नी? Why is she compared to स्मृति? Who is compared to श्रुति? Give Sanskrit equivalent for मार्गम्.   4

(ii) ''उदीरयामासुरिवोन्मदानामालोकशब्दं वयसां विरावैः।''

What is meant by आलोकशब्द? To whom आलोकशब्द was uttered? What purpose was served by the notes of the birds (वयसां विरावैः)?   4

UNIT—II

4. Answer any *four* questions :   1×4=4

(a) Name the queen of king Dilīpa.

(b) Name the mother of Nandinī.

(c) Who is Kumbhodara?

(d) Name the wife of sage Vaśiṣṭha.

(e) Who is अष्टमूर्ति?

J9/1074

5. Answer any *one* of the following questions :

   (a) "अलं महीपाल तव श्रमेण"

   Whose words are these? To whom are these spoken?

   (b) "अवेहि मां किङ्करमष्टमूर्ते:"

   Who said this? Name his friend.

6. Answer the following question :

   Either

   (a) Give an account of king's service to Nandinī.

   Or

   (b) "अलं महीपाल तव श्रमेण"

   Under what circumstances were these words spoken? Describe the incident that followed.

   UNIT—III

7. Answer any *four* questions in very short form : 1×4=

   (a) Who is the author of *Nītiśatakam*?

   (b) What type of composition is *Nītiśatakam*?

   (c) Name any other composition of Bhartṛhari.

   (d) What is the permanent ornament of a person?

   (e) What type of person is compared with snake?

8. Answer any *one* of the following questions : 2

   (a) According to Bhartṛhari, how many ways of wealth are there?

   (b) What type of person cannot be easily satisfied? 8

9. Answer the following questions :

   Either

   (a) What are the qualities of learning or विद्या? 4

   (b) What is the result of association with virtuous persons? 4

   Or

   (c) According to Bhartṛhari, who are the animals in human form? 4

   (d) Elucidate : 4

   लभेत सिकतासु तैलम् ... ।

UNIT—IV

10. Fill in the gaps any *four* of the following : 1×4=4

    (a) ____ सुखमाराध्यः, सुखतरमाराध्यते विशेषज्ञः।

    (b) प्रारभ्य विघ्नविहता विरमन्ति ____ ।

    (c) ____ वा सर्वलोकस्य शीर्यते वन एव वा।

    (d) यस्यास्ति वित्तं स नरः ____ ।

    (e) यो न ददाति न भुङ्क्ते, तस्य ____ गतिर्भवति।

11. Answer any *one* of the following : 1×2=2

    (a) Translate into English the following verse :

    दुर्जनः परिहर्त्तव्यो विद्ययालङ्कृतोऽपि सन्।
    मणिना भूषितः सर्पः किमसौ न भयङ्करः॥

    (b) Give two Sanskrit equivalents of 'सर्पः'.

12. Answer the following question : 8

    Either

    (a) Translate into English :

    (i) केयूराणि न भूषयन्ति पुरुषं, हारा न चन्द्रोज्ज्वला 4+4
    न स्नानं, न विलेपनं, न कुसुमं, नालङ्कृता मूर्द्धजाः।
    वाण्येका समलङ्करोति पुरुषं या संस्कृता धार्यते,
    क्षीयन्ते खलु भूषणानि सततं, वाग्भूषणं भूषणम्॥

(*Continued*)

    (ii) परिवर्त्तिनि संसारे मृतः को वा न जायते।
    स जातो येन जातेन याति वंशं समुन्नतिम्॥

    Or

    (b) What do you mean by 'असिधाराव्रतम्'? 8

UNIT—V

13. Answer any *four* of the following questions : 1×4=4

    (a) Who composed *Kirātārjunīyam*?

    (b) What is the source of the epic, *Kirātārjunīyam*?

    (c) How many Cantos are there in *Kirātārjunīyam*?

    (d) What is the title of the First Canto of the epic, *Kirātārjunīyam*?

    (e) Name the commentary on *Kirātārjunīyam* composed by Mallinātha.

14. Answer any *one* of the following questions : 2

    (a) The *Kirātārjunīyam* starts with which word 'श्री' or 'लक्ष्मी'? Who is 'Kirāta' mentioned in the epic, *Kirātārjunīyam*?

    (b) Bhāravi is famous for which style? Give an example of this style from your text.

(*Turn Over*)

15. Answer any *one* of the following questions : 8

(a) Describe in your own words the speech of vanecara or forester according to your text.

(b) Discuss the style of Bhāravi with apt quotation from your text.

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TDC (CBCS) Odd Semester Exam., 2018

EDUCATION

(1st Semester)

Course No. : EDNGEC–101T/EDNDSC–101T

(Principles of Education)

Full Marks : 70
Pass Marks : 28

Time : 3 hours

The figures in the margin indicate full marks for the questions

PART—I

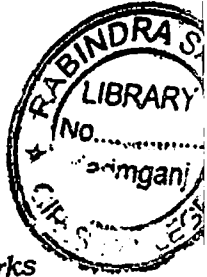Answer *four* questions out of *five* from each Unit :
5×4=20

UNIT—I

1. (a) What is the meaning of 'educare'?

(b) Who has defined, "Education is the realization of self"?

(*Turn Over*)

(c) Which type of education runs without any curriculum?

(d) Select the correct sentence related to education.

   (i) Education is a process.

   (ii) Education is a product.

   (iii) Education is a process and product.

(e) Which one is more appropriate? Allround development of a child is

   (i) an individual function of education

   (ii) a social function of education

   (iii) both social and individual functions of education

UNIT—II

2. (a) Choose any one of the following options :

   Aim of education is

   (i) character building

   (ii) complete living

   (iii) both character building and complete living

(b) Social aim of education gives importance to—

   (i) development of society;

   (ii) development of society through individual;

   (iii) development of society through individual not fulfilling his desire.

(c) Who is the author of the book, *Democracy and Education*?

(d) The concept 'learning throughout life' was proposed in which Commission's report?

(e) Gender equality and women empowerment were the goals of which Commission/Committee?

   (i) Delors Commission

   (ii) Millennium Development Goals

   (iii) Kothari Commission

      (Select any *one*)

UNIT—III

3. (a) Practice of training people to obey rules and behave well is

   (i) a order

   (ii) a discipline

   (iii) a rule

      (Select any *one*)

(b) What are freedom and discipline?

(i) Consciousness and rule

(ii) Thought and reflection

(iii) Duties and responsibilities

(Select any *one*)

(c) Reward and punishment in human learning are the elements of

(i) personality theory

(ii) behaviour theory

(iii) cognitive theory

(Select any *one*)

(d) Reward may be a form of

(i) positive verbal feedback to pupil

(ii) providing good marks to pupil

(iii) providing certificate after examination

(Select any *one*)

(e) Which one is a free-discipline?

(i) Be fair, positive and consistent

(ii) Let the student know classroom

(iii) Self-discipline

(Select any *one*)

UNIT—IV

4. (a) Select the correct verb of 'curriculum'.

(i) curerr

(ii) currere

(iii) curer

(b) Who has defined "curriculum is a tool in the hands of the artist to mould his material according to his ideas in his studio"?

(c) Which one is more important to the nature of curriculum?

(i) Child centred

(ii) Flexible

(iii) Both child centred and flexible

(Choose any *one*)

(d) Learning from simple to complex, and concrete to abstract are :

(i) role of teaching

(ii) maxims of teaching

(iii) methodology of teaching

(Select any *one*)

(e) Which one is an active teaching method?

(i) Lecture

(ii) Demonstration

(iii) Project method

(Select any *one*)

(6)

UNIT—V

5. (a) Select the formal agency of education.
   (i) Family
   (ii) School
   (iii) NGO

(b) Peer group is a/an
   (i) informal agency of education
   (ii) formal agency of education
   (iii) non-formal agency of education

(c) Which one is a meaning of society?
   (i) System of relationship
   (ii) Web of relationship
   (iii) Social relationship

(d) Internet is a
   (i) network
   (ii) network of networks
   (iii) system

(e) Select the correct response relates to Blogs.   (Select any one)
   (i) A web site where person writes regularly about any topic
   (ii) A web site where people interact
   (iii) A web site where people post photos

(7)

PART—II

Answer *one* question out of *two* from each Unit :
2×5=10

UNIT—I

6. (a) State any two advantage of non formal education.
   (b) Write any two functions of education.

UNIT—II

7. (a) Name two factors determining aims of education.
   (b) State any two changing goals of education.

UNIT—III

8. (a) Discuss any two needs of discipline in education.
   (b) Relate freedom and discipline in two points.

UNIT—IV

9. (a) Write any two importance of co-curricular activities.
   (b) How could we control discipline in school?

UNIT—V

10. (a) Why is NGO an agency of education?
    (b) What is social network?

(8)

PART—III

Answer *one* question out of *two* from each Unit :

8×5=40

UNIT—I

11. (a) Distinguish between formal education and non-formal education.

    (b) Justify 'Education as a science and arts'.

UNIT—II

12. (a) Relate individual and social aims of education.

    (b) Discuss the features of Millennium development goals of education.

UNIT—III

13. (a) Enumerate the concept and needs of freedom and discipline in education.

    (b) Describe the problems and means of maintenance of school discipline.

UNIT—IV

14. (a) Explain the nature and types of curriculum.

    (b) Discuss the concept, merits and demerits of project method of teaching.

UNIT—V

15. (a) "Society and education are interlinked." Justify.

    (b) Describe the roles of media in education.

J9—2320/**1080**   2018/TDC/ODD/EDNG-101T/107

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The figures in the margin indicate full marks for the questions

Answer all questions

UNIT—I

1. (a) Fill in the blanks (any *three*) :   1×3=3

   (i) Statistics are numerical ____ of facts.

   (ii) Attributes are ____ data.

   (iii) A schedule is filled up by the ____.

   (iv) In drawing histograms, the heights of the rectangles should be ____ to the respective class frequencies.

(Turn Over)

J9/1102

(b) Answer any *one* question :

    (i) Define nominal and ordinal scale of measurement.

    (ii) Define frequency curve and ogive.

(c) Answer any *one* question :

    (i) Discuss the importance and limitations of statistics.   3+2=5

    (ii) Distinguish between classification and tabulation. Discuss the different parts of a statistical table.   2+3=5

UNIT—II

2. (a) Fill in the blanks :   1×3=3

    (i) Mean = ——. (3 median–mode)

    (ii) If $\beta_2 > 3$, the distribution is said to be ——.

    (iii) In any discrete distribution, MD about mean is —— SD.

(b) Answer any *one* question :   2

    (i) How can median be located graphically?

    (ii) Write a short note on coefficient of variation.

(c) Answer any *one* question :

    (i) Define standard deviation and compare its superiority with other measures of dispersion.   5

    (ii) Define raw and central moments of a frequency distribution. Obtain the relation between the central moments of order r in terms of the raw moments.   2+3=5

UNIT—III

3. (a) Fill in the blanks (any *three*) :   1×3=3

    (i) The distribution involving only two variables is called ——.

    (ii) Karl Pearson's correlation coefficient is —— of change of origin and scale.

    (iii) In the case of perfect correlation, the two lines of regression are —— each other.

(iv) The correlation coefficient is the _____ of the regression coefficients.

(b) Answer any *one* question :

(i) Show that Karl Pearson's correlation coefficient lies between −1 and +1.

(ii) Write a short note on scatter diagram.

(c) Answer any *one* question :

(i) Define rank correlation. Derive the Spearman's formula for rank correction coefficient. 2+3=5

(ii) Define regression. Find the regression equation of y on x for a set of bivariate data. 2+3=5

UNIT—IV

4. (a) Fill in the blanks (any *three*) : 1×3=3

(i) In least squares method, the error sum of squares is _____.

(ii) In case of n attributes, the total number of ultimate class frequencies is _____.

(iii) Two attributes A and B are said to be positively associated if _____.

(iv) The first degree polynomial is a _____.

2

(b) Answer any *one* question :

(i) Define classes, class frequencies, positive frequencies and negative frequencies.

(ii) Examine the consistency of the following data :
$N = 100$, $(A) = 60$, $(B) = 50$, $(AB) = 5$
The symbols have their usual meaning.

(c) Answer any *one* question :

(i) Define least squares method and describe how a second degree polynomial can be fitted with the help of this method. 5

(ii) Define Yule's coefficient of association and the coefficient of colligation, Establish the following relation between coefficient of association Q and the coefficient of colligation Y : 2+3=5

$$Q = \frac{2Y}{1+Y^2}$$

UNIT—V

5. (a) Fill in the blanks (any *three*) :   1×3=3

    (i) If Q is a null set, then $P(Q)$ = ____.

    (ii) In the simultaneous tossing of two perfect coins, the probability of having at least one heat is ____.

    (iii) If A and B are mutually exclusive events, then $P(A \cup B)$ = ____.

    (iv) If $P(A/B) = P(A)$, then A and B are ____.

(b) Answer any *one* question :   2

    (i) If A and B are independent, then prove that A^c and B^c are also independent.

    (ii) In a single throw of two unbiased dice, find the probability that the sum of the numbers is 3 or 11.

(c) Answer any *one* question :

    (i) State and prove addition theorem of probability for the two events A and B which are not mutually exclusive. Hence generalize the result for the three events A, B and C.   3+2=5

    (ii) State Bayes' theorem.

An urn contains 5 red and 3 white balls and another urn contains 4 red and 4 white balls. One ball is transferred from the first urn to the second urn and then a ball is drawn from the later. What is the probability that the ball drawn from the second urn is white?   2+3=5

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2018/TDC/ODD/STSG–101 T/029

TDC (CBCS) Odd Semester Exam., 2018

STATISTICS

(1st Semester)

Course No. : STSGEC–101 T/STSDSC–101 T

(Descriptive Statistics and Probability Theory)

$$\underline{\text{Full Marks} : 50}$$
$$\text{Pass Marks} : 20$$

Time : 3 hours

The figures in the margin indicate full marks
for the questions

Answer **all** questions

UNIT—I

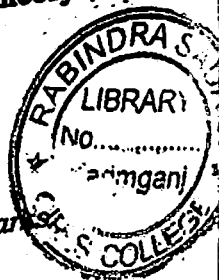1. Answer any *three* of the following :   1×3=3

   (a) What do you mean by population in statistics?

   (b) Write two merits of diagrammatic representation of statistical data.

   (c) Name different parts of a statistical table.

   (d) Give one example of time-series data.

(Turn Over)

2. Answer any *one* of the following : 2

(a) Prepare a blank table showing distribution of students of a college according to (i) Gender : male, female, (ii) Faculty : arts, commerce, science, (iii) Age : below 19, above 19, (iv) Years : 2015, 2016.

(b) Discuss the procedure for drawing histogram from a frequency distribution with an example.

3. Answer *either* (a) or (b) from the following :

(a) (i) Distinguish between qualitative data and quantitative data.

(ii) Draw a 'less than' type ogive from the following frequency distribution : 2+3=5

Marks	No. of Students
0–10	5
10–20	4
20–30	8
30–40	12
40–50	16
50–60	25
60–70	10
70–80	8

(b) (i) Explain nominal data and ordinal data.

(ii) Represent the following table by a suitable diagram : 2+3=5

Year	Sales ('000 ₹)	Gross Profit ('000 ₹)	Net Profit ('000 ₹)
2002	125	38	12
2003	135	45	15
2004	150	53	19
2005	170	62	24
2006	195	72	30

UNIT—II

4. Answer any *three* of the following : 1×3=3

(a) Write the relation among AM, GM and HM.

(b) Which of the measures of central tendency can be determined graphically?

(c) Under what conditions a frequency distribution is said to be skewed?

(d) Define central moments.

5. Answer any *one* of the following :

(a) Write the characteristics of a good measure of central tendency.

(b) For a frequency distribution, CV is 5, standard deviation is 2 and Karl Pearson's coefficient of skewness is 0·5. Find the mean and mode of the distribution.

6. Answer *either* (a) or (b) from the following :

(a) (i) Show that standard deviation is independent of change of origin but not of scale.

(ii) The mean weight of 150 students in a certain class is 60 kg. The mean weight of boys in the class is 70 kg and that of girls is 55 kg. Find the number of boys and girls in the class. 3+2=5

(b) (i) Derive moments about mean in terms of moments about origin.

(ii) Write a note on kurtosis. 3+2=5

UNIT—III

7. Answer any *three* of the following : 1×3=3

(a) What is the limit of Karl Pearson's coefficient of correlation?

(b) Write down the relation between correlation coefficient and regression coefficient in a bivariate distribution.

(c) Explain multiple correlation.

(d) What is the use of scatter diagram?

8. Answer any *one* of the following : 2

(a) Two lines of regression are given as $X + 2Y - 5 = 0$ and $2X + 3Y - 8 = 0$. Find the correlation coefficient and $V(Y)$ given that $V(X) = 12$.

(b) Fit a straight line of the form $Y = aX + b$ to a given set of data using principle of least squares.

9. Answer *either* (a) or (b) from the following :

(a) Prove that Spearman's rank correlation coefficient is given by $\rho = 1 - \dfrac{6\Sigma d_i^2}{n(n^2 - 1)}$, where d_i denotes the difference between the ranks of ith individual. What modification is required in case of repeated ranks? 4+1=5

(b) (i) Prove that correlation coefficient is independent of change of origin and scale.

(ii) From data involving variables X_1, X_2, X_3, the total correlation coefficients are $r_{12} = 0.77$, $r_{13} = 0.72$ and $r_{23} = 0.52$. Find the partial correlation coefficient $r_{1.23}$.   3+2=5

UNIT—IV

10. Answer any *three* of the following :   1×3=3

(a) Write sample space related to tossing of three unbiased coins at a time.

(b) Define equally likely events.

(c) What is the probability of an impossible event?

(d) Write the demerits of classical definition of probability.

11. Answer any *one* of the following :   2

(a) Find the probability that a leap year will contain 53 Sundays.

(b) Four cards are drawn at random from a pack of 52 cards. Find the probability that two are black and two are red.

12. Answer either *(a)* or *(b)* from the following :

(a) *(i)* Give axiomatic definition of probability.

(ii) A, B, C are three mutually exclusive and exhaustive events associated with a random experiment. Find $P(A)$, given that $P(B) = \frac{3}{2} P(A)$ and $P(C) = \frac{1}{2} P(B)$.   2+3=5

(b) *(i)* Explain independent events with example.

(ii) Three groups of children consist of 3 girls and 1 boy, 2 girls and 2 boys and 1 girl and 3 boys respectively. One child is selected from each group. Find the probability of selecting 1 girl and 2 boys.   1+4=5

UNIT—V   1×3=3

13. Answer any *three* of the following :

(a) If $B \subset A$, then what is the value of $P(A \cap \bar{B})$?

(b) If C and D are mutually exclusive events, then what is $P(C \cup D)$?

(c) State the multiplication theorem of probability.

(d) Given that $P(A \cup B) = 0.90$, $P(A|B) = 0.8$ and $P(B) = 0.5$, indicate whether A and B are independent events.

14. Answer any *one* of the following :   2

  (a) For three events A_1, A_2, A_3, prove that

$$P(A_1 \cap A_2 \cap A_3) \geq P(A_1) + P(A_2) + P(A_3) - 2$$

  (b) If A and B are two independent events, then prove that A^C and B^C are also independent.

15. Answer *either (a)* or *(b)* from the following :

  (a)   *(i)* State and prove addition theorem of probability.

     (ii) A bag contains 10 gold and 8 silver coins. Two successive drawings of 4 coins are made such that coins are not replaced before the second drawing. Find the probability that first drawing will give 4 gold coins and the second drawing will give 4 silver coins.   2½+2½=5

  (b)   *(i)* State and prove Bayes' theorem.

     (ii) Prove that for any two events A and B

$$P(A \cap B) \leq P(A) \leq P(A \cup B) \leq P(A) + P(B)$$

         2½+2½=5

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TDC (CBCS) Odd Semester Exam., 2018

STATISTICS

(1st Semester)

Course No. : STSGEC–101 L/STSDSC–101 L

(Practical)

(Set–I)

Full Marks : 30
Pass Marks : 12

Time : 3 hours

The figures in the margin indicate full marks for the questions

GROUP—A

(Marks : 20)

Answer any **two** questions

1. Calculate median, mean deviation about mean and standard deviation of the following frequency distribution :

Class interval	Frequency
27–29	7
29–31	9
31–33	15
33–35	8
35–37	4

Draw a cumulative frequency curve for the above frequency distribution.   2½×4=10

(2)

2. (a) Calculate rank correlation coefficient from the following data : *5*

X : 20 16 26 27 33 26 18 20
Y : 27 33 42 35 32 42 38 25

(b) Fit a second degree parabola to the following data : *5*

X : 1 2 3 4 5
Y : 2 2·6 4·4 5·5 6·7

3. Calculate correlation coefficient from the following data. Hence obtain the lines of regression and angle between two lines of regression : 4+3+3=10

X : 20 16 26 27 33 26 18 20
Y : 10 9 12 13 14 11 9 16

GROUP—B

(Marks : 10)

4. Practical Notebook. *5*

5. Viva Voce. *5*

★ ★ ★

GROUP—A

(Marks : 20)

Answer any **two** questions

1. (a) Scores of two cricket batsmen for 12 matches were as follows :

Batsman A : 75 80 82 86 90 88 85 95 90 100 95 100
Batsman B : 70 72 65 70 85 80 75 60 65 70 85 100

Find which batsman may be considered to be more consistent player? *5*

(b) Compute 3rd quartile for the following data and verify it graphically : *5*

Marks	20–30	30–40	40–50	50–60	60–70	70–80
No. of Students	5	20	14	10	8	5

(Turn Over)

2. *(a)* For the frequency distribution of scores in Statistics of 50 students selected at random, compute the first four central moments : 5

Scores	:	20–30	30–40	40–50	50–60
No. of Students	:	1	3	5	9
Scores	:	60–70	70–80	80–90	90–100
No. of Students	:	12	10	6	4

(b) Fit an exponential curve of the form $Y = ae^{bX}$ to the following data : 5

X :	2	4	8	12	16	22	30
Y :	2·5	4·5	6·0	8·5	10·0	12·5	15·0

3. *(a)* A sample of 12 fathers and their eldest sons gave the following data about their height in inches :

Father	:	65	63	67	64	68	62	70	66	69	61	71	60
Son	:	68	66	68	65	69	70	72	64	67	62	73	63

Calculate coefficient of rank correlation. 5

(b) The following results were obtained in the analysis of data on yield of dry bark in ounces (Y) and age in years (X) of 200 cinchona plants :

	X	Y
Average	9·2	16·5
SD	2·1	4·2
Correlation coefficient = +0·84		

Construct the two lines of regression and estimate the yield of dry bark of a plant of age 8 years. 5

(Continued)

GROUP—B

(*Marks* : 10)

4. *(a)* Practical notebook. 5

(b) Viva voce. 5

★ ★ ★

TDC (CBCS) Odd Semester Exam., 2018

STATISTICS

(1st Semester)

Course No. : STSGEC–101L/STSDSC—101L

(Practical)

(Set—III)

Full Marks : 30

Pass Marks : 12

Time : 3 hours

The figures in the margin indicate full marks for the questions

GROUP—A

(Marks : 20)

Answer *any* **two** questions

1. (a) Obtain Karl Pearson's measure of skewness for the following data and comment on the shape of the distribution : 5

Values	:	5–10	10–15	15–20	20–25
Frequency	:	6	8	17	21

Values	:	25–30	30–35	35–40
Frequency	:	15	11	2

(*Turn Over*)

(b) Goals scored by two hockey teams A and B in a season are as shown below :

No. of goals scored in a match	No. of Matches	
	Team A	Team B
0	27	17
1	9	9
2	8	6
3	4	5
4	5	4
5	3	4
6	2	1

Find out which team is more consistent. 5

2. (a) Ten recruits were subjected to a selection test to ascertain their suitability for a certain course of training. At the end of training they were given a proficiency test. The marks scored by recruits in the selection test (X) and in the proficiency test (Y) are given below :

Serial No. :	1	2	3	4	5	6	7	8	9	10
X :	10	15	12	17	13	16	24	14	22	20
Y	30	42	45	46	33	34	40	35	39	38

Calculate rank correlation coefficient. 5

(Continued)

(b) Fit an exponential curve of the form $y = ab^X$ to the following data : 5

X :	10	11	12	13	14	15	16	17
Y :	1·8	2·5	3·6	4·8	6·5	8·2	9·5	10·0

3. (a) Calculate first four central moments of the following distribution and hence find β_1 and β_2. Also comment on the shape and height of the distribution. 5

X :	12	14	18	24	30	38	52
Y :	8	28	56	70	52	22	10

(b) Fitting an appropriate line of regression, find the most likely price in Kolkata corresponding to the price of ₹80 in Delhi from the following information :

	Delhi	Kolkata
Average price	75	78
SD of price	3·5	4·2

Given that, the correlation coefficient between the prices of commodities in the two cities is 0·75. 5

GROUP—B

(*Marks* : 10) 5

4. (a) Practical Notebook. 5

(b) Viva voce.

★ ★ ★

2018/TDC/ODD/MTMC–101T/068

TDC (CBCS) Odd Semester Exam., 2018

MATHEMATICS

(1st Semester)

Course No. : MTMHCC–101T

(Calculus)

Full Marks : 50
Pass Marks : 20

Time : 3 hours

The figures in the margin indicate full marks for the questions

UNIT—I

1. Answer any *two* of the following :   2×2=4

   (a) If $y = \log(x + a)$, then find y_n.

   (b) If $y = e^{ax} \sin bx$, then show that

   $$y_2 - 2ay_1 + (a^2 + b^2)y = 0$$

   (c) State Leibnitz rule on successive differentiation.

(2)

2. Answer *either* (a) and (b) or (c) and (d) :

(a) If $y = \sin mx$, then show that

$$\begin{vmatrix} y & y_1 & y_2 \\ y_3 & y_4 & y_5 \\ y_6 & y_7 & y_8 \end{vmatrix} = 0$$

(b) If $y = e^{a \sin^{-1} x}$, then prove that

$$(1 - x^2) y_{n+2} - (2n+1) x y_{n+1} - (n^2 + a^2) y_n = 0$$

Hence find $(y_n)_0$.

(c) If

$$x \sin \theta + y \cos \theta = a \quad \text{and}$$
$$x \cos \theta - y \sin \theta = b$$

then prove that

$$\frac{d^p x}{d\theta^p} \cdot \frac{d^q y}{d\theta^q} - \frac{d^q x}{d\theta^q} \cdot \frac{d^p y}{d\theta^p}$$

is constant.

(d) Prove that

$$\frac{d^n}{dx^n} (x^n \sin x) = n! (P \sin x + Q \cos x)$$

where $P = 1 - \left(\dfrac{n}{2}\right) \dfrac{x^2}{2} + \left(\dfrac{n}{4}\right) \dfrac{x^4}{4!} - \cdots$

$$Q = \left(\frac{n}{1}\right) x - \left(\frac{n}{3}\right) \frac{x^3}{3!} + \left(\frac{n}{5}\right) \frac{x^5}{5!} - \cdots$$

J9/1093

(Continued)

(3)

UNIT—II

3. Answer any *two* of the following : $2 \times 2 = 4$

(a) Show that $\underset{x \to 0+}{\text{Lt}} (1 + x)^{1/x} = e.$

(b) Define asymptote of a curve.

(c) Using the same set of rectangular axes, draw the graphs of the curves $y = \sin x$ and $y = \sin 2x$, $0 \le x \le 2\pi$.

4. Answer *either* (a) and (b) or (c) and (d) :

(a) Find : $1\frac{1}{2} \times 2 = 3$

(i) $\underset{x \to 0}{\text{Lt}} \dfrac{(e^x - 1) \tan^2 x}{x^2}$

(ii) $\underset{x \to 0}{\text{Lt}} \left(\dfrac{1}{x^2} - \dfrac{1}{\sin^2 x} \right)$

(b) Examine the curve $y = x^3 - 3x + 3$ for concavity and points of inflection, if any. Hence trace the curve showing clearly the extreme points and points of reflection, if any.   3

(c) Evaluate : $1\frac{1}{2} \times 2 = 3$

(i) $\underset{x \to 0}{\text{Lt}} (\cos x)^{\cot^2 x}$

(ii) $\underset{x \to 0}{\text{Lt}} \dfrac{x e^x - \log (1 + x)}{x^2}$

J9/1093

(Turn Over)

(d) Find the asymptote of the curve

$$y = \frac{-8}{x^2 - 4}$$

3

UNIT—III

5. Answer any *two* of the following : $2 \times 2 = 4$

(a) If

$$I_n = \int x^n \cos ax\, dx$$

$$J_n = \int x^n \sin ax\, dx$$

then show that

$$aI_n = x^n \sin ax - nJ_{n-1}$$

(b) Evaluate $\int_0^{\pi/2} \cos^{10} \theta\, d\theta$.

(c) If $I_n = \int_0^{\pi/4} \tan^n \theta\, d\theta = \frac{1}{n-1} - I_{n-2}$, then find I_6.

6. Answer either (a) and (b) or (c) and (d) :

(a) From the reduction formula for $\int \cos^m x \cos nx\, dx$, obtain the value of $\int \cos^3 x \cos 5x\, dx$. 3

(b) If $I_{m,n} = \int_0^{\pi/2} \sin^m x \cos^n x\, dx$, $m, n \in \mathbb{N}$, then prove that $I_{m,n} = \frac{n-1}{m+n} I_{m,n-2}$. 4

(Continued)

(c) Obtain a reduction formula for $\int \sec^n x\, dx$. Hence find $\int \sec^6 x\, dx$. 3

(d) Prove that

$$\int_0^{\pi/2} \cos^n x\, dx = \frac{(n-1)(n-3)\cdots 4\cdot 2}{n(n-2)\cdots 5\cdot 3}\,, \quad \text{if } n \text{ is odd}$$

$$= \frac{(n-1)(n-3)\cdots 3\cdot 1}{n(n-2)\cdots 4\cdot 2}\frac{\pi}{2}, \quad \text{if } n \text{ is even}$$

3

UNIT—IV

7. Answer any *two* of the following : $2 \times 2 = 4$

(a) Find by integration the length of $y = 3x$ from $x = 0$ to $x = 3$.

(b) Find the area of the region bounded by the curve $y^2 = x$ and the line $y = x$.

(c) Show that the surface area of a sphere of radius a is $4\pi a^2$.

8. Answer either (a) and (b) or (c) and (d) :

(a) Determine the length of the arc of the cycloid $x = a(\theta + \sin\theta)$, $y = a(1 - \cos\theta)$ measured from the vertex. 3

(b) Find the area of the smaller portion enclosed by the curves $x^2 + y^2 = 9$ and $y^2 = 8x$. 3

(Turn Over)

(c) Find the length of the arc of the curve $x = a \cos^3 \theta$, $y = a \sin^3 \theta$ lying in the 1st quadrant. 3

(d) Find the area of the surface of the solid generated by revolving the arc of the parabola $y^2 = 4ax$ bounded by the latus rectum about X-axis. 3

UNIT—V

9. Answer any *two* of the following : 2×2=4

(a) Prove that

$$\vec{a} \times \vec{b} = \{(\hat{i} \times \vec{a}) \cdot \vec{b}\} \hat{i} + \{(\hat{j} \times \vec{a}) \cdot \vec{b}\} \hat{j} + \{(\hat{k} \times \vec{a}) \cdot \vec{b}\} \hat{k}$$

(b) Find the vector equation of the plane through the point $2\hat{i} + 3\hat{j} - \hat{k}$ and perpendicular to the vector $3\hat{i} + 4\hat{j} + 7\hat{k}$.

(c) If
$$\vec{r} = 5t^2 \hat{i} + t\hat{j} - t^3 \hat{k} \quad \text{and}$$
$$\vec{s} = \sin t\hat{i} - \cos t\hat{j}$$
then find the values of $\frac{d}{dt}(\vec{r} \cdot \vec{s})$ and $\frac{d}{dt}(\vec{r} \times \vec{s})$.

10. Answer *either (a)* and *(b)* or *(c)* and *(d)* :

(a) Show that if $\vec{a}$, $\vec{b}$, $\vec{c}$ are non-coplanar, then $\vec{a} + \vec{b}$, $\vec{b} + \vec{c}$, $\vec{c} + \vec{a}$ are also non-coplanar. Is this true for $\vec{a} - \vec{b}$, $\vec{b} + \vec{c}$, $\vec{c} + \vec{a}$? 3

(b) Find the vector equation of the plane passing through a given point and parallel to two given vectors. 3

(c) Show that $\vec{a} \times (\vec{b} \times \vec{c}) = (\vec{a} \times \vec{b}) \times \vec{c}$ if and only if either $\vec{b} = \vec{0}$ or $\vec{c}$ is collinear with $\vec{a}$, or $\vec{b}$ is perpendicular to both $\vec{a}$ and $\vec{c}$. 3

(d) Prove that the necessary and sufficient condition for a vector $\vec{r} = \vec{f}(t)$ to have a constant direction is $\vec{f} \times \frac{d\vec{f}}{dt} = \vec{0}$. 3

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TDC (CBCS) Odd Semester Exam., 2018

MATHEMATICS

(1st Semester)

Course No. : MTMHCC–102T

(Higher Algebra)

$$\frac{Full\ Marks : 70}{Pass\ Marks : 28}$$

Time : 3 hours

The figures in the margin indicate full marks for the questions

UNIT—I

1. Answer any *two* from the following questions : 2×2=4

   (a) State De Moivre's theorem for rational indices.

   (b) Write down the polar form of the complex number $-1 + i$.

(Turn Over)

(2)

(c) If $2\cos\theta = a + \dfrac{1}{a}$, $2\cos\phi = b + \dfrac{1}{b}$, then find

the value of $ab + \dfrac{1}{ab}$.

2. Answer any two from the following
questions :

$5 \times 2 = 10$

(a) If $(a_1 + ib_1)(a_2 + ib_2) \cdots (a_n + ib_n) = A + iB$,
prove that—

(i) $\tan^{-1}\dfrac{b_1}{a_1} + \tan^{-1}\dfrac{b_2}{a_2} + \cdots + \tan^{-1}\dfrac{b_n}{a_n}$

$$= \tan^{-1}\dfrac{B}{A};$$

(ii) $(a_1^2 + b_1^2) \times (a_2^2 + b_2^2) \cdots (a_n^2 + b_n^2)$

$$= A^2 + B^2.$$

(b) If $(1 + x)^n = a_0 + a_1 x + a_2 x^2 + a_3 x^3 + \cdots$
then show that—

(i) $a_0 - a_2 + a_4 - \cdots = 2^{n/2} \cos\dfrac{n\pi}{4}$;

(ii) $a_1 - a_3 + a_5 - \cdots = 2^{n/2} \sin\dfrac{n\pi}{4}$.

(c) Expand $\sin\alpha$ in ascending power of α.

(d) If $-\dfrac{\pi}{4} \le \theta \le \dfrac{\pi}{4}$, then expand θ in powers
of $\tan\theta$.

J9/**1094**

(Continued)

(3)

UNIT—II

3. Answer any two from the following
questions :

$2 \times 2 = 4$

(a) Define equivalence relation on a set.

(b) Let A and B be two sets. If $f : A \to B$
is one-one onto, then prove that
$f^{-1} : B \to A$ is also one-one onto.

(c) Give an example of a relation which
is reflexive and transitive but not
symmetric.

4. Answer any two from the following
questions :

$5 \times 2 = 10$

(a) On the set Z of all integers, consider the
relation $R = \{(a, b) : a - b$ is divisible by 3$\}$.
Show that R is an equivalence relation.
Find the partitioning of Z into mutually
disjoint equivalence classes.

(b) Let $A = R - \{\frac{3}{5}\}$, $B = R - \{\frac{7}{5}\}$. Also let
$f : A \to B : f(x) = \dfrac{7x + 4}{5x - 3}$ and $g : B \to A : g(y) = \dfrac{3y + 4}{5y - 7}$.
Show that

$$(g \circ f) = I_A \text{ and } (f \circ g) = I_B$$

J9/**1094**

5

(Turn Over)

(4)

(c) Let $f : R \to R : f(x) = 4x + 3$, for all $x \in R$. Show that f is invertible and find f^{-1}.

(d) If $f : A \to B$ is one-one onto, then prove that f is an invertible function.

UNIT—III

5. Answer any *two* from the following questions : 2×2=4

(a) State the principle of mathematical induction.

(b) Define Euclidean algorithm.

(c) State the fundamental theorem of arithmetic.

6. Answer any *two* from the following questions : 5×2=10

(a) Prove by principle of mathematical induction
$$1 \cdot 2 + 2 \cdot 2^2 + 3 \cdot 2^3 + \cdots + n \cdot 2^n = (n-1)2^{n+1} + 2$$

(b) Prove by principle of mathematical induction
$$1(1!) + 2(2!) + 3(3!) + \cdots + n(n!) = (n+1)! - 1$$

(5)

(c) Using division algorithms, prove that the square of any odd integer is of the form $8k + 1$ for some integer k.

(d) If $(a, 4) = 2$ and $(b, 4) = 2$, then prove that $(a + b, 4) = 4$.

UNIT—IV

7. Answer any *two* from the following questions : 2×2=4

(a) Examine the nature of the roots of the following equation by using Descartes' rule of signs $x^4 + 2x^2 + 3x - 1 = 0$.

(b) If α, β, γ be the roots of the equation
$$a_0 x^3 + 3a_1 x^2 + 3a_2 x + a_3 = 0$$
then find the value of $\sum \alpha^2 \beta$.

(c) Remove the fractional coefficient of the equation
$$x^4 - \frac{2}{3}x^3 - \frac{5}{6}x^2 + \frac{7}{72}x + \frac{11}{216} = 0$$

8. Answer any *two* from the following questions : 5×2=10

(a) If α, β, γ be the roots of the equation $x^3 + px + r = 0$, then find the value of
$$\sum \frac{1}{\alpha^2 - \beta\gamma}.$$

(b) Solve the following equation by Cardan's method :

$$x^3 - 6x - 4 = 0$$

(c) Solve the equation

$$27x^3 + 42x^2 - 28x - 8 = 0$$

whose roots are in geometric progression.

(d) If α, β, γ be the roots of $2x^3 + x^2 + x + 1 = 0$, then find the equation whose roots are

$$\frac{1}{\beta^3} + \frac{1}{\gamma^3} - \frac{1}{\alpha^3}, \frac{1}{\gamma^3} + \frac{1}{\alpha^3} - \frac{1}{\beta^3}, \frac{1}{\alpha^3} + \frac{1}{\beta^3} - \frac{1}{\gamma^3}$$

UNIT—V

9. Answer any *two* from the following questions : 2×2=4

(a) Define rank of a matrix.

(b) Under what condition the rank of the matrix

$$\begin{bmatrix} 2 & 4 & 2 \\ 2 & 1 & 2 \\ 1 & 0 & x \end{bmatrix}$$

is 3 ?

(c) If A is a non-zero column matrix and B is a non-zero row matrix, then show that rank $(AB) = 1$.

(Continued)

10. Answer any *two* from the following questions : 5×2=10

(a) Find the rank of the matrix

$$A = \begin{pmatrix} 1 & -1 & 3 & 6 \\ 1 & 3 & -3 & -4 \\ 5 & 3 & 3 & 11 \end{pmatrix}$$

by reducing it to echelon form.

(b) Solve the following system of equations by Gaussian elimination method :

$$5x - 2y + z = 4$$
$$7x + y - 5z = 8$$
$$3x + 7y + 4z = 10$$

(c) Prove that the interchange of a pair of rows does not alter the rank of a matrix.

(d) Reduce the following matrix to normal form :

$$A = \begin{pmatrix} 1 & 2 & 1 & 0 \\ -2 & 4 & 3 & 0 \\ 1 & 0 & 2 & -8 \end{pmatrix}$$

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TDC (CBCS) Odd Semester Exam., 2018

MATHEMATICS

(1st Semester)

Course No. : MTMGEC–101T/MTMDSC–101T

(Differential Calculus)

$$\frac{Full\ Marks\ :\ 70}{Pass\ Marks\ :\ 28}$$

Time : 3 hours

The figures in the margin indicate full marks
for the questions

UNIT—I

Answer any *four* questions :

(a) When is the limit of a function said to exist at a point?   1×4=4

(b) What is the value of $\underset{x \to 0}{Lt}\ (1 + x)^{1/x}$?

(c) Does

$$\underset{x \to 0}{Lt} \left\{ \sin\frac{1}{x} + x\sin\frac{1}{x} + x^2 \sin\frac{1}{x} \right\}$$

exist?

1095

(*Turn Over*)

(2)

(d) Find the value of

$$\underset{n \to \infty}{\text{Lt}} \left\{ \frac{1}{n^2} + \frac{2}{n^2} + \cdots + \frac{n}{n^2} \right\}$$

(e) If $\underset{x \to c}{\text{Lt}} f(x) = a$, $\underset{x \to c}{\text{Lt}} g(x) = b$, then what should be the value of $\underset{x \to c}{\text{Lt}} (fg)(x)$?

2. (a) Define Sandwich theorem.   2

Or

(b) Show by example that $\underset{x \to 0}{\text{Lt}} [f(x) + g(x)]$ and $\underset{x \to 0}{\text{Lt}} f(x) g(x)$ exist although at least one of the two limits $\underset{x \to 0}{\text{Lt}} f(x)$ and $\underset{x \to 0}{\text{Lt}} g(x)$ does not exist.   2

3. (a) (i) Show that $\underset{x \to 0}{\text{Lt}} \cos \frac{1}{x}$ does not exist.   4

(ii) Prove that

$$\underset{x \to a}{\text{Lt}} \frac{x^n - a^n}{x - a} = na^{n-1} \; \forall n$$ 4

Or

(b) (i) Show that $\underset{x \to 0}{\text{Lt}} \frac{1}{2 + e^{1/x}}$ does not exist.   3

(ii) Find the value of

$$\underset{x \to 0}{\text{Lt}} \frac{\sin x^0}{x} \text{ and } \underset{x \to 0}{\text{Lt}} \frac{\sin^{-1} x}{x}$$ 3+2=5

J9/1095   *(Continued)*

(3)

UNIT—II

Answer any *four* questions :   1×4=4

(a) Does the derivative of an even function is an even function?

(b) Is the function $f(x) = \cos x$ continuous?

(c) Examine the continuity of the function

$$f(x) = \frac{1}{x - 5}$$

(d) Write down the value of

$$\frac{d}{dx}(\sec^{-1} x)$$

(e) Is the function

$$f(x) = \begin{cases} \sin \frac{1}{x}, & x \neq 0 \\ 0, & x = 0 \end{cases}$$

continuous at $x = 0$?

(a) Prove that if a function f is continuous, then $|f|$ is also continuous.   2

Or

(b) If a function is continuous in an open interval, then it is bounded in that interval. Explain it with the help of an example.   2

/095

(Turn Over)

6. *(a)* *(i)* Show that the function

$$f(x) = |x| + |x-1| + |x-2|$$

is continuous at the point $x = 0, 1, 2$.   **4**

(ii) Prove that if a function is differentiable at a point, then it is continuous at that point. Is the converse true?   **2+2=4**

Or

(b) *(i)* If $f(x+y) = f(x) + f(y)$ for all x and y and if $f(x)$ is continuous at $x = 0$. Show that it is continuous everywhere.   **4**

(ii) Examine the differentiability at $x = 0$ and 1 of the function defined by

$$f(x) = \begin{cases} 4-x & , \ x \le 0 \\ 5x+4 & , \ 0 < x \le 1 \\ 4x^3 - 3x, & 1 < x < 2 \end{cases}$$ **4**

UNIT—III

7. Answer any *four* questions :   **1×4=4**

(a) State Euler's theorem on homogeneous function.

(b) What is the value of $D^n \left(\dfrac{1}{x+a} \right)$?

(c) Write down the degree of the

$$f(x, y, z) = \sqrt{x} + \sqrt{y} \cdots$$

(d) Find y_3, if $y = e^{3x}$.

(e) Is the function $u = (x^{\frac{1}{4}} \cdot y^{\frac{1}{4}})/(\ldots$ homogeneous?

8. *(a)* If $u = \cos^{-1}\left\{ \dfrac{x+y}{\sqrt{x} + \sqrt{y}} \right\}$, show that

$$x\frac{\partial u}{\partial x} + y\frac{\partial u}{\partial y} + \frac{1}{2}\cot u = 0$$

Or

(b) If $y = a\cos(\log x) + b\sin(\log x)$, prove that

$$x^2 y_2 + x y_1 + y = 0$$

9. *(a)* *(i)* If $\log y = \tan^{-1} x$, then show that

$$(1+x^2)y_{n+2} + (2nx + 2x - 1)y_{n+1} + n(n+1)y_n = 0$$

and

$$(1+x^2)y_2 + (2x-1)y_1 = 0 \text{ and}$$

(ii) If $u = \log r$ and $r^2 = x^2 + y^2 + z^2$, prove that

$$r^2 \left(\frac{\partial^2 u}{\partial x^2} + \frac{\partial^2 u}{\partial y^2} + \frac{\partial^2 u}{\partial z^2} \right) = 1$$ **2+3=5**

Or

(b) (i) Find y_n, if $y = \dfrac{1}{x^2 + a^2}$.   4

     (ii) If V is a homogeneous function in x, y, z of degree n, prove that $\dfrac{\partial V}{\partial x}$ is a homogeneous function in x, y, z of degree $(n-1)$.   4

UNIT—IV

10. Answer any *four* questions : $1 \times 4 = 4$

(a) Write down the geometrical meaning of $\dfrac{dy}{dx}$.

(b) Define radius of curvature at any point on a curve.

(c) What is the condition of orthogonality of two curves $f(x, y) = 0$ and $\phi(x, y) = 0$?

(d) About which axes the curve

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

is symmetrical?

(e) Write down the equation of tangent to the curve $f(x, y) = 0$ at (x_1, y_1).

     (Continued)

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11. (a) Find the points where the tangent to the curve $y = x^3 - 3x^2 - 9x + 15$ is parallel to x-axis.   2

Or

(b) Write down the formula for finding the radius of curvature of any parametric curve.   2

12. (a) (i) Find the radius of curvature at any point (x, y) of the curve $\dfrac{x^2}{a^2} + \dfrac{y^2}{b^2} = 1$.   4

     (ii) What do you mean by angle between two curves? Prove that the curves $\dfrac{x^2}{a} + \dfrac{y^2}{b} = 1$ and $\dfrac{x^2}{a'} + \dfrac{y^2}{b'} = 1$ will cut orthogonally if $a - b = a' - b'$. $1 + 3 = 4$

Or

(b) (i) Show that at any point of the curve $x^{m+n} = k^{m-n} y^{2n}$ the mth power of the subtangent varies as the nth power of the subnormal.   4

     (ii) Find the radius of curvature at any point of the curve $x = a\cos\theta$, $y = a\sin\theta$.   4

(Turn Over)

UNIT—V

13. Answer any *four* questions : 1×4=4

(a) Give an example of a function where maximum value is less than its minimum value.

(b) Write down Cauchy form of remainder term in Taylor's theorem.

(c) Is Rolle's theorem applicable to $f(x) = \tan x$ in $(0, \pi)$?

(d) State Lagrange's form of mean value theorem.

(e) State L'Hospital's theorem.

14. (a) In the mean value theorem

$$f(a+h) = f(a) + hf'(a+\theta h)$$

if $a = 1$, $h = 3$, $f(x) = \sqrt{x}$, find the value of θ. 2

Or

(b) Evaluate $\underset{x \to 1}{\text{Lt}} \left[\dfrac{1}{x^2 - 1} - \dfrac{2}{x^4 - 1} \right]$. 2

15. (a) (i) Evaluate $\underset{x \to 0}{\text{Lt}} \left(\dfrac{\sin x}{x} \right)^{1/x^2}$. 4

(ii) Expand $\cos x$ in powers of x by showing that the condition of Maclaurin's infinite expansion series is valid. 4

Or

(b) (i) Show that the largest rectangle (in respect of area) inscribed in a circle is a square. 4

(ii) If $u < v$, then prove that

$$\frac{v - u}{1 + v^2} < \tan^{-1} v - \tan^{-1} u < \frac{v - u}{1 + u^2}$$ 4

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TDC (CBCS) Odd Semester Exam., 2018

MASS COMMUNICATION

(1st Semester)

Course No. : JMCGEC–101T/JMCDEC–101T

(Introduction to Journalism and Mass Communication)

Full Marks : 70
Pass Marks : 28

Time : 3 hours

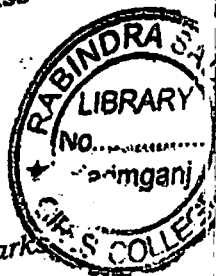*The figures in the margin indicate full marks for the questions*

Answer **all** questions

UNIT—I

1. *(a)* Answer any *four* of the following questions :   1×4=4

   (i) Define the term 'mast head'.

   (ii) Name the first Indian newspaper.

   (iii) Who was the Editor of the newspaper, *Young India*?

   (iv) What do you mean by the term 'byline'?

   (v) *Mirat-Ul-Akbar* was edited by whom?

   (*Turn Over*)

(b) Answer any *one* of the following questions :

(i) Define the term 'Yellow Journalism'.

(ii) What are the different types of headlines?

(c) Answer any *one* of the following questions :

(i) What is the inverted pyramid style of news reporting? Explain with examples.

(ii) What do you mean by the term 'lead'? Describe with examples the different types of leads.

UNIT—II

2. (a) Answer any *four* of the following questions : 1×4=4

(i) Freedom of press is granted under which Article of the Indian Constitution?

(ii) The registration of newspapers was made compulsory in 1835 by whom?

(iii) Annie Besant edited which newspaper?

(iv) Which act was called the 'Gagging Act'?

(v) East India Company introduced censorship for the first time in which year?

(b) Answer any *one* of the following questions : 2

(i) Who is a stinger? Give examples.

(ii) What is the function of an editorial?

(c) Answer any *one* of the following questions : 8

(i) Describe the organizational structure of a newspaper organization. Write the functions of each department. 4+4=8

(ii) Discuss the role of press in Indian Freedom Movement. 8

UNIT—III

3. (a) Answer any *four* of the following questions : 1×4=4

(i) What was the Vernacular Press Act (1878) also called?

(ii) What is the full form of ABC?

(iii) The First Press Council was sit up in which year?

(iv) The Press Council consists of how many members?

(v) Who is the present Minister of Central Information and Broadcasting, Government of India?

(b) Answer any *one* of the following questions : 2

   (i) What is citizen journalism?

   (ii) Discuss what you mean by Parliamentary Privileges.

(c) Answer any *one* of the following questions : 8

   (i) Write the composition, power and functions of the Press Council of India.

   (ii) "Press Council is a toothless tiger." Explain.

UNIT—IV

4. *(a)* Answer any *four* of the following questions : 1×4=4

   (i) What is intrapersonal communication?

   (ii) What is SMCR model?

   (iii) Define communication.

   (iv) What is feedback in a communication process?

   (v) Who gave the rhetoric model of communication?

(b) Answer any *one* of the following questions : 2

   (i) What are the different levels of communication?

   (ii) Define Mass Communication.

(c) Answer any *one* of the following questions : 8

   (i) What do you mean by 'noise' in communication? Explain the different types of noise.

   (ii) What are the functions of Mass Communication?

UNIT—V

5. *(a)* Answer any *four* of the following questions : 1×4=4

   (i) Who gave the mathematical model of communication?

   (ii) Which model defines the way dominant voices in society silence the minority voice?

   (iii) By whom was the cultivation theory developed?

   (iv) Two-step flow model was given by whom?

   (v) Write the statement that defines the Lasswell model of communication.

(6)

(b) Answer any *one* of the following questions : 2

   (i) Draw the Osgood model of communication.

   (ii) Draw the Newcomb's ABX model of communication.

(c) Answer any *one* of the following questions : 8

   (i) Explain the Shannon and Weaver model with examples.

   (ii) What is a communication model? Why is it important?

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2018/TDC/ODD/BCMG–101 T/098

TDC (CBCS) Odd Semester Exam., 2018

COMMERCE

(1st Semester)

Course No. : COMGEC–101 T

(Microeconomics)

Full Marks : 70
Pass Marks : 28

Time : 3 hours

The figures in the margin indicate full marks for the questions

Answer **all** questions

UNIT—I

1. Answer any *two* from the following : 2×2=4

   (a) What is the shape of average revenue and marginal revenue under perfect and imperfect competitions?

   (b) Define price elasticity of demand.

   (c) What is income effect?

2. What is an indifference curve? Explain how a consumer attains equilibrium under indifference curve technique. 2+8=10

(*Turn Over*)

Or

Discuss the revealed preference theory of consumer's behaviour.   10

UNIT—II

3. Answer any *two* from the following :   2×2=4

   (a) What is social cost of production?

   (b) Define economics of scope.

   (c) Why is long-run average cost curve usually called a planning curve?

4. What is production isoquant? Discuss how, with the help of optimum factor combination, a producer reaches equilibrium.   2+8=10

   Or

   What is economies of scale? Explain the different types of internal and external economies that accrue to the firm when it expands its seals of production.   2+4+4=10

UNIT—III

5. Answer any *two* from the following :   2×2=4

   (a) What is 'shutdown point' of a competitive firm?

   (b) Define producer's surplus.

   (c) In case of perfectly elastic demand, the burden of an indirect tax imposed on a commodity will fall on whom, (buyers or sellers) and why?

6. Explain the features of perfectly competitive market. How is the price of a commodity determined under it in the long-run?   4+6=10

   Or

   Explain the long-run equilibrium of a firm and industry operating under different cost condition in perfect competition.   10

UNIT—IV

7. Answer any *two* from the following :   2×2=4

   (a) Why is it impossible to construct supply curve under monopoly?

   (b) What is the social cost of monopoly?

   (c) What is meant by dumping?

8. What is monopoly? How does a monopolist determine the price and output both in the short-run and in the long-run?   2+8=10

   Or

   What is price discrimination? How does a discriminating monopolist profit maximizing determine the prices that he charges in different markets?   2+8=10

UNIT—V

9. Answer any *two* from the following :   2×2=4

 (a) Distinguish between selling cost and production control.

 (b) What is barometric price leadership?

 (c) What is cartel?

10. Mention the features of monopolistic competition. How does price and output determination take place under monopolistic competition both in the short-run and in the long-run?   3+7=10

Or

Define oligopoly. Discuss how, with the help of kinky demand curve, price is determined in oligopoly market.   2+8=10

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TDC (CBCS) Odd Semester Exam., 2018

COMMERCE

(1st Semester)

Course No. : BCMAEC–101T

(Business Communication)

Full Marks : 50
Pass Marks : 20

Time : 3 hours

The figures in the margin indicate full marks for the questions

UNIT—I

1. Answer any *three* of the following :   1×3=3

 (a) Give one example of non-verbal communication.

 (b) Explain the terms 'encoding' and 'decoding'.

 (c) Mention the need for feedback in the process of communication.

 (d) Mention one demerit of oral communication.

2. Answer any *one* of the following :

(a) Write diagrammatically the process of communication. 2

(b) Mention different forms of communication. 2

3. (a) Discuss any two barriers of communication. 5

Or

(b) Discuss the importance of communication in business.

UNIT—II

4. Answer any *three* of the following : 1×3=3

(a) Name any two types of business latter.

(b) Mention any two characteristics of a good business letter.

(c) Mention any two types of complaint letters issued by buyers to seller who supplied goods to a buyer online.

(d) Mention any two characteristics of a sales letter.

(Continued)

5. Answer any *one* of the following :

(a) Explain the terms 'tender' and 'quotation'. 2

(b) Why claims and adjustment letters are written? 2

6. Answer any *one* of the following :

(a) Submit a quotation to Assam University for sale of 20 wooden chairs from your company. Also place an order for purchase of 100 tables from APARNA COMPANY, BOMBAY. 3+2=5

(b) Write a letter to your customers wishing 'Happy New Year—2019' and promote your new product—SHOWER MACHINE viz JHAMJHAM. 5

UNIT—III

7. Answer any *three* of the following : 1×3=3

(a) Name any two types of meeting of a company.

(b) Who can issue office order—Superior or Subordinate?

(c) Mention the difference among memorandum, memoranda and memo.

(d) Mention three stages of writing an effective memo.

8. Answer any *one* of the following :

(a) What is the difference between office circular and office order? 2

(b) As a secretary of your commerce, draft a notice for calling Annual General Meeting of the Forum. 2

9. (a) Write an application for the appointment in the post of 'Accountant' in Bata Company. 5

Or

(b) Mention the objective of preparation of resume. Mention the functions you will prioritize in your resume. 2+3=5

UNIT—IV

10. Answer any *three* of the following : 1×3=3

(a) What is meant by 'report'?

(b) Name any two types of reports.

(c) Mention any two purposes of report writing.

(d) Mention the stages of report writing.

11. Answer any *one* of the following :

(a) "A business report should avoid the use of technical words." Comment. 2

(b) Terms of reference facilitate report writing. Comment. 2

12. (a) Write a report on the frequency of rejection of computer printer from users, suggesting suitable remedies. 5

Or

(b) Write a note on different types of reports.

UNIT—V

13. Answer any *three* of the following : 1×3=3

(a) Mention one tool for researching audience for oral presentation.

(b) Mention any two presentation skills.

(c) Name any two charts that you can use in PowerPoint presentation.

(d) Mention two characteristics of oral presentation.

14. Answer any *one* of the following :

(a) What are the essential elements of a presentation?   2

(b) "Speaking is an art." Discuss.   2

15. (a) Write a note on the use of visual aids in a presentation.   5

Or

(b) Discuss the importance of oral presentation.

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2018/TDC/ODD/BCMD–101T/100

TDC (CBCS) Odd Semester Exam., 2018

COMMERCE

(1st Semester)

Course No. : COMDSC–101T

(Financial Accounting)

$$\frac{\text{Full Marks : 50}}{\text{Pass Marks : 20}}$$

Time : 3 hours

The figures in the margin indicate full marks for the questions

UNIT—I

1×3=3

1. Write True or False (any *three*) :

(a) Assets will be equal to capital if there are no liabilities.

(b) The cash withdrawn by the owner to meet personal expenses will be recorded in the books of business as sundry expenses.

(Turn Over)

(c) Accrual concept is one of the consequences of accounting period concept.

(d) Accounting Standards are prepared by the owners of the business.

2. Mention any two informational needs of external users of accounting information. 2

OR

3. What do you mean by Generally Accepted Accounting Principle? 2

4. Discuss the qualitative characteristics of accounting information. 5

OR

5. Discuss the need for Accounting Standards. 5

UNIT—II

6. Answer the following questions in single sentence (any *three*) : 1×3=3

(a) What is Tally?

(b) Write the full meaning of POS.

(c) What is gateway of Tally?

(d) What is the function of shortcut key F_5?

7. State any two advantages of computerized accounting. 2

OR

8. State any two important features of Tally Software. 2

9. Write the steps for creation of a company. 5

OR

10. Discuss the meaning and steps of alteration of company. 5

UNIT—III

11. Fill in the blanks with suitable word/words (any *three*) : 1×3=3

(a) Balance Sheet is also known as ——— statement.

(b) GST has been introduced in India on ———.

(c) An amount paid for insurance of the building will be treated as ——— expenditure.

(d) Arrangement of assets and liabilities in a Balance Sheet is called ———.

12. Mention any two features of income. 2

OR

13. What is transaction approach to income measurement? 2

14. From the following Trial Balance, you are required to prepare a Balance Sheet as at 31st March, 2018 and a Profit & Loss A/c for the year ended 31st March, 2018 : 5

Trial Balance as on 31.03.2018

Dr. Cr.

	₹		₹
Closing Stock	7,000	Creditors	10,000
Rent	1,800	Capital	8,300
Repairs	300	Bills Payable	9,000
Sundry Expenses	1,000	Sundry Receipts	800
Cash in Hand	3,000	Trading A/c (G/P)	17,100
Furniture	8,000		
Debtors	15,600		
Drawings	6,000		
Tax and Insurance	1,500		
Discount	1,000		
	45,200		45,200

Adjustments :

(i) Prepaid Rent—₹ 300

(ii) Outstanding Sundry Expenses—₹ 500

(iii) Furniture to be depreciated by 10% p.a.

OR

15. X Ltd. Co. purchased a plant on 1st April, 2014 for ₹ 25,600. Depreciation is to be provided at 25% p.a. on written down value method. The scrap value of the plant at the end of the economic life of 4 years is expected to be ₹ 8,100.

You are required to show the Plant A/c and Depreciation A/c for the financial years, 2014–15, 2015–16, 2016–17 and 2017–18. 5

UNIT—IV

16. Answer any *three* of the following questions : 1×3=3

(a) Give the accounting entry for getting delivery of the asset on the date of agreement under instalment purchase system.

(b) State the meaning of hire-purchase system.

(c) What is down payment?

(d) State one feature of hire-purchase system.

17. Give two points of differences between hire-purchase system and instalment purchase system. 2

(*Turn Over*)

OR

18. State any two differences between hire purchase and credit purchase. 2

19. Capital (Pvt.) Ltd. purchased a machine from Modern Machinery Ltd. under instalment system on 1st April, 2015. The cash price was ₹ 7,450. ₹ 2,000 was paid on delivery and the balance in three instalments of ₹ 2,000 each at the end of each year. The Modern Manufacturing Ltd. charges interest @ 5% p.a.

Prepare Purchases A/c in the books of vendor. 5

OR

20. Give the specimen journal entries in the books of hire vendor under hire-purchase system. 5

UNIT—V

21. State the accounting treatment of the following transactions (any *three*) : 1×3=3

(a) Goods in transit under debtor system

(b) Credit sale under stock and debtor system

(c) Pilferage of goods at branch under debtor system

(d) Bad Debts, discount under Stock and Debtor System

22. What are the different systems of accounts which can be adopted for dependent branch accounting? 2

OR

23. What do you understand by inter-branch transactions? 2

24. A firm at Silchar has got a retail branch at Karimgang, selling mainly goods received from HO. Every week the cash received is remitted to HO after making all payments and keeping a balance not more than ₹ 500. Given below are the particulars relating to the branch :

	₹
Bank balance on 01.01.2018	490
Debtors on 01.01.2018	12,270
Stock on 01.01.2018	7,200
Local creditors on 01.01.2018	500
Local purchases	1,000
Local return outwards	200
Payment to local merchants	950
Credit sales	23,870

	₹
Return inwards	200
Cash received on Ledger A/c	23,840
Cash sales	12,140
Goods received from HO	21,780
Rent and office expenses	3,750
Wages	3,960
Bad debts	250
Allowance to debtors	350
Cash remitted to HO	27,350
Stock on 31.12.2018	11,210

Prepare Karimgang Branch A/c in the books of HO at Silchar. 5

OR

25. Briefly explain the invoice price method of branch and pass journal entries in the books of HO for eliminating the loading. 5

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TDC (CBCS) Odd Semester Exam., 2018

COMMERCE

(1st Semester)

Course No. : COMDSC-103T

(Business Organization and Management)

Full Marks : 70
Pass Marks : 28

Time : 3 hours

The figures in the margin indicate full marks for the questions

Answer **all** questions

UNIT—I

1. Answer any *four* from the following as directed : 1×4=4

   (a) Mention one important characteristic of services.

   (b) Mention the upper limit for investment of medium enterprises in manufacturing sector.

   (Turn Over)

(c) Liberalisation helps in accelerating the rate of _____. (production/growth)

(Choose the correct answer)

(d) When was Make in India Programme launched?

(e) Define business ethics.

2. Answer any *one* from the following questions : 2

(a) What is Small-scale Industry?

(b) What is meant by Skill Development?

3. Define Social Responsibility of Business. Discuss the responsibility of business towards different interest groups of the society. 2+6=8

OR

4. What is E-commerce? Explain the important merits and demerits of E-commerce. 2+6=8

UNIT—II

5. Answer any *four* from the following as directed : 1×4=4

(a) Mention one important advantage of Sole Proprietorship Business.

(b) Who takes decisions in a Joint Hindu Family?

(c) A partnership can be formed by at least _____ persons. (2/7/3)

(Choose the correct answer)

(d) Mention the voting rights in a cooperative society.

(e) Write one important objective of Public Enterprises.

6. Answer any *one* question from the following : 2

(a) What do you mean by a Multinational Company?

(b) Define Joint Stock Company.

7. Define Partnership Firms. Discuss the essential characteristics of Partnership Firms. 2+6=8

OR

8. What is Memorandum of Association? Explain the contents of Memorandum of Association. 2+6=8

UNIT—III

9. Answer any *four* from the following as directed :   1×4=4

   (a) Write one important feature of Management.

   (b) The main aim of planning is to set ____ .

       (objectives/standards)

       (Choose the correct answer)

   (c) Name one step for evaluating strategies.

   (d) Mention one distinction between Formal Organization and Informal Organization.

   (e) Mention one benefit of Functional Departmentation.

10. Answer any *one* question from the following :   2

   (a) What is meant by Organization Structure?

   (b) What is Authority?

11. What is meant by Decision Making? Explain the process of Decision Making.   2+6=8

OR

12. Define Group. Discuss various types of Groups.   2+6=8

UNIT—IV

13. Answer any *four* questions from the following :   1×4=4

   (a) What are the types of Autocratic leaders?

   (b) Mention two important factors of Herzberg's Motivation-Hygiene theory.

   (c) Write one distinction of 'Theory-X' and 'Theory-Y'.

   (d) Mention one element of communication.

   (e) What is the objective of control?

14. Answer any *one* question from the following :   2

   (a) What is meant by communication?

   (b) Explain the concept of control.

15. Explain Maslow's need Hierarchy Theory.

OR

16. Discuss the process of control in a modern business concern.

UNIT—V

17. Answer any *four* questions from the following :   1×4=4

(a) Write the names of Four P's.

(b) Mention one important objective of Financial Management.

(c) What are the two forms of corporate securities?

(d) When was SEBI Act passed?

(e) Which management function deals with performance appraisal of employees?

18. Answer any *one* question from the following :   2

(a) What is the meaning of personnel management?

(b) Define industrial relations.

8. Define Financing Decisions. Discuss various factors affecting financing decisions.   2+6=8

OR

8. Define Debentures. Distinguish between Debentures and Shares.   2+6=8

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