

for preparation
31/03/2020

(1)

Roll No.

Total Pages : 05

GSE/D-18

701

ENGLISH

Time : Three Hours]

[Maximum Marks : 80

Note : Attempt all questions.

1. Transcribe any eight words out of the given twelve :
Car, Vision, Ten, June, My, This, Love, Well, Red, Zoo,
Girl, Father. 8

2. Answer any *four* questions in about **30** words each :
(a) Who was Bumba ?
(b) What is the first formative influence on the individual ?
(c) Why can man be not accepted as a finished product ?
(d) How did Gandhiji's faith in vegetarianism grow ?
(e) What makes human beings autonomous learners ?
(f) According to Shastriji, who is a good citizen ?
4×2=8

3. Answer any *five* in about **75/100** words each :
(a) What were the problems faced by the peasants all over India ?
(b) Discuss the difficulties faced by the young students.
(c) Write about the positive side of rebelliousness.

- (d) What role does language play in the national awakening of India ?
- (e) What is the significance of these three series of the 'paralyzing effect' ? (Wounded Plants)
- (f) Describe the relationship that Gandhiji shared with his friend.
- (g) What is the culture of excellence, according to Dr. Kalan ?
- (Great Books Born Out of Great Minds)
- (h) Discuss the relevance of the title of the essay 'Choosing Our Universe' ? 4×5=20

4. Read the following passage and answer the questions that follow :

In the 50 years since Independence, after Nehru's famous 'Dams are the Temples of Modern India' speech (one he grew to regret in his own lifetime), his foot soldiers threw themselves into the business of building dams with unnatural fervour. Dam-building grew to be equated with nation building. Their enthusiasm alone should have been reason enough to make one suspicious. Not only did they build new dams and new irrigation systems, they took control of small, traditional systems that village communities had managed for thousands of years and allowed them to atrophy.

Questions :

- (i) What did Nehru say about dams in his speech ?
- (ii) With what was dam building equated ?
- (iii) What was the reason to make one suspicious ?
- (iv) What did the big dams do ? 4

5. (a) Write antonyms of the following (any two) : 8

- (i) arrival (ii) correct
(iii) rare

(b) Write synonyms of the following (any two) :

- (i) allow (ii) agree
(iii) happy

(c) Give one word substitute for the following (any two) :

- (i) A bunch of flowers
(ii) One who imitates the voice and gesture of others

(iii) One who writes for the newspaper

(d) Make sentences of the following words (any two) :

- (i) deal (ii) guide
(iii) encounter

6. (a) Fill in the blanks with the suitable form of verbs given in bracket (any three) : 12

- (i) The boys.....table tennis. (play)
(ii) Ahmed and Rafi.....on their way to school. (be)

- (iii) Mahesh has been a teacher.....2000.
(since for)
- (iv) She.....the match tomorrow. (play)
- (v) We.....for three hours. (wait)
- (vi) We.....to the theatre last evening. (go)
- (vii) It.....everyday this week. (rain)
- (viii) The accident.....at 10.30 this morning.
(occur)
- (ix) He.....not.....to us since last Christmas.
(write)
- (x) You will not succeed unless you.....harder.
(work)
- (xi) The patient.....already.....before the
doctor came. (die)
- (xii) She.....upon the sitar when I went to see
her. (play)
- (xiii) The thieves.....before we came back.
(break through)
- (xiv) Think carefully before you..... (answer)
- (xv) Hurry up, we.....late. (get)
- (b) Do as directed (any *twelve*) : 12
- (i) Form nouns from the following verbs :
- (1) Advise (2) Choose
- (3) Discover
- (ii) Form adjectives from the following nouns :
- (1) Youth (2) Year
- (3) Addition

- (iii) Give the comparative and superlative degrees
of the following adjectives :
- (1) Good (2) Bold
- (3) Bad

- (iv) Fill in the blanks in the following sentences
with suitable prepositions :

- (1) They are sorry.....having disturb you.
- (2) I am fond.coffee.

- (3) Rinni was angry.....Simon.

- (v) Fill in the blanks in the following sentences
with reflexive pronouns :

- (1) I painted this house.....

- (2) Do your homework.....

- (3) They.....are responsible for the
accident.

7. Write a paragraph (in about 200 words) on any *one* of the
following :

- (a) Environmental Pollution

- (b) Value of Games

- (c) My First Day in College

- (d) My Favourite Book.

Roll No.

Total Pages : 05

GSE/D-18 702

ENGLISH

Paper I

Time : Three Hours]

[Maximum Marks : 80

Note : All questions are compulsory.

1. Transcribe any *eight* of the following words :

- | | |
|------------|------------|
| (a) work | (b) myth |
| (c) age | (d) battle |
| (e) need | (f) field |
| (g) period | (h) spin |
| (i) mind | (j) leave |
| (k) task | (l) race |

1×8=8

2. Answer any *four* of the following questions in about 30 words each : **2×4=8**

- (a) Why can man be not accepted as a finished product?
- (b) What do you understand by the term 'Big Bang Theory'?
- (c) Why is rebelliousness common in young people?
- (d) Why are big dams undemocratic?

- (e) How did Gandhiji's faith in vegetarianism grow ?
- (f) How do stories help us ?

3. Answer any *five* questions in about **75-100** words each :

- (a) What relation does the author establish between man and language ?
- (b) Who according to Nehru is Bharat Mata ?
- (c) Explain the term 'secularism'. Why is it necessary ?
- (d) What is the result of paralysing effect ?
- (e) What do scriptures say about the origin of the universe ?
- (f) Describe Gandhiji's attempts to inculcate the qualities of an English gentleman.
- (g) 'There was a time when big dams moved men to poetry.' Explain this statement.
- (h) Explain the title of the chapter, 'The Generation Gap'.

4×5=20

4. Read the given passage and answer the questions that follow :

The human brain has been on a slower evolutionary trajectory than the technology and our brains still respond to content by looking for the story to make sense out of the experience. It is very important that we revisit storytelling in a serious manner and ensure that stories remain authentic human experience. Let the stories leap

frog the technology and bring us to the core of human experience about collaboration and connection.

Questions :

- (i) What does the author say about the human brain ?
- (ii) What will our brain respond to ?
- (iii) How should we revisit story telling ?
- (iv) What should stories bring us ?

4

5. (a) Give one word substitutes of any *two* of the following :

- (i) One who believes in God
- (ii) Not completely dry
- (iii) A small hill or mound

(b) Give synonyms of any *two* of the following :

- (i) right
- (ii) continuous
- (iii) tie

(c) Give antonyms of any *two* of the following :

- (i) difficult
- (ii) gain
- (iii) mastery

(d) Explain any *two* of the following words/terms :

- (i) culture
- (ii) e-mail
- (iii) habitat

4×2=8

6. (a) Fill in the blanks using the correct form of verbs given in the brackets (attempt any *twelve*) : **12×1**

- (i) What.....you weep ? (make)
- (ii) The water.....not fit for drinking. (be)

- (iii) I.....for a walk daily. (go)
- (iv) The clouds.....across the sky. (move)
- (v) Sheena.....to Dubai. (go)
- (vi) This jug.....ten litres. (hold)
- (vii) I.....to him next week. (write)
- (viii) Rana.....the marriage. (attend)
- (ix) They.....the match tomorrow. (play)
- (x) She.....for five hours. (work)
- (xi) The chairman.....me yesterday. (meet)
- (xii) She.....by car. (come)
- (xiii) Listen! I.....there is someone at the door. (think)
- (xiv) Four and four.....eight. (make)
- (xv) It.....heavily since morning. (rain)

(b)

Attempt any *two* :

12×1=12

(i) Change the following sentences into negative :

- (1) Ravi plays football.
 - (2) Kiran is a doctor.
 - (3) Mohit studies everyday.
 - (4) Children like toffees.
- (ii) Fill in the blanks with the proper degree of the adjectives given in brackets :
- (1) Geeta is the.....friend I have. (good)
 - (2) Iron is.....than any other metal. (useful)
 - (3) My horse runs.....than yours. (fast)
 - (4) Meena is a.....girl. (clever)

(iii) Fill in the blanks with suitable prepositions :

- (1) Smoking is injurious.....health.
- (2) He recovered.....dengue.
- (3) I prefer juice.....tea.
- (4) The boys live.....the hostel.

(iv) Fill in the blanks with suitable conjunctions :

- (1) He is slow.....he is confident.
- (2) Reetu was annoyed.she kept her cool.
- (3) He ran fast.....he was afraid of getting caught.
- (4) Tell Jai.....I will go.

7. Write a paragraph in about 200 words on any *one* of the following topics :

- (a) Importance of Water Conservation
- (b) Communalism
- (c) The Value of Newspapers
- (d) Life in a Big City.

8

Roll No.

Total Pages : 05

GSE/D-18

703

ENGLISH

Time : Three Hours]

[Maximum Marks : 80

Note : Attempt all questions.

1. Explain with reference to the context :

Love's not time's fool, though rosy lips and cheeks
Within his bending sickle's compass come;
Love alters not with his brief hours and weeks,
But bears it out even to the edge of doom.

Or

He moves in darkness as it seems to me,
No of woods only and the shade of trees.
He will not go behind his father's saving
And he likes having thought of it so well
He says again, 'Good fences make good neighbours'. 8

2. Read the following extract and answer the questions that follow :

All human beings are subject to decay,
And, when fate summons, monarchs must obey.
This Flecknoe found, who like Augustus, young
Was called to empire, and had governed long.

- (a) Name the poem and the poet.
- (b) What universal truth is referred to by the poet ?
- (c) Who was called to empire ?
- (d) Who was Augustus ?

Or

Yet I will but say what mere friends say,

Or only a thought stronger;

I will hold your hand but as long as all may,

Or so very little longer !

- (a) Name the poem and the poet.
- (b) What does the rejected lover try to do ?
- (c) What permission of his mistress does he seek ?
- (d) What does the rejected lover hope ?

8

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

8

- (a) How has beauty been described as weak before time ?
- (b) What, according to the poet, are the agents of death ?
- (c) What does the black boy learn from his mother ?
- (d) What makes England 'fainting country' for Shelley ?
- (e) Who is the speaker in the poem 'When Your Are Old' ?
- (f) What kind of farewell does the poet wish for in 'Crossing the Bar' ?
- (g) How do the Nightingales describe their song ?

4. Develop Wordsworth's philosophy of nature in 'Three Years She Grew in Sun and Shower'.

Or

Attempt a critical appreciation of Ezekiel's "The Patriot".

8

5. Do as directed :

(i) Fill in the blank spaces using appropriate articles, wherever necessary :

- (a) Let us have a game of.....cricket.
- (b) I like to give.....useful present.
- (c) We shall come if we get.....opportunity.
- (d) I no longer go to.....office on Saturday.
- (e) Are you going to attend.....dinner tonight?

(ii) Fill in the blanks with the correct form of the verb :

- (a) The Italians.....in Italy. (live)
- (b) My aunt.....with us for a few weeks. (stay)
- (c) We.....someone opening the gate. (hear)
- (d) I cannot play in the match as I.....my foot. (injure)
- (e) We cannot come to a decision before we.....the facts. (know)

(iii) Fill in the blanks with prepositions :

- (a) Some women are afraid.....rice.
- (b) He sat.....the table writing a letter.
- (c) Her shoes were made.....the finest leather.
- (d) The burglars entered the house.....the owner's absence.
- (e) There is a temple.....a hill.

(iv) Complete the following sentences by inserting who/whom/much/very in the blank spaces :

- (a) Do you know.....was responsible for the damage ?
- (b) I am.....concerned about his health.
- (c) We shall have to start.....soon if we are to catch the train.
- (d) He is not a person.....I would trust.
- (e) That man is.....esteemed for his kindness to the poor.

(v) Complete the following sentences by adding an infinitive or an infinitive followed by other words :

- (a) The bandit forced the traveller.....
- (b) I like a room.....
- (c) The ice on the road caused the car.....
- (d) They saw two men in dark overcoats.....
- (e) Most of us left the suggestion.....

(vi) Rewrite the following sentences so as to bring out the same meaning by using the introductory word 'there' :

- (a) Something is wrong with this clock.
- (b) A time will come when you will regret your folly.
- (c) Three cars were involved in the accident.
- (d) Over a hundred people were present at the lecture.
- (e) A seat happened to be vacant in the back row.

6. Use any *ten* of the following words in your own sentences :

Marriage,	Overthrow,
Patience,	Mild,
Account,	Interval,
Monarch,	Fabric,
Solemn,	Presume,
Endless,	Error,
Doubt,	Corner,
Incense.	

7. Explain any *four* of the following literary terms in about 50-70 words each :

Personification,	Sonnet,
Conceit,	Metaphor
Oxymoron,	Alliteration.

Roll No.

Total Pages : 03

GSE/D-18

706

HINDI (Compulsory)

Time : Three Hours]

[Maximum Marks : 80

नोट : सभी प्रश्न अतुल्य हैं ।

1. निम्नांकित में से किसी दो को उत्तर देने की आवश्यकता होगी : 6+6=12

(क) राज्य के पुरातन, कवि एवं लेखक :

इस भूमि के रत्न, वे रत्न, वे रत्न अनेक भूत ॥

नमः भूमि तुल्य अनेक कविता रचना रचना ॥

भूमि का रत्न, भूमि का रत्न भूमि ॥

(ख) भूमि के रत्न का वर्णन :

भूमि का रत्न नद नद नद से उर उर उर उर उर उर ॥

भूमि का रत्न नद नद नद नद नद नद ॥

भूमि का रत्न नद नद नद नद नद नद ॥

(ग) भूमि का रत्न का वर्णन :

भूमि का रत्न नद नद नद नद नद नद ॥

भूमि का रत्न नद नद नद नद नद नद ॥

भूमि का रत्न नद नद नद नद नद नद ॥

(घ) भूमि, नद, रीति, रीति, रीति, रीति, रीति, रीति ॥

भूमि का रत्न नद नद नद नद नद नद ॥

2. गुरुगो अथवा चित्रांग में से एक का साहित्यिक परिचय दीजिए ।

8

3. निम्नलिखित में से किसी चार प्रश्नों के उत्तर 150 शब्दों में दीजिए : $4 \times 4 = 16$

- (क) कबीर की भाषा रैजनी पर मधुप में प्रकाश डालिए ।
- (ख) चिहारी के भूगोल पर वर्णन की उल्लेख कीजिए ।
- (ग) यमनंद का एग निरुपण रैजनी है ?
- (घ) रसखान के काव्य शैली पर प्रकाश डालिए ।

4. निम्नलिखित में से किसी दो प्रश्नों के उत्तर दीजिए : $8 \times 2 = 16$

- (क) वीरगाथा काल के काव्य की विशेषताओं का उल्लेख कीजिए ।
- (ख) हिन्दी साहित्योत्तम परंपरा का सींशत परिचय दीजिए ।
- (ग) अर्द्धकाल की नौभरणा की रामायण का उल्लेख कीजिए ।
- (घ) आदिभक्त की सामान्य परिस्थितियों का परिचय दीजिए ।

5. निम्नलिखित में से किसी दो प्रश्नों के उत्तर 150 शब्दों में दीजिए : $5 \times 2 = 10$

- (क) चित्रांग चित्रांग द्वारा लिखे गए हिन्दी उल्लेख गुरुगो के सामान्य विशेषताएँ बताइये ।
- (ख) 'किसलदेव रासी' का भौक्षण परिचय दीजिए ।
- (ग) मधुप में पशुवीराल गुरुगो की गार्भाणकता पर टिप्पणी कीजिए ।
- (घ) आदिकालीन जैन महाकाव्य का मधुप में वर्णन कीजिए ।

6. निम्नलिखित में से किसी दो प्रश्नों के उत्तर दीजिए : $5 \times 2 = 10$

- (क) 'दाम्य' राम की परिभाषा व उदाहरण दीजिए ।
- (ख) 'यमक' अर्थात्क की परिभाषा व उदाहरण दीजिए ।
- (ग) काव्य गुण किसे कहते हैं ? उनके भेदों के नाम लिखिए ।
- (घ) लक्षणा शब्द-संग्रहित की परिभाषा उदाहरण सहित लिखिए ।

7. निम्नलिखित सभी चरुनिष्ठ प्रश्नों के उत्तर दीजिए : $8 \times 1 = 8$

- (क) मूरदास की किसी एक रचना का नाम लिखिए ।
- (ख) रसखान के आराध्य देव कौन हैं ?
- (ग) पृथ्वीराज रासी किसे भाग्य में रचित है ?
- (घ) रामकृष्ण चर्म जी ने आदिकाल को किस नाम से पुकारा ?
- (ङ) किसी एक नाथ कवि का नाम लिखिए ।
- (च) भूगोल राम का स्थानी भाष्य कौनसा है ?
- (छ) किसी एक काव्य दोष का नाम लिखिए ।
- (ज) कबीर की पत्नी का क्या नाम था ?

9. (क) कुरुक्षेत्र का काव्य रूप लिखिए ।
 (ख) हानूश की बेटी का नाम बताइये ।
 (ग) हानूश के कुल कितने अंक हैं ?
 (घ) आदिकाल को वीरगाथाकाल किसने कहा ?
 (ङ) नायों को कुल संख्या कितनी थी ?
 (च) सिद्धों को संख्या क्या थी ?
 (छ) महावीर ने आदिकाल का क्या नामकरण किया ?
 (ज) चन्द्रवरदायी कौन थे ?

8×1=8

Roll No.

Total Pages : 04

GSE/D-18 707

HIND (Elective)

Time : Three Hours]

[Maximum Marks : 80

नोट : सभी प्रश्न अनिवार्य हैं ।

1. निम्नलिखित पद्यांशों में से किन्हीं दो की सप्रसंग व्याख्या कीजिए : 2×4=8

(क) घुट रही नर बुद्धि की सांस ।

चाहती वह कुछ बढ़ा जाग, कुछे बढ़ा आकाश ॥

यह मनुज जिसके लिये लभु हो रहा भूगोल,

अपर-ग्रह-जय की तृष्णा जिसमें उठी है बोल ॥

(ख) वासना की यागिनी, जिसके तिमिर से हार,

हो रहा नर भ्रान्त अपना आप ही आहार ।

बुद्धि में नर की सुरभि, तन में रुधिर की कीच,

यह वचन से देवता, पर, कर्म से पशु नीच ॥

(ग) नव्य नर की मुष्टि में विकराल

हैं सिमटते जा रहे प्रत्येक क्षण दिक्काल

यह प्रगति निस्सीम । नर का यह अपूर्व विकास ।

चरण-तल भूगोल ! मुट्ठी में निखिल आकाश ॥

(घ) समर-शोषण, हास की विरसवली से हीन,

पृष्ठ जिसका एक भी होगा न दग्ध, मलीन

मनुज का इतिहास, जो होगा सुधामय कोष,

छलकता होगा सभी नर का जहाँ सन्तोष ।

2. कुरुक्षेत्र की तात्त्विक समीक्षा कीजिए ।

अथवा

कुरुक्षेत्र के उद्देश्य पर प्रकाश डालिए । 8

3. निम्नलिखित में से किन्हीं दो के लगभग 200 शब्दों में उत्तर दीजिए : 2×3=6

(क) 'कुरुक्षेत्र' के काव्य-सौष्टव की विशेषताएँ लिखिए ।

(ख) 'कुरुक्षेत्र' के आधार पर भीष्म पितामह की चरित्रिक विशेषताएँ बताइये ।

(ग) 'कुरुक्षेत्र' के काव्य स्वरूप पर प्रकाश डालिए ।

(घ) 'कुरुक्षेत्र' के छठे सर्ग की भाषा-शैली पर प्रकाश डालिए ।

4. निम्नलिखित गद्यांशों में से किन्हीं दो की सप्रसंग व्याख्या कीजिए : 2×4=8

(क) अपनी बच्ची को कैसे पालूँ ? मुझे सभी उपद्रव देते रहते हैं । मेरा बेटा सर्दों में ठिठुरकर मर गया । जाड़े के दिनों में सारा वक्त खांसता रहता था । घर में इतना भी ईंधन नहीं था कि मैं कमरा गर्म रख सकूँ ।

(ख) उसमें प्रति वाली कोई बात हो तो मैं उसकी इज्जत करूँ । जो आदमी अपने परिवार का पेट नहीं पाल सकता, उसकी इज्जत कौन औरत करेगी ।

(ग) बादशाह की इसी में तो बादशाहत होती है । उसके हाथ में भगवान ने तराजू दे रखा है । जो भी पलड़ा भारी होता है, राजा दूसरे पलड़े का नज़्ज बड़ाकर फिर से एक जैसा कर लेता है । यही नीति है । इसी को नीति कहते हैं ।

(घ) राजा प्रजा को भलाई नहीं, अपनी भलाई पहले देखता है । महाराज यही चाहते हैं कि मारेजे के अधिकारी भी उनके सामने हाथ बांधे रखे रहें और हम सदागम-धनश्र कर भी ।

5. हानूश के आधार पर हानूश का चरित्र-चित्रण कीजिए ।

अथवा

हानूश नाटक के नामकरण की सार्थकता स्पष्ट कीजिए । 8

6. निम्नलिखित में से किन्हीं दो के लगभग 200 शब्दों में उत्तर दीजिए : 2×4=8

(क) कात्या के चरित्र पर प्रकाश डालिए ।

(ख) हानूश के सन्देश को स्पष्ट कीजिए ।

(ग) हानूश नाटक की भाषा-शैली पर प्रकाश डालिए ।

(घ) हानूश की नाट्यकला पर प्रकाश डालिए ।

7. निम्नलिखित में से किन्हीं दो के उत्तर दीजिए : 2×2=4

(क) आदिकाल की परिस्थितियों पर प्रकाश डालिये ।

(ख) साहित्योत्तिहास लेखन परम्परा पर प्रकाश डालिए ।

(ग) अमीर खुसरो के साहित्य की विशेषताएँ बताइये ।

(घ) आदिकाल के धार्मिक साहित्य की विशेषताएँ बताइये ।

8. निम्नलिखित में से किन्हीं दो के लगभग 200 शब्दों में उत्तर दीजिए : 2×4=8

(क) आदिकाल के नामकरण पर प्रकाश डालिए ।

(ख) आदिकाल की प्रमुख प्रवृत्तियाँ स्पष्ट कीजिए ।

(ग) विद्यापति के साहित्य की विशेषताएँ बताइये ।

(घ) पृथ्वीराज रासो की प्रामाणिकता पर प्रकाश डालिए ।

Roll No.

Total Pages : 05

GSE/D-18

709

Punjabi (Elective)

Time : [Three Hours]

[Maximum Marks : 80]

1. ਹੇਠ ਲਿਖੇ ਕਵੀਆਂ ਵਿਚੋਂ ਇੱਕ ਦੇ ਪੰਜਾਬੀ ਸਾਹਿਤ ਵਿਚ ਪਾਏ
ਯੋਗਦਾਨ ਅਤੇ ਉਨ੍ਹਾਂ ਦੀ ਕਾਵਿ-ਚਰਨਾ ਬਾਰੇ 250-300 ਸ਼ਬਦਾਂ
ਵਿਚ ਲਿਖੋ :

(i) ਮੋਹਨ ਸਿੰਘ

(ii) ਬਾਵਾ ਬਲਵੰਤ

(iii) ਡਾ. ਹਰਿਭਜਾਨ ਸਿੰਘ

5

2. ਹੇਠ ਲਿਖੇ ਕਾਵਿ-ਟੋਟਿਆਂ ਵਿਚੋਂ ਕਿਸੇ ਦੇ ਦੀ ਪ੍ਰਸੰਗ ਸਹਿਤ
ਵਿਆਖਿਆ ਕਰੋ :

(ੳ) ਚਿੱਟੀ ਪਹਿਨੇ ਖੁੰਭ ਪਹੁ ਦੇ ਆ ਗਿਆ,

ਪਤੀ ਮਿਲਸ ਜਦ ਅਹਿ ਪਹਿਲੇ ਪੀਲੜੇ

ਸਾਰੇ ਦਿਨ ਵਿਚਕਾਰ ਰਹੇ ਪਿਤਾਬਰੀ।

ਲੋਛਾਂ ਬੀਤੇ ਹੋਰ ਬੱਗੇ ਪੈਨ੍ਹਦੀ

ਸੰਧਯਾ ਮੈਲੀ ਫੇਰ ਚੱਦਰ ਝਾਣਦੀ.

ਗਤ ਪਈ ਤੇ ਸਾਹ ਕਾਲੀ ਉਡਦੀ।

(2-01/44)L-709

P.T.O.

(ਅ) ਪਚਲ ਗਿਆ ਮਜ਼ਹਬ ਦਾ ਤਾਣਾ.

ਗਲ ਪੈਰਿਆਂ ਇਤਿਹਾਸ ਪੁਰਾਣਾ,
ਤਲੇ ਪਾਧੀ ਤੇ ਰਾਹ ਬਿਖੜਾ,
ਪੱਥਰ ਪਰੇ ਹਟਾ,

ਜਵਾਨਾ ਹਿਮਤ ਜੁਤਾ ਵਿਖਾ।

(ੲ) ਕੁਝ ਪਾਈਆਂ ਵਿਗਾ ਵਰਨ ਦੀਆਂ
ਦੁਬ ਵਾਹੀਆਂ ਲੀਕਾਂ ਪਰਮ ਦੀਆਂ
ਫਿਰ ਕੰਧਾ ਕਰਮ ਕੁਕਰਮ ਦੀਆਂ
ਫਿਰ ਪੁੰਧਾ ਅੰਨ੍ਹੇ ਭਰਮ ਦੀਆਂ
(ਜ) ਇਕ ਨਿਕਾ ਜਿਹਾ ਸੇਖਣਾ ਬੱਦਲ,
ਜਾ ਰੋਹੀਆਂ ਵਿਚ ਵਰਿਆ।

ਨਾ ਇਸ ਮਿੱਟੀ ਦੀ ਗੰਧ ਮਾਣੀ,
ਨਾ ਕੱਲਰ ਹੀ ਭਰਿਆ
ਇਹ ਨਾ ਕਿਸੇ ਵੀ ਲੇਖੇ ਲੱਗਾ,
ਅਣਹੋਇਆ ਜਿਉ ਮਰਿਆ।

3. ਨਾਨਕ ਸਿੰਘ ਦੇ ਪੰਜਾਬੀ ਸਾਹਿਤ ਵਿੱਚ ਸਥਾਨ ਅਤੇ ਰਚਨਾ-
ਦ੍ਰਿਸ਼ਟੀ ਬਾਰੇ 250-300 ਸ਼ਬਦਾਂ ਵਿਚ ਦਾ ਲੇਖ ਲਿਖੋ। 5

4. ਕਿਦਾਰ ਅਤੇ ਵੀਣਾ ਵਿੱਚੋਂ ਕਿਸੇ ਇਕ ਦੇ ਚਰਿਤਰ ਚਿਤਰਣ
ਨੂੰ ਆਪਣੇ ਸ਼ਬਦਾਂ ਵਿਚ ਲਿਖੋ। 10

5. ਆਪਣੇ ਸ਼ਹਿਰ ਦੇ ਮਿਓਸੀਪਲ ਕਮੇਟੀ ਦੇ ਪ੍ਰਧਾਨ ਨੂੰ ਇਕ ਪੱਤਰ
ਲਿਖੋ ਜਿਸ ਵਿਚ ਆਪਣੇ ਮੁਹੱਲੇ ਦੀਆਂ ਗਲੀਆਂ ਤੇ ਨਾਲੀਆਂ
ਦੀ ਭੈੜੀ ਹਾਲਤ ਕਾਰਨ ਉਨ੍ਹਾਂ ਦੀ ਮੁਰੰਮਤ ਕਰਵਾਉਣ ਲਈ
ਬੇਨਤੀ ਕੀਤੀ ਗਈ ਹੋਵੇ।

੩

ਕਿਸੇ ਸੰਸਥਾ ਵਿਚ ਕੋਈ ਅਸਾਨੀ ਖਾਲੀ ਹੈ, ਜਿਸ ਲਈ ਤੁਸੀਂ
ਯੋਗਤਾ ਰੱਖਦੇ ਹੋ। ਉੱਥੇ ਨੌਕਰੀ ਕਰਨ ਲਈ ਬਿਨੈ-ਪੱਤਰ ਲਿਖੋ।

10

6. ਹੇਠ ਲਿਖੇ ਮੁਹਾਵਰਿਆਂ ਵਿੱਚੋਂ ਦਸਾਂ ਦੇ ਅਰਥ ਸਪਸ਼ਟ ਕਰਨ
ਲਈ ਵਾਕਾਂ ਵਿੱਚ ਵਰਤੋ :
ਅਕਲ ਤੇ ਪੱਥਰ ਪੈਣੇ, ਔਖਾਂ ਤੇ ਬਿਠਾਉਣਾ, ਇਟ ਘੜੇ ਦਾ
ਵੈਰ ਹੋਣਾ, ਈਦ ਦਾ ਚੰਨ ਹੋਣਾ, ਹੱਥੀ ਪੈਣਾ, ਔਗ ਨਾਲ
ਖੇਡਨਾ, ਸਿਰ ਫਿਰ ਜਾਣਾ, ਕੰਨ ਖਾਣੇ, ਹੱਥ ਅੱਡਣਾ, ਖੰਭ ਨੱਪਣੀ।

1×10

7. ਹੇਠ ਲਿਖੇ ਸ਼ਬਦਾਂ ਦੇ ਸਬਦ ਜੋੜ ਸ਼ੁਰੂ ਕਰੋ।
ਕਹਾਨੀ, ਛੇਮਾਂ, ਸਵਤੰਤਰਤਾ, ਸੁਮ, ਖੰਗ, ਸੁਣਨਾ, ਲੜਨਾ, ਬੋਧੀ,
ਸਵਾਮੀ, ਸੁਆਲਾ। 1×10

8. ਹੇਠ ਲਿਖੇ ਅੰਗਰੇਜ਼ੀ ਸ਼ਬਦਾਂ ਵਿੱਚੋਂ ਦਸ ਦਾ ਪੰਜਾਬੀ ਰੂਪ
ਲਿਖੋ :
Account, Advance, Allotment, Annual Bill, Cashier, Claim, Delay
regretted, Book-Post, Cheque, Claim, Damage, Entry, Efficiency
Bar Evaluation.

10

9. ਹੇਠ ਲਿਖੇ ਪ੍ਰਸ਼ਨਾਂ ਦੇ ਬਹੁ-ਵਿਕਲਪਾਂ ਵਿੱਚੋਂ 'ਠੀਕ' ਵਿਕਲਪ ਚੁਣੋ।
(i) 'ਰਾਣਾ ਮੂਰਤ ਸਿੰਘ' ਕਿਸ ਦਾ ਲਿਖਿਆ ਮਹਾਂਕਾਵਿ ਹੈ।

- (a) ਪ੍ਰੋ. ਮੋਹਨ ਸਿੰਘ (b) ਪ੍ਰੋ. ਪੂਰਨ ਸਿੰਘ
(c) ਭਾਈ ਵੀਰ ਸਿੰਘ (d) ਸ਼ਿਵਕੁਮਾਰ ਬਟਾਲਵੀ

(iii) ਪ੍ਰੋ ਮੋਹਨ ਸਿੰਘ ਅਨੁਸਾਰ ਤੇ ਕਿੱਨੇ ਟੋਟਿਆਂ ਵਿਚ ਵੰਡੀ ਹੈ ?

- (a) ਚਾਰ (b) ਪੰਜ
(c) ਤਿੰਨ (d) ਦੋ

(iii) ਭੈਣਾਂ ਤੇ ਭਰਾਵਾਂ ਸਿਰ ਕਿਨਾਂ ਦੀਆਂ ਛਾਵਾਂ ਹਨ ?

- (a) ਮਾਪਿਆਂ (b) ਹੁੱਥਾਂ
(c) ਕਾਵਾਂ (d) ਬੱਦਲਾਂ

(iv) ਤ੍ਰੇ ਮਾਵਾਂ ਕਵਿਤਾ ਦਾ ਵਿਸ਼ਾ ਕੀ ਹੈ ?

- (a) ਮਾਂ ਦਾ ਸਤਿਕਾਰ (b) ਪੰਜਾਬੀ ਬੋਲੀ ਪ੍ਰਤੀ ਪਿਆਰ
(c) ਭਾਰਤ ਮਾਤਾ (d) ਜਨਮ ਭੂਮੀ

(v) ਸਮਝਵਾਦ ਕਵਿਤਾ ਕਿਸ ਦੀ ਰਚਨਾ ਹੈ ?

- (a) ਬਾਵਾ ਬਲਵੰਤ (b) ਸਿਵਕੁਮਾਰ ਬਟਾਲਵੀ
(c) ਭਾਈ ਵੀਰ ਸਿੰਘ (d) ਦਿਆਲ ਚੰਦ ਮਿਗਲਾਨੀ

1×5

10. ਪਵਿੱਤਰ ਪਾਪੀ ਨਾਵਲ ਵਿਚੋਂ ਦਿੱਤੇ ਗਏ ਬਹੁ-ਵਿਕਲਪੀ ਪ੍ਰਸ਼ਨਾਂ ਦੇ ਠੀਕ ਵਿਕਲਪ ਚੁਣ ਕੇ ਲਿਖੋ :

(i) ਪਵਿੱਤਰ ਪਾਪੀ ਨਾਵਲ ਦਾ ਨਾਵਲਕਾਰ ਕੌਣ ਹੈ ?

- (a) ਗੁਰਦਿਆਲ ਸਿੰਘ (b) ਜਸਵੰਤ ਸਿੰਘ ਕੰਵਲ
(c) ਨਾਨਕ ਸਿੰਘ (d) ਸੁਰਜੀਤ ਸਿੰਘ ਸੇਠੀ

(ii) ਮਾਇਆ ਪੰਨਾ ਲਾਲ ਦੀ ਦੀ ਲਗਦੀ ਹੈ ?

- (a) ਭੈਣ (b) ਧੀ
(c) ਪਤਨੀ (d) ਪ੍ਰਮਿਕਾ

L-709

4

(iii) ਰਾਵਲ ਪਿੰਡੀ ਛੱਡ ਕੇ ਕਿਦਾਰ ਕਿੱਥੇ ਜਾਂਦਾ ਹੈ ?

- (a) ਲਾਹੌਰ (b) ਪੇਸ਼ਾਵਰ
(c) ਅੰਮ੍ਰਿਤਸਰ (d) ਪਟਿਆਲਾ

(iv) ਨਾਵਲ ਦਾ ਅੰਤ ਕਿਸ ਦੀ ਮੌਤ ਨਾਲ ਹੁੰਦਾ ਹੈ ?

- (a) ਪੰਨਾ ਲਾਲ (b) ਵੀਣਾ
(c) ਮਾਇਆ (d) ਕਿਦਾਰ

(v) ਨਾਵਲ ਦੀ ਨਾਇਕਾ ਕੌਣ ਹੈ ?

- (a) ਵੀਣਾ (b) ਮਾਇਆ
(c) ਚੰਨੇ (d) ਵਿਦਿਆ

1×5

L-709

5

3,450

Roll No.

Total Pages : 05

GSE/D-18

709

Punjabi (Elective)

Time : Three Hours]

[Maximum Marks : 80

1. ਹੇਠ ਲਿਖੇ ਕਵੀਆਂ ਵਿੱਚੋਂ ਇੱਕ ਦੇ ਪੰਜਾਬੀ ਸਾਹਿਤ ਵਿੱਚ ਪਾਏ
ਯੋਗਦਾਨ ਅਤੇ ਉਨ੍ਹਾਂ ਦੀ ਕਾਵਿ-ਰਚਨਾ ਬਾਰੇ 250-300 ਸ਼ਬਦਾਂ

ਵਿਚ ਲਿਖੋ :

(i) ਮੋਹਨ ਸਿੰਘ

(ii) ਬਾਵਾ ਬਲਵੰਤ

(iii) ਡਾ. ਹਰਿਭਜਨ ਸਿੰਘ

5

2. ਹੇਠ ਲਿਖੇ ਕਾਵਿ-ਟੋਟੀਆਂ ਵਿੱਚੋਂ ਕਿਸੇ ਦੇ ਦੀ ਪ੍ਰਸੰਗ ਸਹਿਤ
ਵਿਆਖਿਆ ਕਰੋ :

(ਉ) ਚਿੱਟੀ ਪਹਿਨੇ ਖੁੰਭ ਪਹੁ ਦੇ ਆ ਗਿਆ,

ਪੜੀ ਮਿਲਸ ਜਦ ਅਸਿਧ ਪਹਿਲੇ ਪੀਲੜੇ

ਸਾਰੇ ਦਿਨ ਵਿਚਕਾਰ ਰਹੇ ਪਿਤਾਬਰੀ।

ਲੋਛਾਂ ਥੀਤੇ ਫੇਰ ਬੱਗੇ ਪੇਨ੍ਹਦੀ

ਸੰਧੂਯਾ ਮੈਲੀ ਫੇਰ ਚੌਦਰ ਤਾਣਦੀ.

ਗਤ ਪਈ ਤੇ ਸਹ ਕਾਲੀ ਉਡਦੀ।

(ਅ) ਪਚਲ ਗਿਆ ਮਜਹਬ ਦਾ ਤਾਣਾ,

ਗਲ ਪੰਗਿਆ ਇਤਿਹਾਸ ਪੁਰਾਣਾ,

ਤੇਲੇ ਪਾਧੀ ਤੇ ਰਾਹ ਬਿਖੜਾ,

ਪੱਥਰ ਪਰੇ ਹਟਾ,

ਜਵਾਨਾ ਹਿੰਮਤ ਜੁਟਾ ਵਿਖਾ।

(ੲ) ਕੁਝ ਪਾਈਆਂ ਵਿਥਾਂ ਵਰਨ ਦੀਆਂ

ਕੁਝ ਵਾਹੀਆਂ ਲੀਕਾਂ ਧਰਮ ਦੀਆਂ

ਫਿਰ ਕੰਧਾ ਕਰਮ ਕੁਕਰਮ ਦੀਆਂ

ਫਿਰ ਪੁੰਧਾ ਅੰਨ੍ਹੇ ਭਰਮ ਦੀਆਂ

(ਸ) ਇਕ ਨਿਕਾ ਜਿਹਾ ਸੰਘਣਾ ਬੱਦਲ,

ਜਾਂ ਰੋਹੀਆਂ ਵਿਚ ਵਰਿਆ।

ਨਾ ਇਸ ਮਿੱਟੀ ਦੀ ਗੰਧ ਮਾਣੀ,

ਨਾ ਕੱਲਰ ਹੀ ਭਰਿਆ

ਇਹ ਨਾ ਕਿਸੇ ਵੀ ਲੇਖੇ ਲੱਗਾ,

ਅਣਹੋਇਆ ਜਿਉਂ ਮਰਿਆ।

3. ਨਾਨਕ ਸਿੰਘ ਦੇ ਪੰਜਾਬੀ ਸਾਹਿਤ ਵਿੱਚ ਸਥਾਨ ਅਤੇ ਰਚਨਾ-
ਦ੍ਰਿਸ਼ਟੀ ਬਾਰੇ 250-300 ਸ਼ਬਦਾਂ ਵਿਚ ਦਾ ਲੇਖ ਲਿਖੋ। 5+5

4. ਕਿਦਾਰ ਅਤੇ ਵੀਣਾ ਵਿੱਚੋਂ ਕਿਸੇ ਇਕ ਦੇ ਚਰਿਤਰ ਚਿਤਰਣ
ਨੂੰ ਆਪਣੇ ਸ਼ਬਦਾਂ ਵਿਚ ਲਿਖੋ। 10

5. ਆਪਣੇ ਸ਼ਹਿਰ ਦੇ ਮਿਥਿਸ਼ੀਪਲ ਕਮੇਟੀ ਦੇ ਪ੍ਰਧਾਨ ਨੂੰ ਇਕ ਪੱਤਰ
ਲਿਖੋ ਜਿਸ ਵਿਚ ਆਪਣੇ ਮੁਹੱਲੇ ਦੀਆਂ ਗਲੀਆਂ ਤੇ ਨਾਲੀਆਂ
ਦੀ ਝੋੜੀ ਹਾਲਤ ਕਾਰਨ ਉਨ੍ਹਾਂ ਦੀ ਮੁਰੰਮਤ ਕਰਵਾਉਣ ਲਈ
ਬੇਨਤੀ ਕੀਤੀ ਗਈ ਹੋਵੇ।

ਜਾਂ

ਕਿਸੇ ਸੰਸਥਾ ਵਿਚ ਕੋਈ ਅਸਾਮੀ ਖਾਲੀ ਹੈ, ਜਿਸ ਲਈ ਤੁਸੀਂ
ਯੋਗਤਾ ਰੱਖਦੇ ਹੋ। ਉੱਥੇ ਨੌਕਰੀ ਕਰਨ ਲਈ ਬਿਨੈ-ਪੱਤਰ ਲਿਖੋ।

10

6. ਹੇਠ ਲਿਖੇ ਮੁਹਾਵਰਿਆਂ ਵਿਚੋਂ ਦਸਾਂ ਦੇ ਅਰਥ ਸਪਸ਼ਟ ਕਰਨ
ਲਈ ਵਾਕਾਂ ਵਿੱਚ ਵਰਤੋ :

ਅਕਲ ਤੇ ਪੱਥਰ ਪੈਣੇ, ਔਖਾਂ ਤੇ ਬਿਨਾਉਣਾ, ਚਿਟ ਘੜੇ ਦਾ
ਵੈਰ ਹੋਣਾ, ਈਦ ਦਾ ਚੰਨ ਹੋਣਾ, ਹੱਥੀ ਪੈਣਾ, ਔਗ ਨਾਲ
ਖੇਡਨਾ, ਸਿਰ ਫਿਰ ਜਾਣਾ, ਕੰਨ ਖਾਣੇ, ਹੱਥ ਔਡਣਾ, ਖੁੰਭ ਨੱਪਣੀ।

1×10

7. ਹੇਠ ਲਿਖੇ ਸ਼ਬਦਾਂ ਦੇ ਸ਼ਬਦ ਜੋੜ ਸ਼ੁਭ ਕਰੋ।

ਕਹਾਨੀ, ਫੇਮਾਂ, ਸਵਤੰਤਰਤਾ, ਸੁਜ, ਖੰਗ, ਸੁਣਨਾ, ਲੜਨਾ, ਬੱਖੀ,
ਸਵਾਮੀ, ਸੁਆਲਾ। 1×10

8. ਹੇਠ ਲਿਖੇ ਅੰਗਰੇਜ਼ੀ ਸ਼ਬਦਾਂ ਵਿਚੋਂ ਦਸ ਦਾ ਪੰਜਾਬੀ ਰੂਪ
ਲਿਖੋ :

Account, Advance, Allotment, Annual Bill, Cashier, Claim, Delay
regretted, Book-Post, Cheque, Claim, Damage, Entry, Efficiency
Bar Evaluation. 10

9. ਹੇਠ ਲਿਖੇ ਪ੍ਰਸ਼ਨਾਂ ਦੇ ਬਹੁ-ਵਿਕਲਪਾਂ ਵਿਚੋਂ ਠੀਕ ਵਿਕਲਪ ਚੁਣੋ।

(i) 'ਰਾਣਾ ਮੂਰਤ ਸਿੰਘ' ਕਿਸ ਦਾ ਲਿਖਿਆ ਮਹਾਂਕਾਵਿ ਹੈ।

(a) ਪ੍ਰ. ਮੋਹਨ ਸਿੰਘ (b) ਪ੍ਰ. ਪੂਰਨ ਸਿੰਘ

(c) ਭਾਈ ਵੀਰ ਸਿੰਘ (d) ਸਿਵਕੁਮਾਰ ਬਟਾਲਵੀ

(ii) ਪ੍ਰ. ਮੋਹਨ ਸਿੰਘ ਅਨੁਸਾਰ ਤੇ ਕਿੰਨੇ ਟੱਟਿਆਂ ਵਿਚ ਵੰਡੀ ਹੈ ?

- (a) ਚਾਰ (b) ਪੰਜ
(c) ਤਿੰਨ (d) ਦੋ

(iii) ਭੈਣਾਂ ਤੇ ਭਰਾਵਾਂ ਸਿਰ ਕਿਨਾਂ ਦੀਆਂ ਛਾਵਾਂ ਹਨ ?

- (a) ਮਾਪਿਆਂ (b) ਭੈਣਾਂ
(c) ਕਾਵਾਂ (d) ਬੱਦਲਾਂ

(iv) ਤੇ ਮਾਵਾਂ ਕਵਿਤਾ ਦਾ ਵਿਸ਼ਾ ਕੀ ਹੈ ?

- (a) ਮਾਂ ਦਾ ਸਤਿਕਾਰ (b) ਪੰਜਾਬੀ ਬੋਲੀ ਪ੍ਰਤੀ ਪਿਆਰ
(c) ਭਾਰਤ ਮਾਤਾ (d) ਜਨਮ ਭੂਮੀ

(v) ਜਮਸ਼ਾਦ ਕਵਿਤਾ ਕਿਸ ਦੀ ਰਚਨਾ ਹੈ ?

- (a) ਬਾਵਾ ਬਲਵੰਤ (b) ਜ਼ਿਵਕੁਮਾਰ ਬਟਾਲਵੀ
(c) ਭਾਈ ਵੀਰ ਸਿੰਘ (d) ਦਿਆਲ ਚਦ ਮਿਗਲਾਨੀ

1×5

10. ਪਵਿਤਰ ਪਾਪੀ ਨਾਵਲ ਵਿੱਚੋਂ ਇੱਕੋ ਗਾਏ ਬਹੁ-ਵਿਕਲਪੀ ਪ੍ਰਸ਼ਨਾਂ ਦੇ ਠੀਕ ਵਿਕਲਪ ਚੁਣ ਕੇ ਲਿਖੋ :

(i) ਪਵਿਤਰ ਪਾਪੀ ਨਾਵਲ ਦਾ ਨਾਵਲਕਾਰ ਕੌਣ ਹੈ ?

- (a) ਗੁਰਦਿਆਲ ਸਿੰਘ (b) ਜਸਵੰਤ ਸਿੰਘ ਕੰਵਲ
(c) ਨਾਨਕ ਸਿੰਘ (d) ਸੁਰਜੀਤ ਸਿੰਘ ਸੇਠੀ

(ii) ਮਾਇਆ ਪੰਨਾ ਲਾਲ ਦੀ ਦੀ ਲਗਦੀ ਹੈ ?

- (a) ਭੈਣ (b) ਧੀ
(c) ਪਤਨੀ (d) ਪ੍ਰਮਿਕਾ

(iii) ਨਾਵਲ ਪ੍ਰਿਥੀ ਛੱਡ ਕੇ ਕਿਦਾਰ ਕਿੱਥੇ ਜਾਂਦਾ ਹੈ ?

- (a) ਲਾਹੌਰ (b) ਪੇਸ਼ਾਵਰ
(c) ਅੰਮ੍ਰਿਤਸਰ (d) ਪਟਿਆਲਾ

(iv) ਨਾਵਲ ਦਾ ਅੰਤ ਕਿਸ ਦੀ ਮੌਤ ਨਾਲ ਹੁੰਦਾ ਹੈ ?

- (a) ਪੰਨਾ ਲਾਲ (b) ਵੀਣਾ
(c) ਮਾਇਆ (d) ਕਿਦਾਰ

(v) ਨਾਵਲ ਦੀ ਨਾਇਕਾ ਕੌਣ ਹੈ ?

- (a) ਵੀਣਾ (b) ਮਾਇਆ
(c) ਚੰਨੋ (d) ਵਿਦਿਆ

1×5

Roll No.

Total Pages : 03

GSE/D-18

710

SANSKRIT (Compulsory)

Time : Three Hours]

[Maximum Marks : 80

नोट : सभी प्रश्न अनिवार्य हैं ।

1. निम्नलिखित सभी प्रश्नों के उत्तर दीजिए : 8×2=16

- (क) रामायण के रचयिता कौन हैं ?
- (ख) 'धिक् दारिद्र्यम्' पाठ किस मूल ग्रन्थ से उद्धृत है ?
- (ग) 'हितोपदेश' के रचयिता कौन हैं ?
- (घ) 'सद्धृतम्' पाठ किस मूल ग्रन्थ से लिया गया है ?
- (ङ) 'फलेषु' पद में कौनसी विभक्ति तथा वचन प्रयुक्त हुए हैं ?
- (च) 'अभवत्' पद धातु के किस पुरुष तथा वचन का रूप है ?
- (छ) 'स्वर सन्धि' के दो भेदों के नाम लिखिए ।
- (ज) 'श्रीमद्भगवद्गीता' में अर्जुन को किसने उपदेश दिया ?

2. (क) दो श्लोकों का सरलार्थ कीजिए : 2×5=10

(अ) मधुमन्मे निश्क्रमणं मधुमन्मे परायणम् ।

वाचा वदामि मधुमद् भूयासं मधुसदृशः ॥

(ब) धर्मज्ञो गुणवान् दान्तः कृतज्ञः सत्यवाचाञ्छुचिः ।

रामो राजसुतो ज्येष्ठो दौवराज्यमतोऽर्हति ॥

(3-07/13)E-710

P.T.O.

(स) इह सन्तो न वा सन्ति सतो वा नानुवर्तसे ।

यथा हि विपरीता ते बुद्धिचचारवर्जिता ॥

(द) धनात् कुलं प्रभवति धनाद् धर्मः प्रवर्धते ।

नाधनस्यास्त्वयं लोको न परः पुरुषोत्तमः ॥

(ख) 'धर्मज्ञो रामः' अथवा 'विभीषणस्य विलापः' पाठ का सार लिखिए ।
1×6=6

3. (क) निम्नलिखित में से किन्हीं दो का सरलार्थ कीजिए : 2×5=10

(अ) सत्यं वद । धर्मं चर । स्वाध्याया प्रमदः ।

आचार्याय प्रियं धनमाहुत्य प्रजातनुं मा व्यवच्छेत्सीः ।
सत्यान् प्रमदितव्यम् । धर्मान् प्रमदितव्यम् । कुशलान्
प्रमदितव्यम् । मृत्यै न प्रमदितव्यम् । स्वाध्याय
प्रवचनाभ्यां न प्रमदितव्यम् ।

(ब) भासुरक आह-अहो सत्यमभिहितं भवद्भिः ।

परं यदि मयोपाविष्टस्यात्र नियत्यमेव नैकः

श्वापदः समागमिष्यति, तन्नूनं सर्वानपि यक्षयिष्यामि ।

अथ ते तथैव प्रतिसाद्य निर्वृत्तिमाजस्तत्रैव बने निधनः ।
पर्यटन्ति । एकश्च क्रमेण यति ।

(स) एकत्र वृक्षे काकवर्तकौ सुखं भिन्नाः । पुनः

भगवतो गरुडस्य पात्रा तर्ज्ज्वन् मयं मक्षिणः

समुद्रतीरङ्गताः । ततः कान्तैः सह वनं कप्रचरि मयः ।

अथ गच्छतो गोपालस्य भस्मकावस्थितदधिभागह्वाद् वारं

वारं तेन काकेन दधि खाद्यते । ततो यावदसौ

दधिभागह्वाद् भूमौ निधायोर्ध्वमेव लोकते-तवतेन काकवर्तके

दृष्टौ । ततश्च दृष्टः काकः पतन्निवतः ।

(द) वृष्टतः भवदेवर्कं जटरेण हुताशनम् ।

व्यगमिनं सर्वभावेन परलोकममरस्य ॥

(ख) 'नीलवर्णः भृगालः' अथवा 'जशकस्य चातुर्यम्' पाठ का सार लिखिए ।
1×6=6

4. (क) निम्नलिखित में से दो के यथानिर्दिष्ट रूप तीनों वचनों में लिखिए :

लिखिए : 3×4=12

फल - प्रथमा, द्वितीया

कवि - यञ्चमी, षष्ठी

मातृ - तृतीया, चतुर्थी

बालक - प्रथमा, द्वितीया

(ख) निम्नलिखित में से दो गानुओं के यथानिर्दिष्ट लकार में संधी पुरुषों एवं वचनों में रूप लिखिए : 2×4=8

√वृ - इदलकार

√दा - लोटलकार

√लिभ् - विभिलिङ्गलकार

√पृ - लटलकार

5. (क) निम्नलिखित में से किन्हीं चार में सन्धि तथा चार में सन्धि-विच्छेद कीजिए । 4×1=4

(अ) यदि + अपि, दिन + अङ्कः, प्रति + इक्ष्वा,

नर + इन्द्रः, सूर्य + उदयः, लो + अनः,

नै + अकः, महा + ऋषिः ।

(ब) परमेकारः, प्रत्येकम्, परीक्षा, विद्यालयः, गणकः,

पवनः, सदैव, नगरेन्द्रः । 4×1=4

(ख) श्रीमद्भगवद्गीता के चार कण्ठस्थ श्लोकों का शुद्ध लेखन कीजिए । 4×2=8

Roll No.

Total Pages : 03

GSE/D-18

711

SANSKRIT

(Elective)

Time : Three Hours]

[Maximum Marks : 80

नोट : सभी प्रश्न अनिवार्य हैं ।

1. निम्नलिखित सभी प्रश्नों के उत्तर दीजिए : 8×2=16

- (क) 'हितोपदेश' के लेखक का नाम लिखिए ।
- (ख) 'मित्रलाभ' किस ग्रन्थ से लिया गया है ?
- (ग) भर्तृहरि ने कितने शतकों की रचना की ?
- (घ) भर्तृहरि के दो शतकों के नाम लिखिए ।
- (ङ) 'रामाणम्' पद किस विभक्ति और वचन का रूप है ?
- (च) 'भवेयुः' पद कौनसा लकार, पुरुष और वचन है ?
- (छ) अच् अन्धि के दो प्रकार लिखिए ।
- (ज) 'नमस्ते' पद में सन्धि-विच्छेद कीजिए ।

2. (क) निम्नलिखित में से किन्हीं दो का हिन्दी में सरलार्थ कीजिए : 2×5=10

- (अ) मातृवत् परदारं पुरः परद्वये लोच्यते ।
आत्मवत् सर्वभूतेषु यः पश्यति स पाण्डितः ॥
- (ब) आपदर्थं धनं रक्षेद् दारान् रक्षेद् धनैरपि ।
आत्मानं सततं रक्षेत् दारैरपि धनैरपि ॥

- (स) अथ तेन व्याप्तं तण्डुलकणान् विक्रीय ज्ञानं
विस्तीर्णम् । यच्च प्रच्छन्नो भूत्वा स्थितः ।
तस्मिन्नेव काले चित्रधीयानाणां कर्पोतराजः सपरिदासं
विदधति, विसर्पन् तान् तण्डुलकणान् अवलोकयमानसः ।
ततः कर्पोतराजः तण्डुल-कणालम्ब्यन् कर्पोतान्
प्रत्याहकुतोऽत्र निर्जने बने तण्डुलकणानां सम्भवः ।
(द) 'नन्ये मित्रं हिरण्यकोनामा पूर्वकारजो गण्डकी तीरे
चित्रवने निवसति, सोऽस्माकं पाशाश्लेस्यति" इत्यालोच्या
सर्वे हिरण्यक विहरसमीपं गताः, हिरण्यकश्च सर्वदा
अथायकशंकया शतद्वारं विवरं कृत्वा निवसति ।
(ख) 'वृद्धव्याध-तुल्य-विप्रयोः कथा' अथवा 'मृग-भृगालयोः कथा'
का सर लिखिए । $1 \times 6 = 6$

3. (क) निम्नलिखित में से किन्हीं दो श्लोकों का सरलार्थ
कीजिए : $2 \times 5 = 10$
(अ) दानं भोगो नाशस्तिस्रो गतयो भवन्ति वितस्य ।
यो न दर्शति न भुङ्क्ते तृतीया गतिर्भवति ॥
(ब) येषां न विद्या न तपो न दानं ज्ञानं न शीलं न
गुणो न धर्मः ।
ते मर्त्यलोके भूविभारभूताः मनुष्यरूपेण मृगश्चरन्ति ॥
(स) यस्यास्ति वितं स नरः कुलीनः
स पण्डितः स श्रुतवान्गुणज्ञः ।
स एव वक्ता स च दर्शनीयः
सर्वे गुणाः काञ्चनमश्रयन्ति ॥
(द) जाड्यं धियो हरति सिञ्चति वाचि सत्यं
मानोन्नतिं दिशति पापमपाकरोति ।
चेतः प्रसादयति दिक्षु तनोति कीर्तिम्
सत्सङ्गति कथय किं न करोति पुंसाम् ॥

- (ख) निम्नलिखित में से किन्हीं एक सूक्ति की सरसङ्ग व्याख्या
कीजिए : $1 \times 6 = 6$
(अ) क्षीयन्तं ज्ञेयं भूषणं सततं वारभूषणं भूषणम् ।
(ब) विभूषणं मौनमर्षिदत्तनाम् ।
4. (क) दो शब्दों के यथानिर्दिष्ट विभक्तियों में रूप लिखिए : $2 \times 4 = 8$
राम - तृतीया, चतुर्थी
लता - प्रथमा, द्वितीया
कवि - पञ्चमी, षष्ठी
पितृ - षष्ठी, सप्तमी
(ख) दो धातुओं के यथानिर्दिष्ट लकारों के रूप लिखिए : 8
भू - लृट् तथा लृटलकार
गम - लोट् तथा विधिलङ्लकार
याच् - लृटलकार तथा विधिलङ्लकार
ह्रस्व - लट् तथा लोटलकार

5. (क) किन्हीं चार की सन्धि कीजिए : $4 \times 1 = 4$
(अ) दिन + अङ्कः, भोजन + आलयः, मधु + अरि,
मनः + रथः, जगत् + नाथ, सदा + एव,
सु + आगतम्, रवि + इन्द्रः ।
(ब) किन्हीं चार की सन्धि-विच्छेद कीजिए : $4 \times 1 = 4$
जादीशः, देवालयः, यद्यपि, वागीशः नरेन्द्र, गायकः
सुरेन्द्रः, वर्षर्तुः ।
(ख) प्रश्न-पत्र में पूछे गए श्लोकों से भिन्न किन्हीं दो श्लोकों
का शुद्ध लेखन कीजिए । $2 \times 4 = 8$

Roll No.

Total Pages : 05

GSE/D-18

713

HISTORY

Option (ii)

Ancient History (From Earliest Times to
Gupta Age)

Time : Three Hours]

[Maximum Marks : 80

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit. Q. No. 1 is compulsory. The part relating to the explanatory note on map will carry full marks for visually handicapped candidates only.
प्रत्येक इकाई से एक प्रश्न चुनते हुए कुल पाँच प्रश्नों के उत्तर दीजिए । प्रश्न संख्या 1 अनिवार्य है । नक्कीन विद्यार्थियों को मानचित्र सम्बन्धी टिप्पणी वाले भाग को करने पर पूरे अंक दिए जाएँगे ।

(Compulsory Question) (अनिवार्य प्रश्न)

1. Write the correct answer :

2×8=16

सही उत्तर चुनिए :

- (i) What is the total number of Puranas ?
- | | |
|--------|--------|
| (a) 6 | (b) 12 |
| (c) 18 | (d) 24 |

पुराणों की कुल संख्या है :

- (अ) 6 (ब) 12
(स) 18 (द) 24

(ii) Name the book as Kautilya :

- (a) Arthashastra (b) Harshchari
(c) Rajtarangini (d) Naganand
कौटिल्य की प्रसिद्ध रचना है :

- (अ) अर्थशास्त्र (ब) हर्षचरित
(स) राजतरंगिणी (द) नागानन्द

(iii) When was the Indus Valley Civilization discovered ?

- (a) 1926 AD (b) 1921/22 AD
(c) 1934 AD (d) 1925 AD

सिन्धु घाटी की सभ्यता की खोज कब हुई ?

- (अ) 1926 ई. (ब) 1921/22 ई.
(स) 1934 ई. (द) 1925 ई.

(iv) The famous God of later Vedic period was :

- (a) Shiva (b) Agni
(c) Vayu (d) Vishnu

उत्तर वैदिक युग का प्रसिद्ध देवता था :

- (अ) शिव (ब) अग्नि
(स) वायु (द) विष्णु

(v) Lord Mahavir was died in :

- (a) 465 BC (b) 468 BC
(c) 487 BC (d) 489 BC
भगवान महावीर का निर्वाण हुआ :

- (अ) 465 ई. पू. (ब) 468 ई. पू.
(स) 487 ई. पू. (द) 489 ई. पू.

(vi) Which among the following was the Capital of Gandhar Mahajanapada ?

- (a) Shravasti (b) Patliputra
(c) Taxila (d) Kapilvastu
निम्नलिखित में से कौनसी गान्धार महाजनपद की राजधानी थी ?

- (अ) श्रावस्ती (ब) पाटलिपुत्र
(स) तक्षशिला (द) कपिलवस्तु

(vii) When did Ashoka die ?

- (a) 232 BC (b) 261 BC
(c) 273 BC (d) 298 BC
सम्राट् अशोक की मृत्यु कब हुई ?

- (अ) 232 ई. पू. (ब) 261 ई. पू.
(स) 273 ई. पू. (द) 298 ई. पू.

(viii) The Gupta king who destroyed Sakas was :

- (a) Samudragupta (b) Chandragupta-I
(c) Kumaragupta (d) Chandragupta-II
शकों का दमन किस गुप्त सम्राट ने किया ?

- (अ) समुद्रगुप्त (ब) चन्द्रगुप्त-I
(स) कुमारगुप्त (द) चन्द्रगुप्त-II

Unit I (इकाई I)

2. Describe in detail the main features of 'Hunter-Gatherers' life in Mesolithic Age in India. 16
भारत में मध्यपाषाण कालीन 'आखेटक-संग्राहक' जीवन की मुख्य विशेषताओं का विस्तार से वर्णन कीजिए ।
3. Write a short essay on political organisation of Harappan Civilization. 16
हड़प्पा सभ्यता के राजनीतिक संगठन पर संक्षिप्त निबन्ध लिखिए ।

Unit II (इकाई II)

4. Describe the 16 Mahajanpadas in 6th Century B.C. in. India. 16
छठी शताब्दी ई. पू. में भारत में 16 महाजनपदों का वर्णन कीजिए ।
5. Write an account of life and teachings of Lord Mahavira. 16
महावीर स्वामी के जीवन और शिक्षाओं का वर्णन कीजिए ।

Unit III (इकाई III)

6. What do you understand by Ashoka's Dhamma ? Also describe the means of propagation of Dhamma. 8,8
अशोक के धम्म से आप क्या समझते हैं ? इसके प्रचार के साधनों का भी वर्णन कीजिए ।

7. Describe the major conquests of Samudragupta. 16

समुद्रगुप्त की प्रमुख विजयों का वर्णन कीजिए ।

Unit IV (इकाई IV)

8. On the outline map of India show that Ashoka's Empire, Extent Pillars and Edicts. Also write an explanatory note. 10,6
भारत के रेखांकित मानचित्र पर अशोक का साम्राज्य-विस्तार, स्तम्भ लेख और शिलालेख दर्शाइए तथा इस पर एक व्याख्यात्मक टिप्पणी भी लिखिए ।

9. On the outline map of India, show the extent of Samundragupta's Empire. Also write an explanatory note. 10,6
भारत के रेखांकित मानचित्र पर समुद्रगुप्त के साम्राज्य विस्तार को दर्शाइए तथा एक व्याख्यात्मक टिप्पणी भी लिखिए ।

Unit I (इकाई I)

2. Throw light on society, economy and town planning of Harappan Civilization. 16
हड़प्पा सभ्यता के समाज, आर्थिक दशा और नगर योजना पर प्रकाश डालिए ।
3. Discuss the political and social life of later Vedic culture. 16
उत्तर वैदिक संस्कृति के राजनैतिक और सामाजिक जीवन की चर्चा कीजिए ।

Unit II (इकाई II)

4. Give an account of the life and teachings of Lord Mahāvira. 16
महावीर स्वामी के जीवन और शिक्षाओं का वृत्तान्त दीजिए ।
5. Briefly examine the rise and development of the Magadha Empire. 16
मागध साम्राज्य के उत्थान और विकास का संक्षेप में परीक्षण कीजिए ।

Unit III (इकाई III)

6. Discuss the main principles and importance of Ashoka's Dhamma. 16
अशोक के धम्म के मुख्य सिद्धान्तों और इसके महत्त्व की चर्चा कीजिए ।

Roll No.

Total Pages : 05+map

GSE/D-18

714

HISTORY

Option. (i)

Ancient India from Earliest Times to Gupta Age

Time : Three Hours]

[Maximum Marks : 80

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit. Q. No. 1 is compulsory. For visually handicapped candidates, the part relating to the explanatory note will carry full marks.

प्रत्येक इकाई से एक प्रश्न चुनते हुए, कुल पाँच प्रश्नों के उत्तर दीजिए । प्रश्न संख्या 1 अनिवार्य है । नेबरीन लिङ्गार्थियों के लिए व्याख्यात्मक टिप्पणी वाले भाग के पूरे अंक होंगे ।

(Compulsory Question) (अनिवार्य प्रश्न)

1. Choose the right answer : 2×8=16
सही उत्तर चुनिए :
(i) Who wrote Raghuvarsh and Meghaduta ?
(a) Banbhatt (b) Harsh
(c) Kalidas (d) Kalhan
रघुवंश और मेघदूत किसने लिखा ?
(अ) बाणभट्ट (ब) हर्ष
(स) कालिदास (द) कल्हण

(ii) Which Buddhist Council was held during the reign of Kanishka ?

- (a) First (b) Second
(c) Third (d) Fourth

कौनसी बौद्ध महासभा कनिष्क के काल में हुई ?

- (अ) प्रथम (ब) द्वितीय
(स) तृतीय (द) चतुर्थ

(iii) Man started Agriculture in :

- (a) Paleolithic Age (b) Mesolithic Age
(c) Neolithic Age (d) Maurya Age

मनुष्य ने कृषि की शुरुआत की :

- (अ) पुरापाषाण काल (ब) मध्यपाषाण काल
(स) नवपाषाण काल (द) मौर्य काल

(iv) Capital of Magadha Mahajanpad was :

- (a) Anga (b) Pataliputra
(c) Vaisali (d) Ujjain

मगध महाजनपद की राजधानी थी :

- (अ) अंग (ब) पाटलिपुत्र
(स) वैशाली (द) उज्जैन

(v) Which ruler founded the famous Nalanda University ?

- (a) Kumargupta (b) Chandragupta II
(c) Ashoka (d) Sri Gupta

किस शासक ने प्रसिद्ध नालन्दा विश्वविद्यालय की स्थापना कराई ?

- (अ) कुमारगुप्त (ब) चन्द्रगुप्त द्वितीय
(स) अशोक (द) श्रीगुप्त

(vi) The famous Indus Valley site Lothal is situated in :

- (a) U.P. (b) M.P.
(c) Gujarat (d) Haryana

सिन्धु घाटी सभ्यता का प्रसिद्ध स्थल लोथल स्थित है :

- (अ) यू.पी. (ब) एम.पी.
(स) गुजरात (द) हरियाणा

(vii) The first Tirthankara, according to Jain Tradition,

was :

- (a) Rishabhadev (b) Hemchandra
(c) Mahavir (d) None of these

जैन परम्परा के अनुसार पहला तीर्थंकर था :

- (अ) ऋषभदेव (ब) हेमचन्द्र
(स) महावीर (द) इनमें से कोई नहीं

(viii) Rajatarangini, written by Kalhan, describes the history of :

- (a) Bengal (b) Gujarat
(c) Kashmir (d) Punjab

राजतरंगिणी में कल्हण द्वारा किसका इतिहास वर्णन किया गया ?

- (अ) बंगाल (ब) गुजरात
(स) कश्मीर (द) पंजाब

Roll No.

Total Pages : 03

GSE/D-18

717

INDIAN CONSTITUTION

Opt. (i)

Time : Three Hours]

[Maximum Marks : 80

Note : Attempt *Five* questions in all, selecting *one* question from each Unit. Q. No. 1 is compulsory.

प्रत्येक इकाई से एक प्रश्न चुनते हुए, कुल पाँच प्रश्नों के उत्तर दीजिए । प्रश्न संख्या 1 अनिवार्य है ।

Compulsory Question (अनिवार्य प्रश्न)

1. Short Answer Type Questions :

2×8=16

लघु उत्तरीय प्रश्न :

- (i) Describe the *two* sources of Indian Constitution.
भारतीय संविधान के दो स्रोत लिखिए ।
- (ii) Write the *two* Fundamental Rights.
दो मौलिक अधिकारों का उल्लेख कीजिए ।
- (iii) Who is Speaker of Lok Sabha ?
लोक सभा अध्यक्ष कौन है ?
- (iv) Write a note on Article 356.
अनुच्छेद 356 पर एक लेख लिखिए ।

- (v) Who was the President of Constituent Assembly of India ?
भारत की संविधान सभा का अध्यक्ष कौन था ?
- (vi) Who is the President of India ?
भारत का राष्ट्रपति कौन है ?
- (vii) Who presides the Joint Session of Indian Parliament ?
भारतीय संसद् के संयुक्त अधिवेशन की अध्यक्षता कौन करता है ?
- (viii) Who is the Chief Justice of India ?
भारत का मुख्य न्यायाधीश कौन है ?

Unit I (इकाई I)

2. Discuss the salient features of Indian Constitution. 16
भारतीय संविधान की मुख्य विशेषताओं का वर्णन कीजिए ।
3. Critically discuss the Directive Principles of the State Policy. 16
राज्यनीति के निर्देशक सिद्धान्तों का आलोचनात्मक वर्णन कीजिए ।

Unit II (इकाई II)

4. Describe the composition and powers of Union Council of Minister. 16
संघीय मन्त्रि परिषद् की रचना और शक्तियों का वर्णन कीजिए ।

5. How is the Governor of a State appointed ? Describe his role in state politics. 16
राज्य के राज्यपाल की नियुक्ति कैसे होती है ? राज्य की राजनीति में उनकी भूमिका स्पष्ट कीजिए ।

Unit III (इकाई III)

6. Explain the composition, functions and powers of Indian Parliament. 16
भारतीय संसद् की संरचना, कार्य और शक्तियों को व्याख्या कीजिए ।
7. What are the main features of Panchayati Raj System ? Explain it. 16
पंचायती राज प्रणाली की मुख्य विशेषताएँ क्या हैं ? इसकी व्याख्या कीजिए ।

Unit IV (इकाई IV)

8. Write a note on the structure and position of Supreme Court of India. 16
भारत के सर्वोच्च न्यायालय की संरचना और स्थिति पर एक टिप्पणी लिखिए ।
9. What do you mean by Judicial Review ? Give your arguments in favour and against of Judicial Review. 16
न्यायिक पुनर्निरीक्षण से आपका क्या अभिप्राय है ? न्यायिक पुनर्निरीक्षण के पक्ष और विपक्ष में अपने तर्क दीजिए ।

9. Explain the difference curves of indifference curves. How do they help in the help of indifference curves? Explain the help of indifference curves in the help of indifference curves.

Part III (Total 11)

1. Explain the concept of diminishing returns to a factor and its significance in the help of indifference curves.

2. Discuss the concept of diminishing returns to a factor and its significance in the help of indifference curves.

Part IV (Total 11)

9. Discuss the concept of diminishing returns to a factor and its significance in the help of indifference curves.

10. Explain the concept of diminishing returns to a factor and its significance in the help of indifference curves.

Roll No.

Total pages : 05

QSE/C-18

722

Micro Economics I

Part I

Time : (Three hours)

[Maximum Marks : 80]

Note : Attempt five questions in all. Q. No. 1 and 2 are

compulsory. Attempt the remaining three questions selecting any question from any three of the four units. Total marks for each unit are 16. Total marks for the paper are 80.

Compulsory Question (अनिवार्य प्रश्न)

1. The following table gives the total cost schedule of a firm. Draw its curves :

Quantity	1	2	3	4	5	6
TC	120	50	65	75	95	135

- (a) Find the VC of the firm. Sketch its curves and draw its MC curve.
- (b) Find out the VC at various levels of output.
- (c) Find out AFC at various levels of output.

(vi) What is the significance of difference between TFC and TVC ?

$$4 \times 4 = 16$$

निम्नलिखित तालिका सिंह एण्ड सन्स की कुछ लागत सूची दर्शाती है :

मात्रा	0	1	2	3	4	5	6
कुल लागत	20	50	65	75	95	130	185

- (अ) सिंह की TFC ज्ञात कीजिए तथा TFC वक्र खींचिए ।
 (ब) आउटपुट के विभिन्न स्तर पर TVC ज्ञात कीजिए ।
 (स) आउटपुट के विभिन्न स्तर पर MC ज्ञात कीजिए ।
 (द) TFC तथा TVC के मध्य सार्थक अन्तर क्या है ?

2. (a) Choose the correct answer : $5 \times 1 = 5$

सही उत्तर चुनिए :

(i) Which of the following pairs represent substitute goods ?

- (1) Car and Petrol
 (2) Limca and Pepsi Cola
 (3) Coffee and Milk
 (4) None of the above

निम्नलिखित में से कौनसा जोड़ा प्रतिस्थाप्यमान वस्तुओं को दर्शाता है ?

- (1) कार तथा पेट्रोल
 (2) लिम्का तथा पेप्सी कोला
 (3) कॉफी तथा दूध
 (4) उपर्युक्त में से कोई नहीं

(ii) A shift in the demand curve occurs due to

- (1) Increase in own price
 (2) Decrease in own price
 (3) Factors other than price

(4) None of the above

जब वक्र में बदलाव किसी कारण वश है

- (1) अपनी कीमत में वृद्धि
 (2) अपनी कीमत में गमी
 (3) कीमत के अलावा कारक
 (4) उपर्युक्त में से कोई नहीं

(iii) Under socialism all economic decisions are taken :

- (1) By price mechanism
 (2) By the Government
 (3) Both (1) and (2)
 (4) None of the above

समाजवाद के तहत आर्थिक निर्णय लिया जाता है :

- (1) व्यक्तिगत कार्यकारी के द्वारा
 (2) सरकार द्वारा
 (3) (1) और (2) के द्वारा
 (4) उपर्युक्त में से कोई नहीं

(iv) At break-even point :

- (1) $TR = TC$ (2) $TR > TC$
 (3) $TR < TC$ (4) None of these
 सम-बिचकंद बिन्दु पर :

- (1) $TR = TC$ (2) $TR > TC$
 (3) $TR < TC$ (4) इनमें से कोई नहीं

5. What is consumer surplus ? Explain measurement of consumer surplus. 16

उपभोक्ता की वृद्धत क्या होती है ? इसके माप का वर्णन कीजिये ।

Unit III (इकाई III)

6. Explain the law of variable proportions. What are the causes of its applicability. 16

घटते-बढ़ते अनुपात के नियम से क्या अभिप्राय है ? इसके लागू होने के कारण बताइये ।

7. What is least cost combination ? Explain least cost combination of factors with the help of Iso-Quant Curves. 16

न्यूनतम लागत अनुपात क्या होता है ? साधनों के न्यूनतम लागत अनुपात की सम-उत्पाद वक्रों द्वारा व्याख्या कीजिए ।

Unit IV (इकाई IV)

8. Explain the concepts of TC, AC and MC. Also explain the relationship between AC and MC. 16

TC, AC तथा MC अवधारणाओं का वर्णन कीजिये । AC तथा MC के सम्बन्ध को भी स्पष्ट कीजिए ।

9. What is Break-even Analysis ? Explain its methods and uses. 16

सम-बिच्छेद विश्लेषण से क्या अभिप्राय है ? इसकी विधियाँ तथा प्रयोग का वर्णन कीजिये ।

L-723 4 2,300

Roll No.

Total Pages : 04

GSE/D-18 723

ECONOMICS

Paper I

Micro Economics

Time : Three Hours]

[Maximum Marks : 80

Note : Attempt *Five* questions in all, selecting *one* question each from the three Units and the fourth question may be attempted from any Unit. Q. No. 1 is compulsory. कुल पाँच प्रश्न करने हैं । किन्हीं तीन इकाइयों में से एक-एक प्रश्न चुनिए तथा चौथा प्रश्न किसी भी इकाई से किया जा सकता है । प्रश्न संख्या 1 अनिवार्य है ।

1. Select the correct answers :

8×2=16

सही उत्तर चुनिए :

(i) Who gave Welfare definition of Economics ?

(a) Adam Smith (b) Peterson

(c) Dr. Marshall (d) None of these

अर्थशास्त्र की कल्याण सम्बन्धी परिभाषा किसने दी ?

(अ) एडम स्मिथ (ब) पीटरसन

(स) डॉ. मार्शल (द) इनमें से कोई नहीं

(ii) Price mechanism is the feature of :

(a) Socialism (b) Capitalism

(c) Mixed economy (d) None of these

(2-07/6) L-723

P.T.O.

कीमत संयंत्र किसकी विशेषता है ?

- (अ) समाजवाद (ब) पूँजीवाद
(स) मिश्रित अर्थव्यवस्था (द) इनमें से कोई नहीं

(iii) Law of Demand applies to :

- (a) Normal goods
(b) Giffen goods
(c) Distinguished goods
(d) None of the above
मांग का नियम लागू होता है :
(अ) सामान्य वस्तुओं पर
(ब) गिफन वस्तुओं पर
(स) प्रतिव्यासूचक वस्तुओं पर
(द) इन सभी पर

(iv) A consumer gets maximum utility when marginal utility of commodity becomes equal to :

- (a) its price (b) his income .
(c) his expenditure (d) none of these
एक उपभोक्ता को अधिकतम सन्तुष्टि तब मिलती है, जब वस्तु की सीमान्त उपयोगिता बराबर होती है :
(अ) कीमत के (ब) उसकी आय के
(स) उसके व्यय के (द) इनमें से कोई नहीं

Fill in the blanks :

खाली स्थान भरिये :

- (v) Horizontal straight supply curve is indicator of..... supply. (Perfectly elastic/Perfectly inelastic)
OX अक्ष के समानान्तर पूर्ति वक्र..... का प्रतीक है ।
(पूर्णतया लोचदार पूर्ति/पूर्णतया बेलोचदार पूर्ति)

(vi) According to modern theory of cost LAC curve

is.....

(U shaped/Inverse J shaped)

लागत के आधुनिक सिद्धान्त के अनुसार LAC वक्र..... का होता है । (U आकार/उल्टा J आकार)

(vii) Under monopoly AR curve is.....

(downward sloping/horizontal straight line)

एकाधिकार में AR वक्र..... होता है ।

(नीचे की ओर झुका हुआ/OX अक्ष के समानान्तर)

(viii)are external economies.

(Labour economies/Information economies)

.....बाहरी बचतें हैं ।

(प्रम सम्बन्धी बचतें/सूचना सम्बन्धी बचतें)

Unit I (इकाई I)

2. Explain circular flow of income in 4 sector model. 16

. आय के चक्रीय प्रवाह के 4 क्षेत्रीय मॉडल का वर्णन कीजिये ।

3. What is price elasticity of demand ? Explain any three methods for its measurement. 16

मांग की कीमत लोच क्या होती है ? इसे मापने की किन्हीं तीन विधियों का वर्णन कीजिए ।

Unit II (इकाई II)

4. What are indifference curves ? Explain their properties. 16
तटस्थता वक्र क्या होते हैं ? इनकी विशेषताओं का वर्णन कीजिए ।

- (d) What do you mean by neuro-muscular development ? 2
तंत्रिका-मांसपेशीय विकास में आप क्या समझते हैं ?
- (e) Write down the three dimensions of Health. 2
स्वास्थ्य के तीन आयाम लिखिए ।
- (f) What is cell-membrane ? 2
कोशिका भित्ति क्या है ?
- (g) Spinal cord is made up of which tissue ? 2
सुषुम्ना नाड़ी किस ऊतक की बनी होती है ?
- (h) What is Voluntary muscle ? 2
ऐच्छिक मांसपेशी क्या है ?
- (i) Can bone be called a tissue ? 2
क्या हड्डी को ऊतक कहा जा सकता है ?
- (j) Cartilage comes under which category of tissues ? 2
Cartilage ऊतकों के किस वर्ग में आता है ?

Roll No.

Total Pages : 01

GSED-18

7231

HEALTH AND PHYSICAL EDUCATION

Time : Three Hours

[Maximum Marks : 60]

Note . Attempt *five* questions in all, selecting at least one question from each Unit. Q. No. 9 is compulsory question. प्रत्येक इकाई से एक प्रश्न चुनते हुए, कुल पाँच प्रश्नों का उत्तर दीजिए । प्रश्न संख्या 9 अनिवार्य है ।

Unit I (इकाई I)

1. What do you mean by Physical Education ? Explain its objectives of physical education. शारीरिक शिक्षा से आप क्या समझते हैं ? शारीरिक शिक्षा के उद्देश्यों का वर्णन कीजिए ।
2. What is Education ? How does physical education contribute to achieve the aim and objectives of general education ? शिक्षा क्या है ? सामान्य शिक्षा के लक्ष्य व उद्देश्यों को शारीरिक शिक्षा किस प्रकार योगदान देती है ?

Unit II (इकाई II)

3. What is Health ? Describe the various factors influencing the health of an individual. 10
स्वास्थ्य क्या है ? किसी व्यक्ति के स्वास्थ्य को प्रभावित करने वाले कारकों का वर्णन कीजिए ।
4. What is Hygiene ? What is the importance of hygiene in human life ? 10
स्वच्छता क्या है ? मानव जीवन में स्वच्छता का क्या महत्त्व है ?

Unit III (इकाई III)

5. Define Yoga. Explain the various stages of the development of Yoga from historical period to modern age. 10
योग को परिभाषित कीजिए । ऐतिहासिक काल में आधुनिक युग तक की योग के उत्थान के विभिन्न चरणों की व्याख्या कीजिए ।
6. What do you mean by Pranayam ? Explain the types of Pranayam. 10
प्राणायाम से अर्थ क्या समझते हैं ? प्राणायाम के प्रकारों का वर्णन कीजिए ।

Unit IV (इकाई IV)

7. Define the words 'Anatomy' and 'Physiology'. What are the main difference between Anatomy and Physiology ? 10
Anatomy और Physiology शब्दों को परिभाषित कीजिए । Anatomy व Physiology में मुख्य अन्तर क्या है ?
8. What is tissue ? Explain the types of tissue. 10
ऊतक क्या है ? ऊतकों के प्रकारों का वर्णन कीजिए ।

Unit V (इकाई V)

9. (a) The definition "By Education I mean an allround drawing out of the best in child and man. the body, mind and spirit" was given by whom ? 2
यह परिभाषा किसने दी, "शिक्षा से भरा अभिन्नान बच्चों, मनुष्यों, शरीर, दिमाग व आत्मा से सर्वोत्तम बाहर निकालना है" ?
- (b) Write down the definition of Physical Education given by Rosalind Cassidy 2
Rosalind Cassidy द्वारा दी गई शारीरिक शिक्षा की परिभाषा लिखिए ।
- (c) Describe the two scopes of Physical Education. 2
शारीरिक शिक्षा के दो क्षेत्रों को लिखिए ।

Roll No.

Total Pages : 03

GSE/D-18

731

MUSIC VOCAL (Theory)

Paper I

Time : Three Hours]

[Maximum Marks : 40

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit. Each question carries 8 marks.

प्रत्येक इकाई से कम से कम एक प्रश्न चुनते हुए कुल पाँच प्रश्नों के उत्तर दीजिए । प्रत्येक प्रश्न के 8 अंक हैं ।

Unit I (इकाई I)

1. Write Notation of Raaga Yaman with two Taran and two Alap ?

राग यमन की स्वरलिपि दो तारन तथा दो आलाप सहित लिखिए ।

2. Discuss about raag Bupali with notation of Dru Bandish.
राग भूपाली के बारे में चर्चा करते हुए छोटे ब्याज की स्वरलिपि लिखिए ।

3. Give the introduction of Raag Alhig Bilaval in detail.
राग अल्हैया बिलावल का विस्तार से परिचय दीजिए ।

Unit II (इकाई II)

4. Write the definition of the following :

(a) Naad	(b) Shruti
(c) Swar	(d) Saptaak

 निम्नलिखित की परिभाषा दीजिए :

(अ) नाद	(ब) श्रुति
(स) स्वर	(द) सप्तक
5. Write in detail about Sangeet ?
संगीत के बारे में विस्तार से लिखिए ।
6. Discuss in detail the history of Indian Music from Vedic period to 12th century.
वैदिक काल से लेकर 12वीं शताब्दी तक के संगीत के इतिहास पर विस्तार से चर्चा कीजिए ।

Unit III (इकाई III)

7. Explain in detail about relationship between Folk Music and Classical Music.
लोक और शास्त्रीय संगीत के सम्बन्ध को विस्तार से समझाइए ।
8. Discuss in detail about the contribution of Pt. V.N. Bhakhande in Indian Music.
भारतीय संगीत में पं. वी. एन. भातखण्डे के योगदान की विस्तार से चर्चा कीजिए ।

9. Write Eakgun of Eak Taal and Teen Taal with detailed Introduction.
एक ताल और तीन ताल की एक गुन लिखतें हुए विस्तार से परिचय दीजिए ।

10. Give the definition of the following :

(a) Vadi	(b) Samvadi
(c) Anuvadi	(d) Vivadi

 निम्नलिखित की परिभाषा दीजिए :

(अ) वादी	(ब) सम्वादी
(स) अनुवादी	(द) विवादी

GSE/D-18

733

MUSIC (INSTRUMENTAL)

Paper I

Time : Three Hours]

[Maximum Marks : 40

Note : Attempt *Five* questions in all, selecting *one* question from each Unit. All questions carry equal marks.
प्रत्येक इकाई में से एक प्रश्न चुनते हुए, कुल पाँच प्रश्नों के उत्तर दीजिए । सभी प्रश्नों के अंक समान हैं ।

Unit I (इकाई I)

1. Describe Raga 'Bhupali' with its Aroh, Avroh and Pakar. 8
राग 'भूपाली' का वर्णन करते हुए उसको आरोह-अवरोह तथा पकड़ सहित लिखिए ।
2. Write the notation of any Maseekhahi Gat of your syllabus with two Toras. 8
अपने पाठ्यक्रम के किसी एक राग की मसीतखानी गत की स्वरलिपि दो तोड़ों सहित लिखिए ।
3. Write the notation of any Razakhani Gat of your syllabus with two Toras. 8
अपने पाठ्यक्रम के किसी एक राग की रजाखानी गत की स्वरलिपि दो तोड़ों सहित लिखिए ।

(2-08/4) L-733

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Unit II (इकाई II)

4. Write short notes on any two of the following : 4+4=8
(a) Nad (b) Shruti
(c) Swar (d) Toda.
निम्नलिखित में से किसी दो पर संक्षिप्त टिप्पणियाँ लिखिए :
(अ) नाद (ब) श्रुति
(स) स्वर (द) तोड़ा :
5. Discuss the structure of sitar and its techniques. 8
सितार की बनावट तथा उसके बजाने की तकनीक पर चर्चा कीजिए ।
6. Write in detail about 'Raga' and 'Thaat'. 4+4=8
'राग' तथा 'थाट' के विषय में विस्तारपूर्वक लिखिए ।

Unit III (इकाई III)

7. Write the notation of 'Teental' and 'Ektaal' with ekgun and duggun laykaries. 4+4=8
'तीनताल' तथा एकताल को उनकी एकगुण तथा दुगुण लयकारियों में विशेषताओं सहित लिपिबद्ध कीजिए ।
8. Write down the contribution of 'Ustad Vilayat Khan' or 'Pt. Ravi Shankar' in the field of music. 8
'उस्ताद विलायत खाँ' या पं. रवि शंकर जी का संगीत के क्षेत्र में योगदान लिखिए ।
9. Differentiate between folk and classical music. 8
लोक संगीत तथा शास्त्रीय संगीत में अंतर स्पष्ट कीजिए ।

L-733

2

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- (b) Find the equation whose roots are cube of the roots of $x^4 - x^3 + 2x^2 + 3x + 1 = 0$. 2½

Section IV

8. (a) Find the condition that the cubic equation $ax^3 + bx^2 + cx + d = 0$ may have three real roots. 2½
 (b) Solve the cubic by Cardon's method : 2½
 $x^3 - 6x^2 - 6x - 7 = 0$

9. (a) Solve the equation : 2½
 $x^4 - 6x^3 + 8x^2 + 2x - 1 = 0$
 by Descartes's method.

- (b) Solve the equation : 2½
 $x^4 - 4x^3 - 4x^2 - 24x + 15 = 0$
 by Ferrari's method.

Roll No.

Total Pages : 04

GSE/D-18 753

MATHEMATICS

BM-III
Algebra

Time : Three Hours]

[Maximum Marks : 27

Note : Attempt *Five* questions in all, selecting *one* question from each Section. Q. No. 1 is compulsory.

Compulsory Question

1. (a) Prove that the diagonal elements of Hermitian matrix are real. 1½
 (b) Prove that every skew-symmetric matrix of odd order is singular. 1½
 (c) If A is non-singular, prove that the eigen values of A^{-1} are the reciprocals of the eigen values of A. 1½
 (d) Find the equation whose roots are reciprocal of the roots of : 1½
 $x^3 - 5x^2 - 6x + 1 = 0$
 (e) Show that the equation $x^{2n} - 1 = 0$ has only *two* real roots. 1

Section I

2. (a) Find the rank of the matrix $A = \begin{bmatrix} 1 & 2 & -1 & 3 \\ -2 & -4 & 4 & -7 \\ 1 & 2 & 1 & 2 \end{bmatrix}$

by reducing it to the normal form. $2\frac{1}{2}$

(b) If A is a skew-symmetric matrix of order n , then show that $\text{adj. } A$ is symmetric or skew symmetric according as n is odd or even. $2\frac{1}{2}$

3. (a) Find the characteristic roots and the corresponding characteristic vectors for the matrix : $2\frac{1}{2}$

$$A = \begin{bmatrix} 1 & 0 & -1 \\ 1 & 2 & 1 \\ 2 & 2 & 3 \end{bmatrix}$$

(b) Find the characteristic polynomial and minimal polynomial of : $2\frac{1}{2}$

$$\begin{bmatrix} 6 & -2 & 2 \\ -2 & 3 & -1 \\ 2 & -1 & 3 \end{bmatrix}$$

Section II

4. (a) Solve the system of equation : $2\frac{1}{2}$

$$x + 3y - 2z = 0$$

$$2x - y + 4z = 0$$

$$x - 11y + 14z = 0$$

(b) Prove that the inverse of a unitary matrix is unitary and its determinant is equal to unity. $2\frac{1}{2}$

5. (a) Reduce the bilinear form :

$$2x_1y_1 + 3x_1y_2 + 8x_2y_1 + 7x_2y_2 - 5x_3y_1 - 3x_3y_2$$

to canonical form and find the equation of transformation. $2\frac{1}{2}$

(b) Write the quadratic form corresponding to the

matrix $A = \begin{bmatrix} 2 & 1 & 2 \\ -3 & -3 & -1 \\ 4 & 1 & 3 \end{bmatrix}$ and rewrite the matrix in

symmetric form. $2\frac{1}{2}$

Section III

6. (a) Use the method of synthetic division to express $f(x) = 5x^4 - 3x^3 + x^2 + x + 1$ as a polynomial in powers of $x - 1$. $2\frac{1}{2}$

(b) Find the condition that two roots of the equation $x^3 - bx^2 + cx^2 - d = 0$ be equal. $2\frac{1}{2}$

7. (a) Transform the equation :

$$2x^3 - 9x^2 + 13x - 6 = 0$$

into one in which second term is missing and hence solve the given equation. $2\frac{1}{2}$

(b) Find the area common to the circle $r = a$ and the cardioid $r = a(1 + \cos \theta)$. 2½

9. (a) Find the volume of the solid formed by the revolution about the x-axis of the curve : 2½

$$y^2(a+x) = x^2(3a-x)$$

(b) Show that the volume of the solid formed by the revolution of the curve $r = a + b \cos \theta$ ($a > b$) about the initial line is $\frac{4}{3} \pi a(a^2 + b^2)$. 2½

Roll No.

Total Pages : 04

GSE/D-18 754

MATHEMATICS

BM-112

Calculus

Time : Three Hours]

[Maximum Marks : 26

Note : Attempt Five questions in all. Q. No. 1 is compulsory. Select one question from each Section.

Compulsory Question

1. (a) Evaluate $\lim_{x \rightarrow 0} \frac{[x]}{x}$, where $[x]$ denotes the greatest integer $\leq x$. 2

(b) Find n th derivative of $\frac{1}{ax+b}$. 1

(c) Find the radius of curvature for the pedal equation, i.e. $p = f(r)$. 1

(d) Evaluate : 1

$$\int_0^1 \frac{x^2}{\sqrt{1-x^2}} dx$$

(e) Write down the area formula for polar curve. 1

Section I

2. (a) Examine the continuity and derivability of the function f defined by : 2½

$$f(x) = \begin{cases} \frac{e^{1/x} - e^{-1/x}}{e^{1/x} + e^{-1/x}} & \text{if } x \neq 0 \\ 0 & \text{if } x = 0 \end{cases} \quad \text{at } x = 0$$

- (b) If $y = e^{m \cos^{-1} x}$, prove that : 2½

$$(1-x^2)y_{n+2} - (2n+1)xy_{n+1} - (n^2 + m^2)y_n = 0$$

3. (a) Using Maclaurin's theorem, prove that : 2½

$$\tan^{-1} \frac{\sqrt{1+x^2}-1}{x} = \frac{1}{2} \left(x - \frac{x^3}{3} + \frac{x^5}{5} - \frac{x^7}{7} + \dots \right)$$

- (b) State and prove Taylor's theorem with Cauchy's form of remainder after n terms and hence deduce the Maclaurin's expansions. 2½

Section II

4. (a) Find the asymptotes of the curve : 2½

$$r = a \sec \theta + b \tan \theta$$

- (b) The tangents at two points P, Q on the cycloid $x = a(\theta + \sin \theta)$; $y = a(1 - \cos \theta)$ are at right angles. Show that if P_1, P_2 are the radii of curvature at these points, then $P_1^2 + P_2^2 = 16a^2$. 2½

L-754

2

5. (a) Show that the evolute of the tractrix $x = e \cos t + e \log \tan t/2$; $y = e \sin t$ is the Catenary $y = e \cosh x/e$. 2½

- (b) Find the position and nature of the double points on the curve $y^2 = (x+2)^2(x-1)$. 2½

Section III

6. (a) Trace the curve : 2½

$$x = a(\theta - \sin \theta), y = a(1 - \cos \theta), 0 \leq \theta \leq 2\pi$$

- (b) If $I_{m,n} = \int_0^1 x^m (1-x)^n dx$, prove that :

$$(m+n+1)I_{m,n} = nI_{m,n-1}$$

- Hence find the value of $\int_0^1 x^4 (1-x)^3 dx$. 2½

7. (a) Evaluate :

$$\int_0^{1/2} \sin^{-1} x dx$$

- where ' n ' is a positive even and odd integer. 2½
 (b) Find the intrinsic equation of the cardioid $r = a(1 - \cos \theta)$. 2½

Section IV

8. (a) Find the area of a loop of the curve $r^2 = a^2 \cos 2\theta$ and hence find its total area. 2½

(2-08/10) L-754

3

P.T.O.

- (b) Define director circle.
- (c) Define great circle.
- (d) Define confocal conicoids.
- (e) Define cylinder and its generator.
- (f) Define co-axial system of spheres.
- (g) Find the centre and radius of the sphere : $1 \times 7 = 7$
 $x^2 + y^2 + z^2 - 4x - 10y + 4z + 4 = 0$

Roll No.

Total Pages : 04

GSE/D-18 755

MATHEMATICS

BM-113

Solid Geometry

Time : Three Hours]

[Maximum Marks : 27

Note : Attempt *Five* questions in all, selecting *one* question from each Unit. Q. No. 9 is compulsory.

Unit I

1. Show that the conic $8x^2 - 4xy + 5y^2 - 16x - 14y + 17 = 0$ represents ellipse. Find its centre, foci, lengths and equations of axes and trace it. 5
2. (a) Find the conics confocal with $x^2 + 2y^2 = 2$, which possess through the point (1, 1). 2½
- (b) Show that the equations $\frac{l}{r} = 1 - e \cos \theta$ and $\frac{l}{r} = -1 - e \cos \theta$ represent the same conic. 2½

Unit II

3. (a) Find the centre of the two spheres which touch the plane $3x + 2y + 5z - 7 = 0$ at the point $(1, -1, 1)$ and the sphere $x^2 + y^2 + z^2 - 2x - 4y - 6z + 10 = 0$.
2½
- (b) Find the enveloping cone of the sphere $x^2 + y^2 + z^2 + 2x - 2y - 2 = 0$ with vertex at $(1, 1, 1)$.
2½
4. (a) Two spheres of radius 3 and 4 cut each other orthogonally. Find the radius of the common circle.
2½
- (b) Find the equation of the right circular cylinder whose axis is $x = 2y = -z$ and radius 4.
2½

Unit III

5. (a) Find the equation of the tangent planes to $2x^2 - 6y^2 + 3z^2 = 5$ which pass through the line and $x + 9y - 3z = 0 = 3x - 3y + 6z - 5$.
2½
- (b) Find the centre of the conic given by the equation : $2x - 2y - 5z + 5 = 0 ; 3x^2 + 2y^2 - 15z^2 = 4$
2½

6. (a) Prove that the sum of the square of the reciprocals of any *three* mutually perpendicular diameters of an ellipsoid is constant.
2½
- (b) Find the equations of the polar of the line $\frac{x-1}{2} = \frac{y-2}{3} = \frac{z-3}{4}$ w.r.t. the conicoid $x^2 - 2y^2 + 3z^2 = 4$ in symmetrical form.
2½

Unit IV

7. (a) Find the equations to the generating lines of the hyperboloid $\frac{x^2}{4} + \frac{y^2}{9} - \frac{z^2}{16} = 1$, which pass through the point $(2, 3, -4)$.
2½
- (b) Show that the plane $8x - 6y - z = 5$ touches the paraboloid $3x^2 - 2y^2 = 6z$ and find the point of contact.
2½

8. Prove that the surface represented by $3z^2 - 6yz - 6zx - 7x - 5y + 6z + 3 = 0$ is a hyperbolic paraboloid. Also find its vertex and the equation to the axis.
5

Unit V (Compulsory)

9. (a) Define centre of a conic.

(v) Which Article of the Constitution is related to the amendment of the Constitution of India ?

- (a) Art. 368 (b) Art. 352
(c) Art. 370 (d) Art. 380
कोनसा अनुच्छेद भारतीय संविधान में संशोधन में सम्बन्धित है ?

- (अ) 368 (ब) 352
(स) 370 (द) 380

(vi) Who preside over the Joint Session of Parliament ?

- (a) President (b) Lok Sabha Speaker
(c) Prime Minister (d) Vice-President
संसद के संयुक्त अधिवेशन की अध्यक्षता कौन करता है ?

- (अ) राष्ट्रपति (ब) लोकसभा अध्यक्ष
(स) प्रधान मंत्री (द) उपराष्ट्रपति

(vii) Which part of Indian Constitution deals with the Fundamental Rights ?

- (a) Ist (b) IVth
(c) IIIrd (d) IInd
भारतीय संविधान में मौलिक अधिकार किस भाग में दिये गये हैं ?

- (अ) प्रथम (ब) चतुर्थ
(स) तृतीय (द) द्वितीय

(viii) Monthly salary of the Chief Justice of India at present is :

- (a) ₹ 2,50,000 (b) ₹ 2,80,000
(c) ₹ 90,000 (d) None of these
वर्तमान समय में भारत के मुख्य न्यायाधीश का मासिक वेतन है :
(अ) ₹ 2,50,000 (ब) ₹ 2,80,000
(स) ₹ 90,000 (द) इनमें से कोई नहीं

Roll No.

Total Pages : 04

GSE/D-18

765

POLITICAL SCIENCE

Option (i)

Indian Constitution

Time : Three Hours]

[Maximum Marks : 80

Note : Attempt any Five questions. All questions carry equal marks.

किन्हीं पाँच प्रश्नों के उत्तर दीजिए । सभी प्रश्नों के अंक समान हैं ।

1. Describe the basic features of Indian Constitution.

भारतीय संविधान के मूलभूत विशेषताओं का वर्णन कीजिए ।

2. Explain critically the Directive Principles of State Policy as mentioned in Indian Constitution.

भारतीय संविधान में दिये गए राज्य के नीति निर्देशक सिद्धांतों की आलोचनात्मक व्याख्या कीजिए ।

3. Critically examine the emergency power of the President of India.

भारतीय राष्ट्रपति की मंकटकालीन शक्तियों की आलोचनात्मक व्याख्या कीजिए ।

4. Discuss the powers and position of the Governor of a State.
राज्य के राज्यपाल की शक्तियों और स्थिति का वर्णन कीजिए ।
5. Discuss the election, powers and position of the Speaker of Lok Sabha.
लोकसभा के स्पीकर का चुनाव, शक्तियाँ और स्थिति का वर्णन कीजिए ।
6. What are the basic features of 'New Panchayati Raj' system as given by 73rd Constitutional Amendment ?
73वें संवैधानिक संशोधन द्वारा दी गई 'नई पंचायती राज प्रणाली' के प्रमुख विशेषताओं का वर्णन कीजिए ।
7. Explain the composition, powers and functions of the 'High Court' of a State.
राज्य के उच्च न्यायालय की रचना, शक्तियों और कार्यों का वर्णन कीजिए ।
8. Critically examine the Judicial Activism.
न्यायिक क्रियाशीलता को आलोचनात्मक व्याख्या कीजिए ।
9. Objective Type Questions :
बहुविकल्पीय प्रश्न :
(i) Source of Constitutional Power in India is :
(a) Parliament (b) Supreme Court
(c) President (d) Public
भारत में संवैधानिक शक्ति का स्रोत है :
(अ) संसद् (ब) सर्वोच्च न्यायालय
(स) राष्ट्रपति (द) जनता

- (ii) "The Directive Principles of State Policy are like a cheque payable by the bank at its convenience."
Who said ?
(a) Dr. Rajendra Parashad
(b) Mahatma Gandhi
(c) Prof. K. T. Shah
(d) J. L. Nehru
'राज्य के नीति 'निर्देशक सिद्धांत' एक चेक की तरह है जिसका भुगतान बैंक की सुविधा पर छोड़ दिया गया है ।'
किसका कथन है ?
(अ) डॉ. राजेन्द्र प्रसाद (ब) महात्मा गांधी
(स) प्रो. के. टी. शाह (द) जवाहर लाल नेहरू
- (iii) Who appoints the Governor of a State ?
(a) P. M. (b) President
(c) C. M. (d) Public
राज्यपाल को नियुक्ति कौन करता है ?
(अ) प्रधान मंत्री (ब) राष्ट्रपति
(स) मुख्य मंत्री (द) जनता
- (iv) Maximum No. of Lok Sabha members can be :
(a) 552 (b) 545
(c) 515 (d) 543
लोक सभा के सदस्यों की अधिक से अधिक संख्या हो सकती है :
(अ) 552 (ब) 545
(स) 515 (द) 543

Roll No. 0170339892.

Total Pages : 03

GSE/D-18

778

MATHEMATICS

BM-112

Calculus

Time : Three Hours]

[Maximum Marks : 40

Note : Attempt *five* questions in all, selecting *one* question from each Section. Q. No. **1** is compulsory. All questions carry equal marks.

(Compulsory Question)

- | | | |
|--------|--|---|
| 1. (a) | Define limit of a function. | 1 |
| (b) | Define continuity of a real valued function of a real variable at a point. | 2 |
| (c) | Define curvature of a curve at a point. | 1 |
| (d) | Define intrinsic equation of a curve. | 2 |
| (e) | State Pappu's and Guilden's theorem for volume of revolution. | 2 |

Section I

2. (a) If $f : [0, 1] \rightarrow \{0, 1\}$ is such that $f(x) = 0$ if x is rational, $f(x) = 1$ if x is irrational, then $\lim_{x \rightarrow \sqrt{2}} f(x)$ does not exist. 4

(3-10/1) L-778

P.T.O.

- (b) If $x^2 + 2/xy + by^2 = 1$, where h and b are constants, then :

4

$$\frac{d^2y}{dx^2} = \frac{h^2 - b}{(hx + by)^3}$$

3. (a) State and prove Leibnitz's theorem. 4
(b) Calculate $\sqrt{5}$ upto three decimal places by Taylor's expansion. 4

Section II

4. (a) Find the asymptotes of the curve $r = \sec \theta + \tan \theta$. 4
(b) Find the radius of curvature for the curve $x = \cos^3 t$, $y = \sin^3 t$. 4

5. (a) Find the position and the nature of the double points on the curve $(y-x)^2 = -x^7$. 4
(b) Find the points of inflexion of the curve : 4
$$x = (y-3)^5 (y-2)^6$$

Section III

6. (a) Trace the curve $x = b(\theta + \sin \theta)$, $y = b(1 + \cos \theta)$ where b is constant. 4

- (b) Evaluate :

4

$$\int_0^{\pi/2} \cos^4 \theta d\theta$$

7. (a) Evaluate :

4

$$\int_0^{\pi/2} \sin^5 x \cos^4 x dx.$$

- (b) Find the whole length of the curve $x^{2/3} + y^{2/3} - b^{2/3} = 0$ where b is constant. 4

Section IV

8. (a) Find the common area of the parabola $y^2 = 4x$ and $x^2 = 4y$. 4

- (b) Find the area of the curve $x = \cos^3 \theta$, $y = \sin^3 \theta$. 4

9. (a) State and prove Pappus's and Guldin's theorem for surface of revolution. 4

- (b) Find the area bounded by $x^2 = 4y$ and its latus rectum. 4

7. (a) Show that the enveloping cylinders of the ellipsoid
 $ax^2 + by^2 + cz^2 = 1$ with generators perpendicular to
 z -axis, meet the plane $z = 0$ in parabolas. 4
- (b) Find the equations of the polar of the line
 $\frac{x-\lambda}{l} = \frac{y-\mu}{m} = \frac{z-\nu}{n}$ w.r.t. the central conicoid
 $ax^2 + by^2 + cz^2 = 1$. 4

Unit IV

8. (a) Show that the section of the ellipsoid
 $9x^2 + 6y^2 + 4z^2 = 3$ by the plane $x + y + z = 0$ is
 an ellipse with semi axes $\frac{1}{2}$ and $\frac{3}{\sqrt{22}}$. 4
- (b) Find the equations to the generators of the
 paraboloid, $(x + y + z)(2x + y + z) = 6z$ which pass
 through the point (1, 1, 1). 4
9. Reduce to standard form : 8
 $2y^2 - 2yz + 2zx - 2xy - x^2 - 2y + 3z - 2 = 0$
 and state the nature of surface represented by the equation.

Roll No.

Total Pages : 04

GSE/D-18 779

MATHEMATICS

BM-113

Solid Geometry

Time : Three Hours]

[Maximum Marks : 40

Note : Attempt *five* questions in all, selecting *one* question from each Unit. Q. No. **1** is compulsory. All questions carry equal marks.

(Compulsory Question)

1. (a) Discuss the nature of the conic : 1½
 $12x^2 - 23xy + 10y^2 - 25x + 26y - 14 = 0$
- (b) Find the equation of plane which cuts the sphere
 $x^2 + y^2 + z^2 = a^2$ in a circle, whose centre is
 (α, β, γ) . 2
- (c) Find the equation to the cone with vertex at the
 origin and which passes through the curves. 1½
 $x^2 + y^2 + z^2 - x - 1 = 0$, $x^2 + y^2 + z^2 + y - 2 = 0$.
- (d) Write any *one* property of Hyperboloid of one sheet. 1

- (c) Find the equation to the plane which cuts the surface
 $2x^2 + 3y^2 + 5z^2 = 4$ in a conic whose centre is at
the point (1, 2, 3). 2

Unit I

2. (a) What conic does the equation :
 $36x^2 + 24xy + 29y^2 - 72x + 126y + 81 = 0$
represent ? Find its centre and the equation referred
to the centre as origin. 4

- (b) Show that the line $4x + 5y = 14$ touches the conic
 $x^2 + 4xy + y^2 - 2x + 2y - 15 = 0$ at the point (1, 2). 4

3. (a) Prove that the conic $x^2 + 2y^2 - 1 = 0$ and
 $3x^2 + 8xy + 10y^2 - 4x - 8y + 1 = 0$ have double
contact with each other. 4

- (b) If two confocal conics through $P(x_1, y_1)$ to
the ellipse $\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$ are $\frac{x^2}{a^2 + \lambda_1} + \frac{y^2}{b^2 + \lambda_1} = 1$.

when $i = 1, 2$; then prove that : 4

$$\frac{x_1^2}{a^2} + \frac{y_1^2}{b^2} - 1 = -\frac{\lambda_1 \lambda_2}{a^2 b^2} \cdot x_1^2 + y_1^2 - (a^2 + b^2) = \lambda_1 + \lambda_2$$

4. (a) Find the equation of the sphere, through the circle,
 $x^2 + y^2 + z^2 = 1$, $2x - 4y + 5z = 6$ and touching the
plane $z = 0$. 4

- (b) Find the co-ordinates of the points on the sphere
 $x^2 + y^2 + z^2 - 4x + 2y - 4 = 0$ the tangent planes at
which are parallel to the plane, $2x - y + 2z - 1 = 0$. 4

5. (a) Find the equation of the right circular cone whose
vertex is at origin, the axis is $\frac{x}{1} = \frac{y}{2} = \frac{z}{3}$ and has a
semi-vertical angle 45° . 4

- (b) Find the equation of the cylinder whose generators
are parallel to the line $3x = 3y = 3$ and whose
guiding curve is $2x^2 + y^2 = 1, z = 1$. 4

Unit III

6. (a) Find the equation of the tangent planes to
 $2x^2 - 6y^2 + 3z^2 = 5$ which pass through the lines
 $x + 9y - 3z = 0$, $3x - 3y + 6z - 5 = 0$. 4

- (b) The normal at any point P of a central conicoid,
meets the three principal planes at G_1, G_2, G_3 .
Show that : 4

$$PG_1 : PG_2 : PG_3 = a^{-1} : b^{-1} : c^{-1}$$

Roll No.

Total Pages : 03

GSE/D-18

784

CHEMISTRY

CH-101

Inorganic Chemistry

Time : Three Hours]

[Maximum Marks : 30

Note : Attempt *Five* questions in all, selecting *two* questions from each Section. Q. No. **1** is compulsory.

- 1.** (a) What are ISO electronic species ?
(b) Fe^{+2} has electronic configuration.....
(c) Which S orbital has two nodes ?
(d) What is Polarising power ?
(c) What is Madelung constant ?
(f) Write mathematical expression for angular part of wavefunction for 'S' orbital.
(g) What are non-stoichiometric crystals ?
(h) Name the type of hybridisation of central atom in SO_4^{-2} ion. 1×8

Section A

- 2.** (a) Draw radial probability distribution curves for 3s and 2p orbitals. 2

Section 3

- (b) In first transition series the electron is removed from $4s$ orbital and not from $3d$ orbital. Why ? 2
- (c) What are limitations of Aufbau principle ? 2
3. (a) On the basis of uncertainty principle show that an electron cannot exist in the nucleus. Given radius of Nucleus = 10^{-14} m. $h = 6.6 \times 10^{-34}$ $\text{kgm}^2\text{s}^{-1}$.
 $m = 9.1 \times 10^{-31}$ kg. 2
- (b) An electron is present in $4d$ subshell. Write down possible values of quantum numbers n, l, m, s . 2
- (c) What is significance of de Broglie relationship ? 2
4. (a) Discuss Pauling scale of electronegativity. 2½
- (b) Why van der Waal's radii is bigger than covalent radii ? 2
- (c) Why electron affinity of nitrogen is almost zero ? 1½
5. (a) Discuss various factors on which electronegativity depends. 2½
- (b) Define Ionic radii. How does it varies in a group of Periodic table ? 2
- (c) Why electron affinity of Halogens is highest ? 1½
6. (a) Draw molecular orbital energy level diagram for carbon monoxide ' CO ' molecule and predict its bond order. 2
- (b) Calculate percentage ionic character in C-Cl bond of CCl_4 . Given electronegativity of carbon and chlorine are 2.5 and 3.0 respectively. 2
- (c) Why CO_2 has zero dipole moment while SO_2 has some value of dipole moment ? 2
7. (a) What are Postulates of VSEPR theory ? 2
- (b) Discuss shape of ClF_3 molecule on the basis of hybridisation. 2½
- (c) Why bond angle in NI_3 is more than H_2O ? 1½
8. (a) Write down Fajan's rules. 2
- (b) Define lattice energy and mention the factors on which it depends. 2
- (c) What are Metal deficiency defects in non-stoichiometric crystals ? 2
9. (a) Draw and discuss structure of zinc blende. 2
- (b) What are metal excess defects in non-stoichiometric crystals ? 2
- (c) Why melting point of NaCl is more than AlCl_3 ? 2

9. (a) Define surface tension. What is the principle of drop weight method for measurement of surface tension by Stalagmometer ? 2½
- (b) How can the correctness of Bragg's equation be tested ? 2
- (c) Define 'Specific Rotation'. Write an expression for it. 1½

Roll No.

Total Pages : 04

GSE/D-18 786

CHEMISTRY

Paper II (CH-102)

Physical Chemistry

Time : Three Hours]

[Maximum Marks : 32

Note : Attempt *Five* questions in all, selecting at least *two* questions from each Section. Q. No. 1 is compulsory. Use of Log-table and Non-programming calculator is allowed.

Compulsory Question

1. (a) What is meant by 'Critical Temperature' and 'Critical Pressure' ? 2
- (b) Why gases fail to obey the general gas equation at high pressure and low temperature ? 2
- (c) Explain the term 'Optical Exaltation' 2
- (d) What do you mean by 'Centre of Symmetry' and 'Rotation-Reflection Axis of Symmetry' ? 2

Section A

2. (a) What is excluded volume ? Show that the excluded volume is four times the actual volume of a gas. 2
- (b) Briefly describe the isotherms of CO₂ as studied by Andrew. 3

(c) What are SI units of van der Waals constants 'a' and 'b' ? 1

Section B

3. (a) Using van der Waal equation, derive an expression for Boyle temperature in terms of van der Waals constants. 3

(b) Show that $f_c = \frac{8a}{27Rb}$, where the symbols have their meanings. 3

4. (a) At what pressure will the mean free path of N_2 molecule be 1 Å at 27°C ? (Molecular diameter of $N_2 = 3.74 \times 10^{-8}$ cm). 2

(b) How does van der Waal equation explain the exceptional behaviour of hydrogen and helium ? 2

(c) Explain diagrammatically how the molecular velocities change with increase of temperature. 2

5. (a) Prove that root mean square velocity of hydrogen any temperature is four times that of oxygen at that temperature. 2

(b) What is the difference between 'Collision Number' and 'Collision Frequency' ? Discuss the effect of temperature on 'Collision Frequency'. 3

(c) Define the law of corresponding states. 1

6. (a) Briefly explain how the structure of liquids can be studied. 3

(b) A reflection from (111) planes of a cubic crystal was observed at a balancing of 11.2° when X-rays of wavelength 154 pm were used. What is the length of the side of the unit cell ? ($\sin 11.2^\circ = 0.1944$). 2

(c) Define Haüy's law of rational indices. 1

7. (a) Briefly describe Laue's method for the determination of crystal structure. 3

(b) Calculate the molar refractivity of acetic acid at a temperature at which its density is 1.045 g cm^{-3} . The experimentally observed value of refractive index at this temperature is 1.3715. 2

(c) Why viscosity of a liquid decreases with increase of temperature ? 1

8. (a) Define vapour pressure. Why is cooling caused by evaporation ? 1½

(b) Briefly explain each of the following :

- (i) Law of constancy of interfacial angles
- (ii) Miller indices
- (iii) Law of symmetry. 4½

- (b) Write two methods of formation of carbonions. Explain the structure of carbonions. 2

Unit IV

8. (a) How will you prepare alkane by :
 (i) Wurtz Reaction
 (ii) Decarboxylation of carboxylic acid.
 Give the limitations of these methods. 4
- (b) Calculate the percentage of *n*-butyl chloride and *sec*-butyl chloride obtained by monochlorination of *n*-butane. (Given reactivity of 3°, 2°, 1° hydrogen are 1600 : 82 : 1). 2
9. (a) Describe the evidences in favour of free radical mechanism of hydrogenation of alkanes. 2
- (b) Write the preparation of alkanes by :
 (i) Cycloaddition Reaction
 (ii) Dehalogenation of Dihalogen derivatives. 2
- (c) On the basis of Bayer Strain Theory calculate the angle strain in cyclohexane. 2

Roll No.

Total Pages : 04

GSE/D-18

788

CHEMISTRY

Paper III

Organic Chemistry Theory-I

Time : Three Hours]

[Maximum Marks : 32

Note : Attempt *Five* questions in all, selecting *two* questions from each Section. Q. No. 1 is compulsory.

1. Compulsory question *eight* parts :

- (a) Give an example of delocalised chemical bond.
 (b) Which instrument is used for measuring optical activity ?
 (c) What is the cause of geometrical isomerism ?
 (d) The presence of hetero-atom is necessary in which effect :
 (i) Inductive Effect
 (ii) Electromeric Effect
 (e) Which type of species is found during homolytic fission ?
 (f) Write the hybridisation and structure of alkyl carbocation ?
 (g) Which has higher melting point *n*-pentane or neopentane ?
 (h) What is asymmetric carbon ? Give an example.

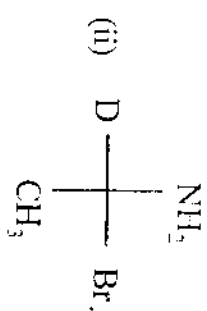
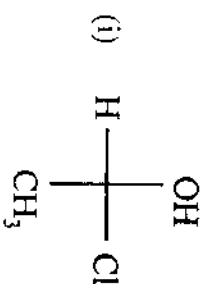
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Unit I

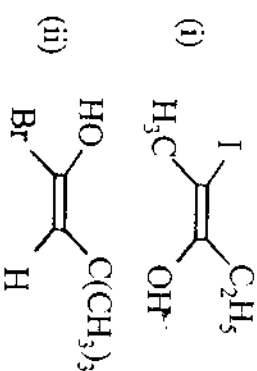
2. (a) What are van der Waals' forces ? How do they depend upon the size of molecule ? 2
- (b) Define inductive effect. Discuss its types with suitable examples. 2
- (c) Vinyl halides are less reactive towards nucleophilic substitution. Explain, why ? 2
3. (a) What is electromeric effect ? Give its types citing suitable examples. 2
- (b) Define position isomerism and give examples. 2
- (c) Draw all the hyperconjugated structures for $(\text{CH}_3)_2\text{CH}^\oplus$. 2

Unit II

4. (a) Define centre of symmetry. Give one example. 2
- (b) What are Enantiomers ? Give their properties. 2
- (c) Assign R and S configuration : 2



5. (a) Differentiate between external and internal compensation. 2
- (b) Define Walden inversion giving suitable example. 2
- (c) Assign E and Z configuration : 2



Unit III

6. (a) Explain homolytic and heterolytic fission with suitable examples. 2
- (b) Discuss the order of stability of carbocations. 2
- (c) What are unquenchable ? Give their types. 2
7. (a) Write short notes on the following : 4
- (i) Rearrangement Reaction
- (ii) Carbenes.

Roll No.

Total Pages : 02

GSE/D-18 793

BOTANY

Paper I

Diversity of Microbes

Time : Three hours]

[Maximum Marks : 40

Note : Attempt *Five* questions in all, selecting at least *two* questions from each Unit. Q. No. 1 is compulsory. Draw neat and well labelled diagrams where they are necessary.

Compulsory Question

1. Answer the following :

- | | |
|--|---------------|
| (a) Virus | (b) Symbiosis |
| (c) Akinetes | (d) Zoospore |
| (e) Saprophyte | |
| (f) Name the Alga in which synzoospores are found. | |
| (g) Why Volvox is called rolling Alga ? | |
| (h) Phycobiont. | |
- 1×8=8**

Unit I

2. (a) Describe transduction in bacteria with the help of well labelled diagrams.
- (b) Give importance of Bacteria in medicine production.

6+2=8

(2-10/13) **L-793**

P.T.O.

3. Explain the following :
 - (a) Plakea stage in Volvox
 - (b) Sexual reproduction in macrandrous species in Oedogonium. 3+5=8
4. Explain the following:
 - (a) Thallus structure in Vaucheria
 - (b) Isogamous sexual reproduction in Ectocarpus. 3+5=8
5. Write short notes on the following :
 - (a) Cystocarp of polysiphonia
 - (b) Algae as source of food and fodder. 4+4=8

Unit II

6. (a) Explain lytic cycle in a bacteriophage.
 (b) Write useful activities of viruses.
7. Explain the following :
 - (a) Asexual reproduction in phytophthora
 - (b) Heterothallism. 6+2=8
8. Write notes on the following :
 - (a) Cleistothecium
 - (b) Pycnidial stage of Puccinia. 4+4=8
9. Write short notes on the following :
 - (a) Fairy rings in Agaricus
 - (b) Edible fungi
 - (c) Positive importance of Lichens. 2+2+4=8

Roll No.

Total Pages : 03

GSE/D-18

794

BOI/VNY

Paper II

Cell-Biology

Time : Three Hours]

[Maximum Marks : 40

Note : Attempt *five* questions in all, selecting *two* questions from each Part. Q. No. 1 is compulsory. Draw neat and well labelled diagrams where they are necessary.

Compulsory Question

1. (i) What is NOK ?
- (ii) What is an amphipathic molecule ?
- (iii) Name a chromosome aberration/aberration that involves rotation of a segment.
- (iv) What is the modern term of *Alphavirus P. nardum* *luteum* ?
- (v) What is Monosomic ?
- (vi) Which organelle forms an extensive system of intercommunicating membranous sacs or channels
- (vii) What are Allosomes ?
- (viii) Who successfully produced a new plant by crossing Radish and Cabbage ?

1×8=8

Unit I

1. Describe the various branches of structure of plasma membrane. Do you think it is related to its function? 8
2. Which organelle is called a waste bag? Describe its origin and functions. 5
3. Differentiate between SER and RER. 3
4. (a) Describe the structure of prokaryotic cell and its important organelles. 5
(b) Explain the chemical nature of cell wall. 3
5. (a) With the help of diagram describe the structure of Golgi apparatus. 4
(b) Give features in favour of Mitochondrion is semi-autonomous organelle. 4

Unit II

6. What is cytokinesis division? Describe the process in animal cell with the help of diagrams. 8
7. Name the various types of chromosome alterations. Describe any two with its significance. 8

8. (a) What is Allopolyploidy? How does it develop in nature? 4
(b) Write a short note on sex determination. 4
9. (a) Describe the ultrastructure of a typical chromosomes. 5
(b) What is Heterochromatin? Differentiate between constitutive and facultative heterochromatin. 5+3

Roll No.

Total Pages : 03

GSE/D-18 795

ZOOLOGY

Paper I

**Life and Diversity from Protozoa to Porifera
and Cell Biology-I**

Time : Three Hours]

[Maximum Marks : 40

Note : Attempt / Try questions in all (I), No. 1 to 10, separately.

Attempt two questions from Section A and two from

Section B.

Compulsory Question

1. Explain the following terms :

- | | |
|-------------------------|--------------------------|
| (i) Plasmodium | (ii) Cystogenetic cycles |
| (iii) Volvulin granules | (iv) Gonozooids |
| (v) Decidua | (vi) Juvenile stages |
| (vii) Peptidyl site | (viii) Pl. partheno |
| (ix) Metagenesis | (x) Fertilisation |
- 1×10=10**

Section A

- 2. (a) Disease of porifera, distribution and disease caused by various bryozoan species of *Leishmania*. 3½**

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P.T.O.

7. (a) Give an account of sexual cycle of malarial parasite *Plasmodium* in mosquito. 4
3. (a) Describe the process of Hepatic schizogony in *Plasmodium vivax*. 3½
- (b) Give brief account on the life-cycle of *Entamoeba histolytica*. 4
4. Define canal system in sponges. Explain the canal system found in *Scyphia*. 7½
5. (a) Describe the various types of spicules found in sponges. 5
- (b) Write in brief on various types of cells found in the mesoderm of *Spongia*. 2½

Section B

6. (a) Describe in detail the ultra structure of Cilia. 4½
- (b) List various functions of Microfilaments. 3
7. (a) Describe the chemical composition and functioning of osmores. 5
- (b) Justify that arthropods act as semi-autonomous organisms. 2½

8. (a) Describe the various structural elements of endoplasmic reticulum. Also differentiate between SER and RER. 5½
- (b) Describe the role of Golgi complex in Acrosome formation. 2
9. Describe in detail the process of active transport taking place through plasma membrane. 7½

Roll No.

Total Pages : 03

GSE/D-18 796

ZOOLOGY

Paper II (B.Sc. I Semester)
Life and Diversity of Coelenterata to
Helminthes and Cell Biology-II

Time : Three Hours]

[Maximum Marks : 40

Note : Attempt *Five* questions in all. Q. No. 1 is compulsory.

Select at least *two* questions from each Sections A and

B. Draw well labelled diagrams wherever they are
necessary.

1. Compulsory question :

Answer the following in about 10 not more than 20
words :

- (i) "All coelenterates are carnivorous". Is this statement
true ?
- (ii) What is Corallite ?
- (iii) What is Polypoid ?
- (iv) What is Ctenophore ?
- (v) Define delayed Polypoid zoony.
- (vi) What are Ballooning Rings ?
- (vii) What is "force and master" hypothesis ?

- (iii) What is endometriosis ?
 (iv) What is the INM method of cancer grading ?
 (v) What are Peyer's patches . 1×10=10

Section A

2. (a) Differentiate between the various classes of Phylum Platyhelminthes. 4
 (b) Give the economic importance of Nematodes. 3½
3. Write notes on the following :
 (a) Life history of *Enterobius*
 (b) Life history of *Trichinella Spiralis*
 (c) Structure of miracidium larva. 2½×3=7½
4. (a) What is alternation of generation ? Illustrate this phenomenon from the life history of *Obelia*. 4½
 (b) Briefly explain the origin of medusa from a planostyle in *Obelia*. 3
5. Draw a well labelled diagram of :
 (a) Reproductive system of *Fasciola*. 4½
 (b) S.S. of body wall of *Fasciola*. 3

Section B

6. (a) Describe in detail the complete structure of nematosome. 4½
 (b) Discuss the types of chromosomes with regard to position of centromere. 3

L-796

2

7. Write short notes on the following :

- (a) Nuclear pores 4
- (b) Lampbrush Chromosomes. 3½

8. Differentiate :

- (a) S-phase and G₁ phase 4½
- (b) Prophase of mitosis and prophase of meiosis. 3

9. (a) Explain the various types of cancers on the basis of their (i) Spread (ii) Location (ii) Stage of growth (iv) Grade (v) Extent of disease. 4½
 (b) Draw a flowchart of *alternative pathway of complement activation*. 3

(2-11/0) L-796

3

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Unit IV

8. (a) Explain and draw the h -parameter model of a C-B Transistor. 4
- (b) Write the Hirsch-Moll equations and draw the circuit model which satisfies these equations. 4
9. Using h -parameter model of the transistor, derive the expression for :
- (a) Current Gain
- (b) Voltage Gain
- (c) Input Impedance
- (d) Output Impedance. 8

Roll No.

Total Pages : 04

GSE/D-18 799

ELECTRONIC DEVICES AND CIRCUIT-I

Paper I

Time : Three Hours]

[Maximum Marks : 40

Note : Attempt *Five* questions in all, selecting *one* question from each Unit. Q. No. 1 is compulsory.

(Compulsory Question)

1. (a) Explain Majority and Minority carriers in Semiconductors.
- (b) Explain peak inverse voltage and its importance in rectifiers.
- (c) Explain, why a transistor cannot be represented by two diodes connected back to back ?
- (d) Discuss the limitation of h -parameters. 2×4=8

Unit I

2. (a) Explain the formation of a depletion layer in a pn diode. 4

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4

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(3-48/1) L-799

P.T.O.

(b) Explain the operation of a pn diode series clipper. 4

3. (a) What is a Clamping Circuit ? Explain a clamping circuit using pn diode. 4

(b) Explain Zener breakdown and V-i characteristics of a Zener diode. 4

Unit II

4. (a) Explain the operation of a centre tapped full-wave rectifier. 4

(b) Explain the operation of a voltage multiplier circuit. 4

5. (a) Calculate the ripple factor in a full-wave rectifier. 4

(b) An a.c of 230 V is applied to a half-wave rectifier circuit through a transformer of turns ratio 20 : 1. If the formed resistance of the diode is 100 Ω and the load resistance is 900 Ω , calculate :

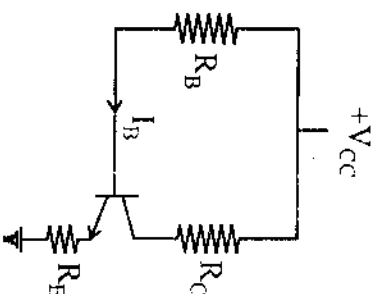
- (i) Output d.c. Voltage
- (ii) Peak Inverse Voltage. 4

Unit III

6. (a) Draw and explain the political curves a activity biased npn transistor. 4

(b) Explain Base width Modulation and its consequences. 4

7. (a) In the following circuit, find β , V_{CC} and R_B if $I_B = 20 \mu A$, $R_C = 2.7 k\Omega$, $V_{CE} = 7.3 V$, $V_E = 2.1 V$, $R_E = 0.68 k\Omega$. The transistor used is of silicon. 4



(b) Define α and β . Find :

- (i) α in terms of β
- (ii) β in terms of α . 4

Roll No.

Total Pages : 03

GSE/D-18

801

ELECTRONICS

Paper I (Theory)

Electronic Devices and Circuits-I

Time : Three Hours]

[Maximum Marks : 40

Note : Attempt *Five* questions in all, selecting *one* question from each Unit. Q. No. 1 is compulsory.

- I. (a) What do you mean by Depletion width ? Discuss the effect of impurity concentration on it. 2×4
- (b) What do you mean by Efficiency of a Rectifier circuit ?
- (c) Why the slope of output characteristic curves in CE configuration is more than that in CB configuration ?
- (d) Explain that according to h- μ model transistor behaves like current controlled current source (CCCS).

UNIT II

Define and explain the following :

- (i) Extrinsic Semiconductor
- (ii) Energy Band Diagram

2×2

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P.T.O.

- (b) Discuss the flow of current in Reverse Biased PN Junction diode using suitable circuit diagram. 4
3. (a) Discuss Voltage Regulation using Zener Diode. 4
 (b) Explain the working of Positive Reference level Clamping circuit in detail. 4

Unit II

4. (a) Discuss the working of Center Tapped FWR in detail. Also discuss its demerits. 4
 (b) Define and explain ripple factor in a Rectifier Circuit. Derive an expression for ripple Factor in L-Filter. 4
5. (a) Define and explain Peak Inverse Voltage (PIV) in HWR. 4
 (b) Explain the working of a Voltage Multiplier Circuit. 4

Unit III

6. (a) Draw Potential Curve for a transistor biased in Active Mode and discuss its working. 4
 (b) Discuss output static characteristics of CB configuration in detail. 4

7. (a) Explain early effect and discuss its consequences. 4
 (b) Define and explain : 3×2
 (i) Emitter Efficiency
 (ii) Base Transport Factor.

Unit IV

8. (a) Why is CE configuration preferred ? 2
 (b) Discuss Ebers-Moll model of Transistors. 6
9. (a) State and explain Miller's theorem. 4
 (b) Using h-model of transistor calculate the following parameters : 2×2
 (i) Input Resistance
 (ii) Current Gain.

Roll No.

Page No.

GSE/D-18

Q.M.

COMPUTER SCIENCE

Paper I

Computer and Programming Fundamentals

Time : Three Hours]

[Maximum Marks : 70

Note : Attempt *Five* questions in all, selecting *one* question from each Unit. Q. No. 1 is compulsory. All questions carry equal marks.

Compulsory Question

1. (a) (a) Why touch screen of a computer can be used both input and output device ? 2
- (b) Briefly explain random access memory (RAM) of a computer system. 1
- (c) What are semantic error (logical) in a computer program ? Give example. 2
- (d) Explain with diagram top down programming methodology. 2
- (e) What is the purpose of computer program planning ? 1

Unit I

2. (a) Explain working of ALU (arithmetic logical unit and control unit of a computer system of block diagram. 5
(b) Elaborate reasons for the popularity of a personal computer. 3
3. (a) Explain working of a magnetic tape as a secondary storage device. Write advantages and limitations of a magnetic tape. 6
(b) Write a note on cache memory. 2

Unit II

4. Differentiate :
(a) Soft copy output and Hard copy output 4
(b) Serial port and Parallel port. 4
5. (a) Explain operating system as a resource manager of a computer system. 4
(b) Elaborate entertainment and educational softwares with *one* example of each. 4

Unit III

6. (a) Give the following seven numbers (i.e., 46, 22, 78, 99, 63, 56). Develop bubble sort method for arranging these numbers in ascending order ? 5
(b) Define merging of two arrays with an example. 3

L-803

2

7. (a) What is a linker and a loader ? Why are they required ? 4

- (b) Elaborate advantages and limitations of machine language. 4

Unit IV

8. (a) What are bugs in a computer program ? Describe their types and method to diagnose these errors. 4
(b) What is software documentation ? Why do we need it ? 4

9. (a) Develop a flow chart to generate the sequence of odd numbers 1, 3, 5, 7,*n*th. 4
(b) Discuss advantages and disadvantages of flow chart as a tool for software development. 4

(2-11/13) L-803

3

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Roll No.

Total Pages : 05

GSE/D-18 804

COMPUTER SCIENCE

Paper II

PC Software

[Time : Three Hours]

[Maximum Marks : 40]

Note : Attempt *five* questions in all, selecting *one* question from each Unit. Q. No. 1 is compulsory. All questions carry equal marks.

1. Compulsory question :

- (a) Write steps to change date and time in Windows? 2
- (b) How can you convert table to text and text to Table in MS WORD ? 2
- (c) Explain Fill handle in Excel. 2
- (d) Write steps to apply word art effects on a slide. 2

Unit I

- 2. (a) Explain Recycle Bin and Documents Icons in operating system Windows. 4
- (b) Discuss various operations that can be performed with Windows Explorer. 4

3. (a) What is the purpose of Control Panel ? Using Control Panel explain : 4
 - (i) How can you change Mouse Setting ?
 - (ii) Add Remove Programs
- (b) What is Taskbar ? Explain information available on it. 4

Unit II

4. (a) What is Office Automation ? Write its functions and advantages. 4
- (b) Explain 'Spelling and Grammar Tool' 'Document Dictionary' in Microsoft Word. 4
5. (a) Discuss Page Formatting Features in MS-Word. 4
- (b) What is object linking and embedding in MS-WORD ? Explain with examples. 4

Unit III

6. (a) What is a chart ? Discuss its types. With the help of examples, write steps to create Column Chart in MS-EXCEL. 4
- (b) Explain formatting Numbers and Cells in MS-Excel. 4
7. (a) Explain with examples Advance Filter in Excel. 4
- (b) What is the purpose of Pivot Table ? Write steps to create Pivot Table. 4

L-804

2

Unit IV

8. (a) What is a Presentation ? Write steps to create and edit Presentation. 4
- (b) Discuss the concept of Layering an Object on Microsoft Power Point. 4
9. (a) Explain different views in PowerPoint. 4
- (b) Write steps to insert recorded and In-built sound effects in a presentation. 4

(2-11/15)**L-804**

3

2,800

Roll No.

Total Pages : 02

GSE/D-18

805

COMPUTER SCIENCE

Paper I

**Fundamentals of Computers
and Windows Operating System**

Time : Three Hours]

[Maximum Marks : 40

Note : Q. No. 1 is compulsory. Attempt any *four* out of Units I, II, III and IV by selecting at least *one* question from each Unit. All questions carry equal marks.

1. (a) Write 459 in BCD System.
(b) What is access time and access rate in a memory system ?
(c) What is MICR and OCR ?
(d) What are the Accessories in windows ? **2×4=8**

Unit I

2. Classify the computers in terms of size cost and speed. 8
3. (a) Convert the following hexadecimal no. into binary :
 (i) BCDE (ii) 2B3C4F
(b) Convert the following decimal no. into binary :
 (i) 221.1875 (ii) 529.23 **2×4=8**

(2-12/1) L-805

P.T.O.

Unit II

4. What are the various pointing devices ? Explain them in detail. 8
5. Write short notes on the following :
(a) Daisy Wheel Printer
(b) Dot Matrix Printer. 4×2=8

Unit III

6. What are the different types of memories ? Explain dynamic and static RAM, in detail. 8
7. Explain various data storage and retrieval methods in detail. 8

Unit IV

8. What are the features of windows operating system ? Explain. 8
9. Write short notes on the following : 2×4=8
(a) File and folders (b) Control panel
(c) Windows explorer (d) My computer.

Roll No.

Total Pages : 05

GSE/D-18

807

COMPUTER SCIENCE

Paper II

Office Automation Tools

Time : Three Hours]

[Maximum Marks : 40

Note : Q. No. I is compulsory. In addition, attempt *four* more questions, selecting *one* question from each Unit.
प्रश्न संख्या I अनिवार्य है। इसके अतिरिक्त प्रत्येक इकाई से एक प्रश्न चुनते हुए, चार प्रश्न और कीजिए।

I. Describe the following in short :

8

- | | |
|------------------|------------------------|
| (a) Presentation | (b) Handouts |
| (c) Active cell | (d) Data validation |
| (e) Workbook | (f) Formulas in Excel. |

निम्नलिखित का संक्षेप में वर्णन कीजिए :

- | | |
|----------------|---------------------|
| (अ) प्रस्तुति | (ब) हैंड-आउट्स |
| (स) एक्टिव सेल | (द) डाटा वैलीडेशन |
| (इ) वर्कबुक | (फ) एक्सल के सूत्र। |

Unit I (इकाई I)

2. Distinguish between :

4×2=8

- (a) Slide sorter view and slide view
- (b) Copy and move.

निम्नलिखित में अन्तर बताइये :

- (अ) स्लाइड शॉर्टर व्यू और स्लाइड व्यू
- (ब) कॉपी और मूव ।

3. (a) Is it possible to add a sound in a slide ? If yes, state steps for this.

क्या एक स्लाइड में साउण्ड डालना सम्भव है ? यदि हाँ, तो इसके लिए चरणों का वर्णन कीजिए ।

- (b) Briefly discuss features of Outlook Express. 4×2=8
- आउटलुक एक्सप्रेस की विशेषताओं का संक्षेप में वर्णन कीजिए ।

Unit II (इकाई II)

4. Briefly discuss the following features in MS-Word : 2+3+3=8

- (a) Autotext
- (b) Header and Footer
- (c) Thesaurus.

L-807

2

एम.एस. वर्ड में सम्बन्धित निम्नलिखित की संक्षेप में व्याख्या कीजिए :

- (अ) ऑटोटेक्स्ट
- (ब) हेडर एवं फुटर
- (स) थिसॉरस ।

5. (a) What do you mean by mail merge features of MS-Word ? Discuss.

एम.एस.-वर्ड के मेल मर्ज फीचर में आप क्या समझते हैं ? वर्णन कीजिए ।

- (b) Write steps to apply spellcheck feature in MS-Word. Briefly describe various options available with it.

एम.एस.-वर्ड में स्पेलचेक फीचर को लागू करने के विभिन्न चरणों को लिखिए । इसके उपलब्ध विभिन्न विकल्पों को भी व्याख्या कीजिए ।

4×2=8

Unit III (इकाई III)

6. Briefly describe the following features of MS-Excel :

- (a) Sorting Data
- (b) Rotating Text

4×2=8

Write steps to apply each of these.

(3-10/114)L-807

3

P.T.O.

एम.एस.-एक्सल के निम्नलिखित फीचर्स का संक्षेप में वर्णन कीजिए :

- (अ) सीटिंग चार्ट
- (ब) टैबल को दिशा बदलना
- प्रत्येक के चरणों को भी लिखिए ।

7. Write steps to apply the following in MS-Excel : $2+3+3=8$

- (a) Renaming a worksheet
- (b) Finding and replacing data
- (c) Filling series data.

एम.एस.-एक्सल में निम्नलिखित को लागू करने के विभिन्न चरण लिखिए :

- (अ) वर्कशीट का नाम बदलना
- (ब) डाटा को ढूँढना और रिप्लेस करना
- (स) सीरिज डाटा को भरना ।

Unit IV (इकाई IV)

8. (a) What do you mean by macros in Excel ? Write steps to record a macro.

एक्सल में मैक्रो से आप क्या समझते हैं ? एक मैक्रो को रिकॉर्ड करने के विभिन्न चरणों को लिखिए ।

(b) Briefly discuss "What-if-analysis" feature in Excel.

एक्सल के "वाट-इफ-एनालाइसिस" फीचर की संक्षेप में व्याख्या कीजिए । $4 \times 2 = 8$

9. State purpose and general form of the following functions in Excel : $2+3+3=8$

- (a) Average
- (b) Count
- (c) Date

(Give suitable example of each)

एक्सल के निम्नलिखित फंक्शन के कार्य और सामान्य प्रारूप का

वर्णन कीजिए :

- (अ) एवरेज
- (ब) काउन्ट
- (स) डेट

प्रत्येक का उपयुक्त उदाहरण दीजिए ।

Roll No.

Total Pages : 02

GSE/D-18

813

BIOTECHNOLOGY

Paper I

Introduction to Biotechnology

Time : Three Hours]

[Maximum Marks : 40

Note : Attempt *Five* questions in all, selecting at least *two* questions from each Unit. Q. No. **1** is compulsory.

1. (a) Write brief notes on the following : **1×7=7**

- (i) Callus
- (ii) Biopesticides
- (iii) Monoclonal Antibodies
- (iv) Phyto remediation
- (v) Cryopreservation
- (vi) Expand TRIPs
- (vii) Vector.
- (b) Who is commonly known as "Father of DNA finger printing ? **1**

Unit I

2. Explain the following briefly :

- (a) Proteomics **4**
- (b) Fermentation Technology. **4**

(3-11/9) L-813

P.T.O.

3. What is Animal Cell Culture ? Discuss its benefits and limitations. 8

4. (a) What are the salient features of an ideal vector ? 4

(b) Discuss one gene our enzyme hypothesis. 4

Unit II

5. (a) How can Biotechnology improve the human health life ? 4

(b) Discuss the role of biotechnology in veterinary science. 4

6. Write short notes on the following :

(a) Patent 4

(b) Plant Breeder's rights. 4

7. Give brief answers of the following :

(a) Role of Biotechnology in economic growth of developing countries. 4

(b) Applications of Biotechnology in chemical Industry. 4

Roll No.

Total Pages : 03

GSE/D-18 814

BIOTECHNOLOGY

Paper II (Group II)

Biochemistry-I

Time : Three Hours]

[Maximum Marks : 40

Note : Attempt *Five* questions in all, selecting *two* questions from each Unit. Q. No. **I** is compulsory. All questions carry equal marks.

(Compulsory Question)

1. (a) What are reducing sugars ? Name any *one*.
- (b) Name any *two* biologically important sugar derivatives.
- (c) What is pKa value ?
- (d) Write the names of any *two* non-polar amino acids.
- (e) Differentiate between nucleoside and nucleotide.
- (f) Define iodine number.
- (g) What is T_m ? Does it depended on the base type of DNA ?
- (h) What is Rancidity ?

1×8=8

Unit I

2. (a) Write the furanose and pyranose forms of glucose. 3
- (b) What are Anomers ? Explain with example. 2
- (c) Write the structure and functions of sucrose. 3
6. (a) Describe Edmann's degradation method for determination of amino acid sequence. 4
- (b) Describe the structure and functions of cholesterol. 4
7. Describe Watson and Crick's double helical structure of DNA. Write the differences between A, B and Z forms of DNA double helix. 8

3. Write the structure and functions of any two of the following : 4×2=8

- (a) Hyaluronic acid
- (b) Chitin
- (c) Glycogen.

4. (a) Describe the nature and characteristics of a peptide bond. 3
- (b) Classify amino acids based on their structure. 5

Unit II

5. Draw and describe the structures of Hemoglobin and myoglobin. Discuss their structural organization. 8

3/2/3
Date: 18
Page: 1

Roll No.
Printed Pages : 3

GSE / D-18

1149

HYGIENE AND PROMOTIVE HEALTH Paper—Course No.-102

Time allowed : 3 hours]

[Maximum marks : 40

Note :- Question No. 1 is Compulsory. Attempt total five questions, selecting at least one question from each section unit. All questions carry equal marks.

नोट :- प्रश्न संख्या-1 अनिवार्य है। कुल पाँच प्रश्न करें। प्रत्येक इकाई में से कम से कम एक प्रश्न चुनते हुए। सभी प्रश्नों के अंक समान हैं।

Compulsory Question (अनिवार्य प्रश्न)

1. Define and explain any *eight* of the following:

निम्नलिखित में से किसी आठ को परिभाषित करें तथा व्याख्या करें:

- (a) Hygiene
स्वास्थ्य विज्ञान
- (b) Physical health
शारीरिक स्वास्थ्य
- (c) Exercise
व्यायाम
- (d) Incubation period
उद्भव काल
- (e) Vaccination
टीकाकरण
- (f) Positive health
सकारात्मक स्वास्थ्य

1149

[Turn over

(2)

- (g) Sanitation
सफाई
- (h) Infection
संक्रमण
- (i) National Health Programmes
राष्ट्रीय स्वास्थ्य प्रोग्राम
- (j) Periodic health check up
आवधिक स्वास्थ्य जांच

Unit-I (इकाई-I)

2. How the disease hepatitis is spread? Give its symptoms, mode of spread, prevention and treatment.
हैपेटाइटिस रोग किस प्रकार फैलता है? इसके लक्षण, फैलने का ढंग, रोकथाम एवं उपचार का व्योता दें।
3. Explain any two of the following:
निम्नलिखित में से किन्हीं दो की व्याख्या करें:
 - (a) Cholera
हैजा
 - (b) Diarrhoea
दस्त
 - (c) Dengue
डेंगू
4. What are the various causes, symptoms, mode of spread, treatment and prevention of malaria disease?

1149

(3)

मलेरिया रोग के फैलने के विभिन्न कारण, लक्षण, फैलने के ढंग, उपचार एवं रोकथाम क्या-क्या है?

5. Describe in detail causes, symptoms, mode of spread, treatment and prevention of the disease leprosy.
कुष्ठ रोग के फैलने के कारण, लक्षण, ढंग, उपचार एवं रोकथाम का विस्तृत वर्णन करें।

Unit-II (इकाई-II)

6. Define immunity. What are the various types of immunity? Also give vaccination schedule.
रोग प्रतिरोधक क्षमता को परिभाषित करें। रोग प्रतिरोधक क्षमता किन्तु प्रकाश की होती है। प्रतिरक्षण सूची भी बनाएँ।
7. Write short notes on the following:
निम्नलिखित पर टिप्पणी करें:
 - (a) School hygiene
स्कूल में स्वास्थ्य विज्ञान
 - (b) WHO
डब्ल्यू एच ओ
8. How will you maintain good mental and physical health?
अच्छे मानसिक शारीरिक एवं स्वास्थ्य का आवलम्बन किस प्रकार करेंगे?
9. Explain in detail Malaria and Leprosy Eradication programmes.
मलेरिया एवं कुष्ठरोग उन्मूलन प्रोग्रामों की विस्तृत जानकारी दीजिए।

1149

GSE / D-18

INTRODUCTION TO TEXTILES

Paper – Course No.- 103

Time allowed : 3 hours]

[Maximum marks : 40

Note :- Attempt five questions in all, selecting two questions from each unit as well as compulsory question.

नोट :- अनिवार्य प्रश्न के साथ प्रत्येक इकाई से दो प्रश्नों का चयन करते हुए, कुल पाँच प्रश्नों के उत्तर दीजिए।

Compulsory Question (अनिवार्य प्रश्न)

1. Write short note on the following:

4×2=8

निम्न पर संक्षिप्त टिप्पणी लिखिए:

- (a) Polyester
पोलीएस्टर
- (b) Sericulture
सेरीकल्चर
- (c) Filament
लम्बे तन्तु
- (d) Weave
बुनाई

Unit-I (इकाई-I)

2. Discuss the characteristics of one synthetic fiber of your choice. 8
अपनी पसन्द के किसी भी एक कृत्रिम रेशे के गुणों की व्याख्या करें।

(2)

3. Discuss the manufacturing process of silk fiber. 8
रेशम के रेशे की उत्पन्न विधि की व्याख्या करें।

4. Write down in detail the properties of cotton fiber. 8
कपास के रेशे के गुणों को विस्तार से लिखें।

5. How the natural plant fibers are important to consumer? 8
ग्राहकों के लिए प्राकृतिक वनस्पतिक रेशे कैसे महत्वपूर्ण हैं?

Unit-II (इकाई-II)

6. What do you mean by twisting of yarn? Why it is done? 8
घागे को घुमाने से क्या अभिप्राय है? यह क्यों किया जाता है?

7. Explain twill weave and its types. 8
टिविल बुनाई तथा इसके प्रकारों की व्याख्या करें।

8. Discuss any four types of knits. 8
किन्हीं 4 बुनाईयों के प्रकारों का विवेचन करें।

9. Write down in detail about knotting and felting. 8
नोटिंग तथा फेल्टिंग के बारे में विस्तार से लिखें।

Roll No.
Printed Pages : 3

GSE / D-18

1152

INTRODUCTORY CHEMISTRY

Paper—Course No. 105

Time allowed : 3 hours]

[Maximum marks : 40

Note :- Attempt five questions in all, selecting two question from each unit. Question No. 1 is Compulsory.

नोट :- प्रत्येक इकाई से दो-दो प्रश्न चुनते हुए कुल पाँच प्रश्न कीजिए। प्रश्न संख्या-1 अनिवार्य है।

Compulsory Question (अनिवार्य प्रश्न)

1. (a) Define Mole.
मोल की परिभाषा लिखिए। 2
- (b) What is electron affinity?
इलेक्ट्रॉन एफिनिटी क्या होती है? 2
- (c) Write general formula for Alkanes.
एलकेन्स का सामान्य सूत्र लिखिए। 2
- (d) Write any two differences between perfume and deodorants.
परफ्यूम और डिफेडोरेट्स में दो अंतर लिखिए। 2

Unit-I (इकाई-1)

2. (a) Differentiate Mixture and Compound.
मिश्रण और यौगिक में अंतर लिखिए। 4
- (b) Calculate Molarity and Normality of one litre solution which contain 4.0 grms of NaOH.
एक लीटर घोल की मोलरिटी और नॉर्मलिटी ज्ञात कीजिए, जिसमें 4.0 ग्राम NaOH घिलाया गया हो। 4

1152

[Turn over

(2)

3. (a) How many number of electrons, protons and neutrons are present in O atom? 3
'O' परमाणु के इलेक्ट्रॉन, प्रोटॉन और न्यूट्रॉनों की संख्या किन्तनी है?
- (b) Write a note on Bohr's Model. 3
बोर मॉडल पर एक टिप्पणी लिखिए।
- (c) Differentiate atomic number and atomic weight. 2
परमाणु संख्या और परमाणु भार में अंतर लिखिए।
4. (a) What is the base of Modern Periodic table? 2
मॉडर्न पीरियॉडिक टेबल का आधार क्या है?
- (b) Write electronic configuration of following. 6
निम्नलिखित का इलेक्ट्रॉनिक विन्यास लिखिए-
- (i) Na (ii) N (iii) Cl 6
5. (a) Define following with suitable example. 6
(i) Co-ordinate bond (ii) H-bond
निम्नलिखित को उदाहरण सहित परिभाषित कीजिए।
- (i) को-ऑर्डिनेट बॉन्ड (ii) हाइड्रोजन-बॉन्ड
- (b) What is the pH of 10^{-3} M HCl solution? 2
 10^{-3} मोलर HCl घोल का pH क्या है?

Unit-II (इकाई-II)

6. (a) How many bonds are present in C-C in following: 5
निम्नलिखित में C-C के बीच में बाँड़स की संख्या लिखिए:-
- (i) C_2H_6 (ii) C_2H_2 (iii) CH_3CHO (iv) CH_3COCH_3
- (b) Write IUPAC name of following: 3
निम्नलिखित के IUPAC नाम लिखिए:-
- (i) $CH_3CH_2CH_2COOH$ (ii) CH_3CH_2OH

1152

(3)

7. (a) Classify the following as 1° , 2° or 3° Carbon (*) atom in given examples: 4
निम्नलिखित उदाहरणों में कार्बन (*) को 1° , 2° या 3° के रूप में लिखिए:-
- $$\begin{array}{c} H & H \\ | & | \\ CH_3 - C - C - H \\ | & | \\ H & H \end{array}$$

$$\begin{array}{c} H & H \\ | & | \\ H - C - C - H \\ | & | \\ H & H \end{array}$$
- (i) (ii)
- (b) Explain tetravalency and catenation property. 4
टेट्रिवैलेंसी और कैटेनेशन को विस्तार में लिखिए।
8. (a) Write Note on PVC. 4
PVC पर टिप्पणी लिखिए-
- (b) Write disadvantages of soaps. 4
साबुन के हानिकारक प्रभाव लिखिए।
9. (a) Differentiate Nail-Polish and lipsticks. 4
नाखून-पॉलिश और लिपस्टिक में अंतर लिखिए।
- (b) Write the Composition and uses of paints. 4
पेंट्स के घटक और उपयोग बताइये।

1152

GSE / D-18

INTRODUCTION TO HUMAN DEVELOPMENT

Paper—Course No.-106

Time allowed : 3 hours

[Maximum marks : 40]

Note :- Attempt five questions in all, selecting two questions from each unit. Question No. 9 is Compulsory.

नोट :- प्रत्येक इकाई से दो प्रश्न चुनते हुए, कुल पाँच प्रश्न कीजिए। प्रश्न संख्या-9 अनिवार्य है।

Unit-I (इकाई-I)

1. How concept of growth is different from development? 8
वृद्धि की अवधारणा विकास से किस प्रकार भिन्न है?
2. Write short notes on:
संक्षिप्त टिप्पणियाँ लिखें:
(i) Human Development 4
मानव विकास
(ii) Areas of development 4
विकास के क्षेत्र
3. Write down the stages given by Sigmund Freud. 8
सिगमंड फ्रायड द्वारा दी गई अवस्थाओं के विषय में लिखिए।
4. What is the importance and scope of Human Development? 8
मानव विकास का महत्त्व एवं विषय-क्षेत्र क्या है?

Unit-II (इकाई-II)

5. Write short notes on:
संक्षिप्त टिप्पणियाँ लिखें:

1153

[Turn over

- (i) Questionnaire method 4
प्रश्नावली विधि
- (ii) Longitudinal method 4
दीर्घकालीन विधि

6. Describe Primary and Secondary sex characteristics among adolescents. 8
किशोरों में मूल एवं द्वितीयक यौन विशेषताओं का वर्णन करें।

7. Write in detail about any four principles of development. 8
विकास के किन्हीं चार सिद्धान्तों के बारे में लिखें।

8. Write an essay on language development in children. 8
बालकों में भाषा विकास पर एक निबंध लिखें।

Compulsory Question (अनिवार्य प्रश्न)

9. Answer briefly (any four): 4×2=8
किन्हीं चार का संक्षिप्त उत्तर दीजिए:

- (i) Physical growth cycle. 4
शारीरिक वृद्धि चक्र
- (ii) Development is predictable 4
विकास के सम्बन्ध में भविष्यवाणी की जा सकती है।
- (iii) Effect on heredity on development 4
वंशानुक्रम का विकास पर प्रभाव
- (iv) Handedness 4
बाएं या दायें हाथ से कार्य करने की प्रवृत्ति
- (v) Social development during early childhood 4
प्रारम्भिक बाल्यावस्था में सामाजिक विकास

1153

BCA / D-18

COMPUTER AND PROGRAMMING FUNDAMENTALS

Paper-BCA-III

Time allowed : 3 hours]

[Maximum marks : 80

Note : Attempt five questions in all, selecting at least one question from each unit. Question No. 1 is compulsory.

Compulsory Question

1. (a) What do you mean by ALU? 2
- (b) What is the purpose of Primary Memory? 2
- (c) Define Hardware. 2
- (d) Define an Operating System. 2
- (e) What do you mean by WORM? 2
- (f) Define Input Devices with the help of suitable examples. 2
- (g) What is Sorting? 2
- (h) What do you mean by an Algorithm? 2

Unit-I

2. Explain Computer and its component with the help of a block diagram. 16
3. Explain RAM in detail. 16

[Turn over

(2)

Unit-II

- 4. (a) What do you mean by Software ? 4
- (b) Discuss the different types of Software. 12
- 5. Explain Time Sharing and Real Time Operating Systems. 8,8

Unit-III

- 6. (a) Define Debugging. 4
- (b) Explain the different types of errors in a program. 12
- 7. (a) What do you mean by a flow-chart ? 4
- (b) Draw a flow-chart to find the average marks of N students in a class. 12

Unit-IV

- 8. Write down the Algorithm for Insertion Sort. 16
- 9. (a) What do you mean by a Computer language ? 4
- (b) Explain the different types of Computer languages. 12

BCA / D-18

WINDOWS AND PC SOFTWARE

Paper-BCA-112

Time allowed : 3 hours

[Maximum marks : 80]

Note : *Attempt five questions in all, selecting at least one question from each unit. Question no. 1 is compulsory.*

All questions carry equal marks.

1. (a) Explain Taskbar and Start Menu. 4
- (b) Explain character Map & Web Camera. 4
- (c) Border & Shading in Excel worksheet. 4
- (d) Explain creating and using Macro in worksheet. 4

Unit-I

2. Explain what is Windows operating system. Also explain its various features. 16
3. Explain what is Windows Explorer and its facilities. 16

Unit-II

4. Explain how to manage Hardware and Software on windows operating system. 16
5. Explain control panel and its components. 16

Unit-III

6. Explain the concept of workbook and worksheet with example. 16

(2)

7. Explain how to use Wizard in Excel worksheet. Also explain how to insert, remove and resize the columns and rows. 16

Unit-IV

8. Explain the concept of cell referring, absolute and relative addressing. Also explain various type of functions in a worksheet. 16
9. Explain how to create database. Also explain how to sort, filter and query a database.

9. (a) Solve the differential equation

$$(x^2 D^2 - 3xD + 4) y = x^m.$$

8

- (b) Solve the differential equation

8

$$(3x + 2)^2 \frac{d^2 y}{dx^2} + 3(3x + 2) \frac{dy}{dx} - 36y = 3x^2 + 4x + 1$$

Roll No.
Printed Pages : 4

BCA / D-18

MATHEMATICAL FOUNDATION-I

Paper-BCA-113

Time allowed : 3 hours]

[Maximum marks : 80

Note : Attempt five questions in all, selecting at least one question from each unit. Question no 1 is compulsory.

1. (a) If $A = \{a, b, c, d\}$, $B = \{b, d, e, f\}$ and $C = \{c, d, g, h\}$ write $(A \cup B)$ and $(B \cap C)$. 4
- (b) Prove that $2n \lfloor \frac{n-1}{2} \rfloor = 2n \lfloor \frac{2n-1}{2} \rfloor$. 3
- (c) Evaluate : $\lim_{x \rightarrow 0} \frac{1 - \cos x}{\sin^2 x}$ 3
- (d) Differentiate $\sin^3 x$ w.r.t. $\cos^3 x$. 3
- (e) Find the order and degree of the following differential equation. 3

$$y = x \frac{dy}{dx} + k \sqrt{1 + \left(\frac{dy}{dx} \right)^2}$$

Section-I

2. (a) In a recent survey of 5000 people, it was found that 2800 read Indian Express and 2300 read 'The Tribune', while 400 read both the papers.
 - (i) How many read neither Indian Express nor Tribune? 8
 - (ii) How many read Tribune only? 8

(2)

(b) If R is relation from N to N defined by (a, b) R (c, d) if and only if $ad = bc$ then show that R is an equivalence relation. 8

3. (a) Find the value of n such that :

$${}^nP_5 = 42 \cdot {}^nP_3, \quad n > 4$$

8

(b) From a class of 12 boys and 10 girls, 10 students are to be chosen for a competition including atleast 4 boys and 4 girls. The two girls who won the prizes last year should be included. In how many ways can the selection be made? 8

Section-2

4. (a) Using definition, prove that :

If $\lim_{x \rightarrow a} \cos x = \cos a$ where $a \in \mathbb{R}$.

8

(b) If $x\sqrt{1+y} + y\sqrt{1+x} = 0$ show that

$$\frac{dy}{dx} = -\frac{1}{(1+x)^2}$$

8

5. (a) If $x^p y^q = (x+y)^{p+q}$; prove that

$$\frac{dy}{dx} = \frac{y}{x}$$

8

(b) If $y = \sin(m \sin^{-1}x)$; prove that

$$(1-x^2)Y_2 - xY_1 + m^2Y = 0$$

8

Section-3

6. (a) Prove that $y = A \cos x + B \sin x$ is a solution of the

$$\text{differential equation } \frac{d^2y}{dx^2} + y = 0$$

8

(b) Solve the differential equation

$$(1+y^2) dx = (\tan^{-1}y - x) dy.$$

8

7. (a) Solve the differential equation

$$(1+e^{xy}) dx + e^{xy} \left(1 - \frac{x}{y} \right) dy = 0$$

8

(b) Solve the differential equation

$$(x^4 - 2xy^2 + y^4) dx - (2x^2y - 4xy^3 + \sin y) dy = 0$$

8

Section-4

8. (a) Solve the differential equation

$$\frac{d^2y}{dx^2} + \frac{dy}{dx} + y = \sin 2x$$

8

(b) Solve the differential equation

$$\frac{d^2y}{dx^2} + 4y = x \sin x$$

8

1219

1219

[Turn over

BCA / D-18
LOGICAL ORG.
Paper-BCA-114

Logical Organisation of Computer-I

Time allowed : 3 hours]

[Maximum marks : 80

Note : Attempt five questions. Select one from each unit.
Question No. 1 is compulsory.

1. (a) Make T.T. for self complementing code. 2
- (b) Prove that NOR is universal gate. 2
- (c) State Duality Principle. 2
- (d) What is parity bit ? Define odd and even parity. 2
- (e) Prove using Induction (T.T.) $a \oplus (b \oplus c) = (a \oplus b) \oplus c$. 4
- (f) Draw and label 3 variable K – map. 4

Unit-I

2. Perform conversions as :

(a) (i) $(17.3)_{10} \rightarrow ()_2$ 2

$\rightarrow ()_{16}$ 2

(ii) $(X)_5 = (234)_{10}$

- (iii) A register stores High, low, low, High. Find number in Decimal, Octal, Binary and Hexadecimal. 4
- (b) Write note on Cyclic and 8421 code. 4
- (c) Make Half Adder for adding Two numbers. 4

(2)

3. (a) Explain floating point representation. 10
(b) Solve using 2's Complement : 6

$$\begin{array}{r} -9 \\ -7 \end{array} \quad \begin{array}{r} -32 \\ +10 \end{array} \quad \begin{array}{r} -6 \\ -9 \end{array}$$

Unit-II

4. (a) Define Boolean algebra, its postulates, how it differs from ordinary algebra. 8
(b) Solve using Boolean Algebra. 8
(i) $(a + b)(ac + c)(\bar{b} + ac) = \bar{a}bc$
(ii) $ab + bc + ca$
5. (a) Draw and label 4 variable K-Map. 4
(b) Solve using K-Map. 4
 $z = \pi \ 0, 2, 4, 6$

$$z = \sum 0, 1, 9, 10, 11 + \sum_{\phi} 2, 3, 8, 12 \quad 8$$

- (c) Solve using T.T. 4
 $\overline{a + b + c} = \bar{a} \cdot \bar{b} \cdot \bar{c}$

Unit-III

6. (a) Make T.T. and explain : 6
NAND, XOR, NOT
(b) Make T.T. for 3 variables and explain : 6
OR, AND, NOR
(c) Make circuit diagram : 4
 $ab(\bar{c}d + c\bar{d}) + \overline{a + b + c}$

1220

(3)

7. What is combinational logic ? Explain analysis and design procedures. 16

Unit-IV

8. (a) Make 4 to 10 Line Decoder 16
(b) Make code convertor from 8421 to cyclic.
9. (a) Design Comparator for 2 bits 16
(b) Make full-adder

1220

(6)

2005 ? What is the procedure to seek information from the PIO's under RTI Act ? 16

10. Explain the Definition, meaning and scope of the Right to Information Act-2005. What sort of information can not be disclosed under the Act ? 16

Roll No.

Printed Pages : 6

BCA / D-18

COMMUNICATIVE ENGLISH

Paper-BCA-115

Time allowed : 3 hours]

[Maximum marks : 80

Note : Attempt five questions in all selecting one question from each unit. All questions carry equal marks.

Unit-I

1. 'Ranjit's Wonderful Bar' is a beautiful short-story with a powerful moral lesson. Discuss. 16

or

What, according to Narayan, are the blackspots of our system of education ? 16

2. (a) Who was major ? Why had he convened the meeting of the animals ?

or

What was the Vicar's opinion about Foreman's work and conduct ? 4

(b) What did MacIntosh advise Rory to do in the court ?

or

Who was Holtz ? What type of man was he ? 3

(c) What type of life had Petrov lived ?

or

Give a brief description of old Bapu's physical appearance. 3

1221

1221

1221

[Turn over

(2)

(d) Why did Gandiji once lose his temper ? 3

or

Who was Jowen ? What does Robert Lynd tell us about him ? 3

(v) What was Grigory Petrov's wife suffering from ? 3

or

What is Narayan's opinion about the prevailing system of examinations ? 3

Unit-II

3. Read the passage given below and answers the questions that follow:

Forty years ago, he remembered, matryona had been young, beautiful, gay. She had come from a well-to-do family. They had married her to him because they had been impressed by the fact that he was a good craftsman. Everything pointed to a happy life, but the trouble was that, having flung himself dead drunk on the stove after the wedding, he had not seemed able to wake up properly.

- (a) Name the story and its writer. 4
- (b) What did Matryona look like forty years ago ? 3
- (c) What trait of Petrov had impressed her parents ? 3
- (d) How did Petrov waste forty years of his life ? 3
- (e) What did Petrov remember ? What did he not ? 3

1221

(3)

4. Write notes on the following:

- (a) Composing a text message 5
- (b) Pre-requisites of a FAX message 5
- (c) Procedure of sending e-mail 6

Unit-III

5. Attempt any sixteen sentences. Do as directed.

- (a) Insert suitable Articles in the blank spaces in the following sentences (if required)
 - (i) The proposal was accepted by _____ unanimous vote.
 - (ii) Shreya thanked me for _____ present I gave her.
 - (iii) He will be back in less than _____ hour.
- (b) Use correct prepositions:
 - (i) Sonu prefers coffee _____ tea.
 - (ii) Man does not live _____ bread alone.
 - (iii) The secret _____ success lies hard work.
- (c) Fill in the blanks with correct form of verbs:
 - (i) It _____ (rain) heavily since morning.
 - (ii) Who _____ (invent) the electric bulb ?
 - (iii) The tallest of the three boys _____ (live) next door to me.

1221

[Turn over

(4)

- (d) Change the voice:
- (i) Rose smells sweet.
 - (ii) Always speak the truth.
 - (iii) Manvi has drawn this picture.
- (e) Tag questions:
- (i) I can solve this sum.
 - (ii) It is very cold today.
 - (iii) They are revising the lesson.
- (f) Change the Narration:
- (i) The teacher said to his pupils, "Always respect the sentiments of others".
 - (ii) He said to his friend, "Will you help me in the hour of need?"
 - (iii) He said, "I like swimming".
- (g) Insert comparative or superlative degree of the words given in the brackets:
- (i) An aeroplane can travel _____ (fast) than a train.
 - (ii) I feel much _____ (well) today I did yesterday.
 - (iii) She is the _____ (interesting) person I have ever met.
 - (iv) He is the _____ (rich) person in the village.
 - (v) Who is the _____ (tall) pupil in your class?

16

(5)

6. Write a paragraph of about 150 words on any one of the following topics:
- 1. The status of women
 - (b) Internet- A Modern Day Asset
 - (c) Value of Games
 - (d) Pleasures of Reading Books
 - (e) God helps Those who help themselves

Unit-IV

7. Write a letter to the Deputy Commissioner of your district requesting him to open a dispensary in your village.

or

Write an application for the post of a computer operator in a privately managed post-graduate college. 16

8. Develop one dialogue-based paragraph of about 200 words on the situation given below: 16

Opening a Bank Account

or

Buying vegetables

or

Consulting a Doctor

Unit-V

9. What sort of information can be provided by the Public Information officers as per the provisions of the RTI Act,

[Turn over

BCA / D-18
PROGRAMMING IN C
Paper-BCA-116

Time allowed : 3 hours [Maximum marks : 80]

Note : Attempt five questions in all. Question no. 1 is compulsory. Attempt four questions, selecting one question from each unit.

1. Fill in the blank: 8×2=16

- (a) C is designed by _____.
- (b) scanf() is used for _____.
- (c) goto is used for _____.
- (d) ELSE-IF is used for _____.
- (e) break is used for _____.
- (f) while is used for _____.
- (g) register is used for _____.
- (h) static is used for _____.

Unit-I

2. What is C ? Explain the structure of a C program. 16

or

3. Explain the following with example. 4×4 =16

- (a) constant
- (b) printf()
- (c) gets()
- (d) puts()

4. What is Arithmetic expression in C ? Explain the evaluation of arithmetic expression with reference to operator hierarchy and associativity. 16

or

5. Explain the following decision making constructs: 4×4=16

- (a) IF
- (b) IF ELSE
- (c) ELSE-IF
- (d) SWITCH

Unit-III

6. What is the concept of Decision making and looping in C ? Explain the difference between break and continue with examples. 16

or

7. What is recursion ? Explain with example how recursion is different from looping constructs in C. 16

Unit-IV

8. Explain array initialization and processing with example. 16

or

9. What is String ? Explain how string is implemented in C language. 16

BSc AI -18
Roll No. 1111111111

12659

Printed Pages : 3

BSIT / D-18

**MATHEMATICAL FOUNDATIONS FOR
INFORMATION TECHNOLOGY-I**

Paper-BSIT-102

Time allowed : 3 hours] [Maximum marks : 40

Note : Attempt five questions in all, selecting one question from each unit. Question No. 1 is compulsory. All questions carry equal marks.

(Compulsory Question)

1. (a) Find the rank of the matrix

$$A = \begin{bmatrix} 1 & 2 & 3 \\ 3 & 2 & 1 \\ 1 & 1 & 1 \end{bmatrix}$$

2

- (b) Solve the differential equation

$$\log \left(\frac{dy}{dx} \right) = 3x + 4y$$

given that $y = 0$ when $x = 0$

2

- (c) Define binary relation

2

- (d) Prove that relation of divisibility is not a partial order relation on Z (set of integers)

2

Unit-I

2. (a) Express the Matrix

$$A = \begin{bmatrix} 1 & 2 & -1 \\ 2 & 5 & -2 \\ 1 & 2 & 1 \end{bmatrix}$$

as the product of elementary matrices..

4

12659

Turn over

(2)

- (b) Find the eigen vectors of the matrix

$$A = \begin{bmatrix} 1 & 0 & 2 \\ 0 & 2 & 1 \\ 2 & 0 & 1 \end{bmatrix}$$

4

3. (a) Prove that the matrix

$$A = \begin{bmatrix} 0 & 0 & 1 \\ 3 & 1 & 0 \\ -2 & 1 & 4 \end{bmatrix}$$

satisfies its characteristic equation

4

- (b) Diagonalize, if possible, the matrix

$$\begin{bmatrix} 1 & 2 \\ 3 & 2 \end{bmatrix}$$

4

Unit-II

4. (a) Find the differential equation of the family of curves

 $(x - h)^2 + (y - k)^2 = a^2$, where h and k are arbitrary constants.

4

- (b) Solve the differential equation

$$x \frac{dy}{dx} + y = y^2 \log x$$

4

5. (a) Solve the differential equation

$$(3x^2y^4 + 2xy) dx + (2x^3y^3 - x^2) dy = 0$$

4

- (b) Solve the differential equation

$$x^3 \frac{d^3y}{dx^3} + 2x^2 \frac{d^2y}{dx^2} + 2y = 10 \left(x + \frac{1}{x} \right)$$

4

12659

(3)

Unit-III

6. (a) Prove that:

$$(A - B) \cup (B - A) = (A \cup B) - (A \cap B)$$

4

- (b) Using principle of Mathematical Induction

Prove that:

$$n(n+1)(2n+1) \text{ is divisible by } 6 \text{ for all } n \in \mathbb{N}$$

4

7. (a)

In a recent survey of 5000 people, it was found that 2800 read Indian Express and 2300 read "The Tribune", while 400 read both the papers. Find how many read neither Indian Express nor 'Tribune'?

4

- (b) Let
- R
- be relation in the set of natural numbers defined by

$x R y$ if and only if $5x^2 - 6xy + y^2 = 0$ Show that R is reflexive but not symmetric.

4

Unit-IV

8. (a)

If R is an equivalence relation on the set A , show that R^{-1} is also our equivalence relation on A

4

- (b) Prove that
- $p \wedge (\sim p \vee \sim q)$
- is neither a tautology nor a contradiction.

4

9. (a)

Find the minimum number of person selected so that at least eight of them will have birthdays on the same day of the week.

4

- (b) Let
- $f: \mathbb{R} \rightarrow \mathbb{R}$
- be a function defined by

$$f(x) = \frac{2x+1}{3},$$

Prove that f is bijective

4

12659

(4)

- (b) On what CORONA LOSS in a transmission line is dependent ? 1
- (c) Write down reactance properties of transmission lines ? 3
- (d) Write down necessary condition for diffraction of wave to take place ? 2

Roll No.

Printed Pages : 4

12660

BSIT / D-18

FUNDAMENTAL OF E. M. WAVES

Paper-BSIT-103

Time allowed : 3 hours

[Maximum marks : 40]

Note : *Question No. 1 is compulsory. Attempt four more questions, selecting one question from each unit.*

(Compulsory Question)

1. (a) What is value of curl of gradient of electric potential ? 1
- (b) What is unit of Poynting vector ? 1
- (c) A series RLC circuit has a resonance frequency of 1 KHz and a quality factor $Q = 100$. If each of R, L and C is doubled from its original value, find the new quality factor of the circuit ? 1
- (d) Write down value of the characteristic-impedance (Z_c) of free space or vacuum ? 1
- (e) Name parameter which can be neglected while calculating the transmission line faults ? 1
- (f) What is value of quality factor for a pure LC circuit ? 1
- (g) Find value of $\nabla \cdot \vec{r}$? 1
- (h) How do you classify transmission lines ? 1

Unit-I

2. (a) State and prove Gauss's Divergence Theorem. 3
- (b) Show that electric field is equal to negative of gradient of electric potential. 3

12660

12660

[Turn over

(2)

- (c) Given an irrotational vector field \vec{F}
 $\vec{F} = (k_1xy + k_2z^3)\hat{i} + (3x^2 + k_3z)\hat{j} + (3xz^2 - y)\hat{k}$
Find $\nabla \cdot \vec{F}$ at (1, 1, -2). 2
3. (a) Differentiate between the terms scalar and vector potentials as applied in magnetism. Derive and expression for vector potential \vec{A} and current density \vec{J} i.e. $\nabla^2 \vec{A} = -\mu_0 \vec{J}$ 5
- (b) Why displacement current was introduced and why is displacement current called so ? 2
- (c) Define electric flux. Is it a scalar or a vector quantity ? 1

Unit-II

4. (a) Derive the Maxwell's equations for propagation of electromagnetic waves in Non-Conducting Medium. 4
- (b) The magnetic field in the plane electromagnetic field is given by
 $B_y = 2 \times 10^{-7} \sin(0.5 \times 10^3 z + 1.5 \times 10^{11} t)$ tesla
Find the expression for electric field E_x ? 2
- (c) What is skin effect ? 2
5. (a) Write the Maxwell's electromagnetic field equations in differential and integral form. 4
- (b) Establish Maxwell's equations for the propagation of electromagnetic waves in the Conducting Medium. 4

12660

(3)

Unit-III

6. (a) An alternating e.m.f. with E_0 as the maximum value and ω as angular frequency is applied to the ends of a circuit containing resistance R , self-inductance L and capacitance C . Calculate the impedance of the circuit, phase angle and current at any instant. 7
- (b) Name factor, which measures selectivity of the coil. 1
7. (a) What is :
(i) a series resonant circuit and
(ii) a parallel resonant circuit. Distinguish between the two. 6
- (b) In LC circuit, what is current in circuit when inductor and capacitor contains 50% energy ? 2

Unit-IV

8. (a) Explain characteristics impedance and losses of transmission lines. 6
- (b) An electromagnetic wave in vacuum has the electric and magnetic field \vec{E} and \vec{B} , which are always perpendicular to each other. Write down direction of polarization of an electromagnetic wave and that of wave propagation. 2
9. (a) Draw electromagnetic spectrum used in electric communication. 2

12660

[Turn over

Roll No.
Printed Pages : 3

12661

BSIT / D-18

ELECTRONIC DEVICES AND CIRCUITS

Paper-BSIT-104

Time allowed : 3 hours]

[Maximum marks : 40

***Note :** Attempt five questions in all. Question No. 1 is compulsory. Select one from each unit.*

(Compulsory Question)

1. (a) Why does the reverse current of an ideal PN junction saturate? 1
- (b) Show the impurity level in energy band diagram of P-type semiconductor. 1
- (c) What is a filter? Explain its necessity in the rectifier circuits. 2
- (d) Why the slope of the output characteristics is more in CE configuration than in CB configuration of a transistor? 2
- (e) Discuss the small signal low frequency FET model. 2

Unit-I

2. (a) Explain the term doping of a semiconductor material. Explain doping of a P-type and N-type semiconductor with an energy band diagram. 4
- (b) What are the various breakdown mechanisms in a junction diode? Describe the working of a zener diode. 4

12661

[Turn over

(2)

3. (a) Explain the working of Zener diode as voltage regulator with diagram. 4
(b) Explain the working of a p-n diode, when there is no external bias, forward bias and reverse bias. 4

Unit-II

4. (a) What do you mean by efficiency of a rectifier ? Establish that the efficiency of a full-wave rectifier is double than that of a half wave rectifier. 6
(b) What is PIV ? Give its importance. 2
5. (a) What is meant by filter network ? Discuss how a choke is used as a filter. What is a capacitor filter ? 4
(b) Draw the circuit diagram of series positive and shunt negative clippers. Show the output waveforms. 4

Unit-III

6. (a) Draw the CB input and output characteristics of a transistor. Explain the shape of the curves qualitatively. 6
(b) Draw potential variation through p-n-p transistor in biased condition. 2
7. (a) Explain transistor current components with circuit diagram. 4
(b) What is Early effect ? What are its consequences ? 4

(3)

Unit-IV

8. (a) Describe the construction and drain characteristics of N-channel JFET. 4
(b) Draw the circuit diagram of common source FET amplifier. Find the expression for voltage gain. 4
9. (a) Describe the construction of MOSFET in enhancement mode. Also, draw its characteristics. 4
(b) Draw the circuit diagram of low frequency equivalent circuit of common drain amplifier. Find the expression for voltage gain and output resistance. 4

Roll No.
Printed Pages : 2

12662

BSIT / D-18

ELECTRONIC COMMUNICATION-I

Paper-BSIT-105

Time allowed : 3 hours]

[Maximum marks : 40

Note : Attempt five questions in all, selecting one question from each unit. Question No. 1 is compulsory. All questions carry equal marks.

1. (a) Why modulation is necessary in communication system ?
(b) What do you understand by modulation index ? What is its significance ?
(c) What are the disadvantages of PCM system over other modulation system ?
(d) How does noise affect channel capacity ? 2 each

Unit-I

2. (a) What is Amplitude Modulation (AM) ? Derive an expression for AM wave and hence draw its frequency spectrum. 5
(b) A broadcast transmitter radiates 4.72 kW when the AM modulation is 60%. Calculate the total power when the modulation has been reduced to 40%. 3
3. (a) What is demodulation ? What are essentials in demodulations ? Draw the diode linear detector circuit and explain its action. 4
(b) In an FM system, the frequency deviation is 10 KHz when the audio modulating frequency is 1 KHz and the audio modulating voltage is 4V. Compute modulation Index. 4

12662

Turn over

(2)

Unit-II

4. What is PAM ? In reference of PAM, Explain the following :

- (i) Sampling rate 4,4
 - (ii) Bandwidth requirement. 4,4
5. (a) Describe Sampling theorem for band pass signals. 4
- (b) Write a short note on Natural Sampling and explain the importance of large guard time. 4

Unit-III

6. (a) What do you understand by PCM ? Discuss PCM system in detail. 5
- (b) Draw the block diagram of PCM transmitter and explain briefly. 3
7. (a) What do you understand by compounding ? Why is it preferred to quantizing with tapered steps ? Justify your answer with the help of typical compounding curves. 5
- (b) What is Delta-Modulation (DM) ? Explain. Give comparison of PCM and DM system. 3

Unit-IV

8. (a) Discuss different elements of a digital communication system. 3
- (b) How an echo suppressor may interfere with data transmission ? List the steps for the prevention of the interference ? 5
9. (a) What do you understand by the terms bit rate and band rate ? Explain in detail. 4
- (b) Write short note on Band width requirement in a digital communication system. 4

BSIT / D-18

COMPUTER FUNDAMENTALS

Paper-BSIT-106

Time allowed : 3 hours

[Maximum marks : 40]

Note : Question No. 1 is compulsory. Attempt four more questions by selecting at least one question from each section.

1. (a) What is a directory ? How to create a directory ? 2
- (b) Explain various types of floppy disks in detail. 2
- (c) What is meant by Middleware ? Explain it with examples. 2
- (d) What is word processor ? Name popular word processor packages. 2

Section-I

2. Explain various types of computers. 8
3. What is a computer ? Explain various applications of computer in detail. 8

Section-II

4. Explain optical disk in detail along with its advantages and disadvantages. 8

5. Explain any two sequential and two direct access devices. 8

Section-III

6. What is application software ? Explain its types in detail. 8
7. What is software ? Explain relationship between software and hardware in detail. 8

Section-IV

8. What is Internet ? Explain its services and uses in detail. 8
9. Explain any eight features of MS- Word in detail. 8

smile, the sound of whose voice, whose very presence seems like a ray of sunshine and brightens the whole room. Greet everybody with a smile, kind words and a pleasant welcome. It is not enough to love those who are near and dear to us. We must show it to others also. While, however, we should be grateful and enjoy to the full innumerable blessings of life. 6

Roll No.

Printed Pages : 4

OBSIT/D-18

COMMUNICATION SKILLS (ENGLISH)

Paper-B SIT-101

Time allowed : 3 hours]

[Maximum marks : 30

Note : Attempt all questions.

1. Answer the following questions :

- (i) Define Communication.
- (ii) What are the minutes of meeting?
- (iii) Write a short note on 'telex'
- (iv) What is Dictaphone?
- (v) Change the narration of following sentences.
- (vi) (a) She said to me "Is the tea ready for me?"
(b) He said, "I am unwell" 6×1=6

2. (a) Discuss in brief features of communication.

or

- (b) Discuss the barriers to communication. 3
- Write short notes on any of two :

- (i) Group discussion
- (ii) Formal Communication
- (iii) Oral Communication
- (iv) Seminar

1½×2=3

(2)

3. (a) Write a detailed note on e-mail.

or

Write a short note on Internet.

3

- (b) Write short notes on any of two :

(i) Reports

(ii) Memo

(iii) Video player

(iv) Messenger services

$$1\frac{1}{2} \times 2 = 3$$

4. (a) Fill in the blanks with appropriate articles

(i) I want _____ ten-rupee note.

(ii) The sun rises in _____ east.

(iii) He is _____ honest man.

$$3 \times \frac{1}{2} = 1\frac{1}{2}$$

- (b) Fill in the blanks with correct form of the verb given in brackets :

(i) I _____ him here yesterday. (expect)

(ii) He always _____ the good things done to him

(forget)

(iii) I _____ tea just now (take)

$$3 \times \frac{1}{2} = 1\frac{1}{2}$$

12664

(3)

- (c) Change the voice of following sentences :

(i) She knows me

(ii) He teaches us English

(iii) The rose smells sweet.

$$3 \times \frac{1}{2} = 1\frac{1}{2}$$

- (d) Fill in the blanks with correct modals :

(i) We _____ obey the laws of our country.

(ii) _____ you take a cup of tea ?

(iii) Run fast lest you _____ miss the train. $3 \times \frac{1}{2} = 1\frac{1}{2}$

5. Make a precis of the following passage and give it a suitable heading :

It is no doubt true that we cannot go through life without sorrow. There can be no sunshine without shade. We must not complain the roses have thorns, but rather be grateful that thorns have flowers. Our existence here is such that we must expect much sorrow and suffering. Many people distress and torment themselves about the mystery of existence. But although a good man may at times be angry with the world, it is certain that no man was ever so discontented with the world who did his duty in it. The world is like a looking glass, if you smile, it smiles, if you frown, it frowns back. If you look at it through a red glass, all seems red and rosy, if through a blue all blue. Always try then to look at the bright side of things as almost everything in this world has a bright side. There are some persons whose

12664

I.P.T.O.

Roll No.
Printed Pages : 3

12665

OBSIT / D-18

**MATHEMATICAL FOUNDATIONS FOR
INFORMATION TECHNOLOGY-I**

Paper--BSIT-102

Time allowed : 3 hours]

[Maximum marks : 40

Note : Attempt five questions in all, selecting one question from each unit. Question No. 9 is compulsory.

Unit-I

1. (a) Find the rank of Matrix :

$$\begin{bmatrix} 1 & 2 & -1 & 3 \\ -2 & -4 & 4 & -7 \\ 1 & 2 & 1 & 2 \end{bmatrix}$$

4

- (b) Express $A = \begin{bmatrix} 1 & 1 & 3 \\ 1 & 3 & -3 \\ -2 & -4 & -4 \end{bmatrix}$ as a sum of symmetric

and skew symmetric matrix.

4

2. (a) Find the eigen vector of the matrix

$$A = \begin{bmatrix} 1 & 0 & 0 \\ 3 & 1 & 0 \\ -7 & 5 & 1 \end{bmatrix}$$

4

- (b) Diagonalize the Matrix $\begin{bmatrix} 2 & 1 \\ 2 & 3 \end{bmatrix}$

2

12665

Turn over

(2)

Unit-II

3. (a) Find the differential equation of the conics whose axes coincide with the axes of co-ordinates. 4

(b) Solve $\frac{dy}{dx} = e^{x-y} + x^2 e^{-y}$ 4

4. (a) Solve $(x+1) \frac{dy}{dx} + 1 = 2e^{-y}$ 4

(b) Solve $x^2 y dx - (x^3 + y^2) dy = 0$ 4

Unit-III

5. (a) Solve $\frac{d^2 y}{dx^2} - y = x^2 \cos x$ 4

(b) Solve $x^2 \frac{d^2 y}{dx^2} - 2y = x^2 + \frac{1}{x}$ 4

6. (a) Prove that

$A \cap (B \cup C) = (A \cap B) \cup (A \cap C)$ 4

(b) Prove that $3^n > 2^n$ for $n \in \mathbb{N}$ by P.M.I. 4

Unit-IV

7. (a) Find the inverse of the function $f(x) = 5x + 4$ 4

(b) How many persons among 3,00,000 persons are born at the same time (hour, minute, second) 4

(3)

8. (a) Find the partitions of the set

$\{1, 3, 5\}$

4

(b) If R is a relation from N to N defined by (a, b) R (c, d) by $ad = bc$ show that R is an equivalence relation. 4

Unit-V

Compulsory Question

9. (a) Find the characteristic root by the matrix $\begin{bmatrix} 5 & 4 & -4 \\ 4 & 5 & -4 \\ -1 & -1 & 2 \end{bmatrix}$ 2

(b) Show that $(x^2 + y^2 + 2y) dx + 2y dy = 0$ is not exact. 2

(c) Write Pigeon Hole Principle. 2

(d) Find the rank of the matrix $A = \begin{bmatrix} 0 & 0 & 1 \\ 0 & 2 & 0 \\ 1 & 0 & 1 \end{bmatrix}$ 2

OBSIT / D-18

(2)
Unit-III

COMPUTER FUNDAMENTAL
Paper--BSIT-106

Time allowed : 3 hours]

[Maximum marks : 40

Note : Attempt five questions in all, selecting at least one question from each unit. Question No. 1 is compulsory.

1. (a) Name 4 Input and 4 Output Devices.
(b) Define firmware and middleware.
(c) Write 4 limitations of computers
(d) Name two system software and two application softwares. 8

Unit-I

2. Make block diagram of computer and explain essential parts. 8

3. (a) Differentiate second and third generation computers.
(b) Differentiate mainframe and Micro Computer. 8

Unit-II

4. (a) Define memory and write characteristics of a cell to act as Memory Device.
(b) Differentiate Primary and Secondary Memory. 8

5. Write note on
(a) Cache Memory
(b) CCD 8

6. Define System Software, Application Software and differentiate the two with example. 8

7. Explain development steps of a software. 8

Unit-IV

8. (a) Define Desktop, Icon
(b) Write basic entries in START Menu
(c) Define file and folder
(d) Name two accessories in Windows. 8

9. In context of word, Discuss
(a) Spell Checker
(b) Use of Clip Art
(c) Copy and Paste
(d) Save and Save-as 8

Total Pages : 2

Roll No.

BSE/D-18

16501

ENGLISH

[Literature in English from (1550-1660)]

Paper : I

Time : Three Hours]

[Maximum Marks : 80

Note : Attempt *five* questions in all. Question No. 1 is compulsory. Select *two* questions from each unit.

Compulsory Question

1. Explain with reference to the context any *three* of the passages given below :

(a) Fayre Cruell! Why are ye so fierce and cruell ? Is it because your eyes have power to kill ? Then know that mercy is the mighties jewel And greater think to save then spill. But if it be your pleasure and proud will, To shew the power of your impervious eyes, Then not on him that never thought you ill.

(b) I charge thee to return, and change thy shape; Thou art too ugly to attend on me; Go, and return an old Franciscan Friar; That holy shape becomes a devil best.

(c) I am no villian, I am the youngest son of Sir Rowland de Boys; he was my father, and he is thrice a villian that says such a father begot villians. Wert thou not my brother, I would not take this hand from thy throat till this other had pulled out thy tongue for saying so; thou hast nailed on thyself.

- (d) All the world's a stage. And all the men and women merely players. They have their exits and their entrances, And one man in his time plays many parts.
(8×3=24)

UNIT-I

2. *As you Like it* is a "radiant blend of fantasy, romance, wit and humour." Discuss.
3. Discuss *Doctor Faustus* as a morality play.
4. Spenser's *Amoretti* describes his love for Elizabeth Boyle. Discuss with reference to the Sonnets in your course.
(15×2=30)

UNIT-II

5. How did the Renaissance affect English literature in the fifteenth and sixteenth centuries ?

OR

Write a note on Shakespeare as a dramatic artist.

6. Write a note on the Shakespearean comedy.

OR

Write an essay on the development of English drama from beginning upto the time of Marlowe. (13×2=26)

Roll No.

Total Pages : 3

BSE/D-18

16502

LITERATURE IN ENGLISH (1550-1660)

Paper-II

Time : Three Hours]

[Maximum Marks : 80

Note : Question No. 1, Question No. 5(a) and Question No. 5(b) are compulsory. Attempt any *two* questions from Section-B.

SECTION-A

1. Explain with reference to the context any *three* of the passage given below :

(a) If that be sinne which doth the maners frame.

Well staid with truth in word and faith of deed,

Readie of wit and fearing nought but shame:

If that be sinne which in fixt hearts doth breed

A loathing of al loose unchastitie,

Then Love is sinne, and let me sinfull be.

(b) But no such roses see I in her cheeks;

And in some perfumes is there more delight

Than in the breath that from my mistress reeks.

I love to hear her speak, yet well I know

That music hath a far more pleasing sound:

16502/550/KD/1316

[P.T.O.
17/12

- (c) But sucked on country pleasures, childishly?
Or snorted we in the seven sleepers' den?
'Twas so; but this, all pleasures fancies be.
If ever any beauty I did see,
Which I desired, and got, 'twas but a dream of thee.
(d) Nor shall Death brag thou wander'st in his shade,
When in eternal lines to time thou glowest;
So long as men can breathe, or eyes can see,
So long lives this, and this gives life to thee.
(3×8=24)

SECTION-B

Note : Attempt any *two* questions from this section.

2. Comment on the element of sincerity in *Astrophel and Stella*.
3. 'In them Shakespeare unlocked his heart.' In the light of this statement bring out the personality of the poet as revealed in the prescribed poems.
4. What is metaphysical poetry? Discuss its main characteristics with special reference to the poems prescribed. (2×14=28)

SECTION-C

5. (a) Write a note in about 400 words on any *two* of the authors given below :
(i) John Milton.
(ii) Michael Drayton Wyatt.
(iii) John Webster.
(2×6½=13)

- (b) Write a note in about 200 words each on any *three* of the literary works given below :
(i) Norton and Sackville-Gordoduc.
(ii) Beaumont and Fletcher-*The Maid's Tragedy*.
(iii) Robert Burton- *The Anatomy of Melancholy*.
(iv) John Lyly-*Euphues*.
(3×5=15)

UNIT-IV (इकाई-IV)

Roll No.

Total Pages : 4

8. Explain composition and powers of Supreme Court.

सर्वोच्च न्यायालय की रचना व शक्तियों का वर्णन करें।

9. What is the importance of Judicial Review in India ?

भारत में न्यायिक समीक्षा का क्या महत्त्व है?

BSE/D-18

16525

POLITICAL SCIENCE
(Indian Constitution)

Paper-I

Opt. (i)

Time : Three Hours]

[Maximum Marks : 80

Note : Attempt *five* questions in all, Q. No. 1 is compulsory.
Select *one* question from each unit.

नोट : प्रश्न सं. 1 अनिवार्य है। प्रत्येक इकाई से एक प्रश्न का चयन कीजिए। कुल पाँच प्रश्न करने हैं।

Compulsory Question (अनिवार्य प्रश्न)

1. Short answer questions.

- What is the difference between Directive Principles of State Policy and Fundamental rights ?
- Explain in brief Electoral college for electing President of India.
- Explain *two* powers of Lok Sabha.
- Explain the methods of amending the Constitution.
- What are the *two* prominent problems of modern rural society ?
- What do you mean by Original Jurisdiction ?

16525/300/KD/1776

4

16525/300/KD/1776

[P.T.O.
14/12

(g) What has been added in the Constitution through 42nd amendment ?

(h) What is Adult Franchise ? (2×8=16)
लघु उत्तरीय प्रश्न।

(क) राज्य नीति के निर्देशक सिद्धान्तों व मौलिक अधिकारों में क्या अन्तर है?

(ख) राष्ट्रपति के चुनाव के निर्वाचन मण्डल का वर्णन करें।

(ग) लोकसभा की दो शक्तियों का वर्णन करें।

(घ) संविधान में संशोधन के कितने तरीके हैं? वर्णन करें।

(ङ) वर्तमान ग्रामीण जीवन की दो प्रमुख समस्याओं का वर्णन करें।

(च) प्राथमिक अधिकार-क्षेत्र से क्या अभिप्राय है?

(छ) 42वें संशोधन द्वारा संविधान में क्या जोड़ा गया है?

(ज) वयस्क मतधिकार किसे कहते हैं?

UNIT-I (इकाई-I)

2. What are the basic features of Indian Constitution ?

भारतीय संविधान की मुख्य विशेषताएं बताओ।

3. Write the difference between Fundamental Rights and Directive Principles of State Policy.

मौलिक अधिकारों व राज्य नीति के निर्देशक सिद्धान्तों में अन्तर लिखें।

16525/300/KD/1776

2

UNIT-II (इकाई-II)

4. Explain the emergency powers of President.

राष्ट्रपति की आपातकालीन शक्तियों का वर्णन करें।

5. Explain the appointment and powers of Chief Minister of state.

राज्य के मुख्यमन्त्री की नियुक्ति व शक्तियों का वर्णन करें।

UNIT-III (इकाई-III)

6. Explain the powers and role of Lok Sabha Speaker.

लोकसभा अध्यक्ष की शक्तियों व भूमिका का वर्णन करें।

7. Highlight the powers and role of Panchayati Raj after 73rd Amendment.

73वें संशोधन द्वारा पंचायती राज की शक्तियों तथा भूमिका को उजागर करें।

OR (अथवा)

Explain the composition and powers of Legislative Assembly.

विधानसभा की रचना व शक्तियों का वर्णन करें।

16525/300/KD/1776

3

[P.T.O.]

(viii) Which is the function of a political party ?

- (a) To form Government
- (b) To contest Election
- (c) To form Public opinion
- (d) All the above.

राजनैतिक दल का कौन-सा कार्य है?

- (क) सरकार बनाना
- (ख) चुनाव लड़ना
- (ग) जनमत का निर्माण करना
- (घ) उपरोक्त सभी।

Roll No.

Total Pages : 6

BSE/D-18

16526

POLITICAL SCIENCE
(Principles of Political Science)
Paper-II

Time : Three Hours]

[Maximum Marks : 80

Note : Attempt any *five* questions. All questions carry equal marks.

नोट : किसी पाँच प्रश्नों के उत्तर दीजिए। सभी प्रश्नों के अंक समान हैं।

1. Define Political Science. Discuss its nature and scope. 16
राजनैतिक विज्ञान को परिभाषित कीजिए। इसके स्वरूप व क्षेत्र का वर्णन कीजिए।
2. Discuss the relationship between Political Science and Sociology. 16
राजनैतिक विज्ञान के समाजशास्त्र के साथ सम्बन्धों का वर्णन कीजिए।
3. What do you mean by State ? Discuss its relations with other organisations. 16
राज्य से आपका क्या तात्पर्य है? दूसरे संगठनों के साथ इसके सम्बन्धों का वर्णन कीजिए।
4. Discuss the Divine theory of the Origin of state. 16
राज्य की उत्पत्ति के दैवीय सिद्धान्त का वर्णन कीजिए।

5. Critically discuss the concept of Negative liberty. 16
नकारात्मक स्वतन्त्रता की अवधारणा का आलोचनात्मक वर्णन कीजिए।

6. Discuss the various features of the Welfare state. 16
कल्याणकारी राज्य की विभिन्न विशेषताओं का वर्णन कीजिए।

7. Discuss the types and functions of the Executive. 16
कार्यपालिका के प्रकार और कार्यों का वर्णन कीजिए।

8. What do you understand by Pressure group ? Discuss the various means used by Pressure groups. 16

दबाव समूह से आप क्या समझते हैं? इनके द्वारा प्रयोग किए जाने वाले साधनों का वर्णन कीजिए।

9. Objective-Multiple Choice Questions.

वस्तुनिष्ठ-बहुविकल्पीय प्रश्न।

(i) The word 'Politics' is originated from

- (a) Polis
- (b) Police
- (c) Political
- (d) None of the above.

‘पोलिटिक्स’ शब्द की उत्पत्ति किस शब्द से हुई है?

- (क) पोलिस
- (ख) पुलिस
- (ग) पोलिटिकल
- (घ) उपरोक्त में से कोई नहीं।

(ii) Who said it – “History without Politics has no fruit, Politics without History has no root.”

- (a) Gettel
- (b) Locke
- (c) Selley
- (d) Marx.

यह किसने कहा – “‘राजनीति के बिना इतिहास निष्फल है, इतिहास के बिना राजनीति निर्मूल है।’”

- (क) गेटल
- (ख) लॉक
- (ग) सीले
- (घ) मार्क्स।

(iii) Who first time used the term ‘State’?

- (a) Hobbes
- (b) Machiaveli
- (c) Rousseau
- (d) Lenin.

‘राज्य’ नामक अवधारणा का सर्वप्रथम प्रयोग किसने किया था?

- (क) हॉब्स
- (ख) मैकियावेली
- (ग) रूसो
- (घ) लेनिन।

(iv) Who said it – "State is the march of God on the earth."

- (a) Karl Marx
- (b) Mao
- (c) Hegel
- (d) J.S. Mill.

यह किसने कहा – "राज्य धरती पर भगवान का अवतरण है।"

- (क) कार्ल मार्क्स
- (ख) माओ
- (ग) हीगल
- (घ) जे.एस. मिल

(v) Who said it – 'Sovereignty is the supreme will of the State.'

- (a) Katlin
- (b) Bentham
- (c) Willoughby
- (d) Locke.

यह किसने कहा कि "प्रभुसत्ता राज्य की सर्वोच्च इच्छा है।"

- (क) कैटलिन
- (ख) बेन्थम
- (ग) विलोबी
- (घ) लॉक

(vi) "Political liberty without economic equality to a myth." Who said it ?

- (a) Adam Smith
- (b) G.D.H. Cole
- (c) Hegel
- (d) Henry Fayol.

"आर्थिक समानता के बिना राजनैतिक स्वतन्त्रता एक कल्पना है।" यह किसने कहा था ?

- (क) एडम स्मिथ
- (ख) जी.डी.एच. कोल
- (ग) हीगल
- (घ) हेनरी फेयोले

(vii) The term 'Judicial Review' is related to

- (a) Legislature
- (b) Judiciary
- (c) Executive
- (d) None of the above.

'न्यायिक पुनरावलोकन' की अवधारणा किससे सम्बन्धित है?

- (क) विधायिका
- (ख) न्यायपालिका
- (ग) कार्यपालिका
- (घ) उपरोक्त में से कोई नहीं।

Roll No.

Total Pages : 3

BSE/D-18

16523

SANSKRIT

रघुवंशं बुद्धचरितं च

(Raghuvansham Buddhacharitam Cha)

Paper-I

Time : Three Hours]

[Maximum Marks : 80

नोट : सभी प्रश्नों के उत्तर क्रमानुसार दीजिए।

1. निम्न प्रश्नों के लघु उत्तर दीजिए :

(क) रघुवंश के लेखक का नाम लिखिए।

(ख) राजा दिलीप ने किस गाय की सेवा की? गाय का नाम लिखिए।

(ग) रघुवंश के प्रथम श्लोक में जगत् के माता-पिता कौन हैं?

(घ) 'सहस्रगुणमुत्सष्टुम् आदत्ते हि रसं'।
इस पंक्ति के रिक्त स्थान को भरें।

(ङ) बुद्धचरित के लेखक का नाम लिखिए।

(च) महात्मा बुद्ध के पिता का नाम लिखिए।

(छ) 'तस्मात् प्रमाणं न वयो न'।
इस पंक्ति के रिक्त स्थान को भरें।

(ज) महात्मा बुद्ध के जन्म होने पर कौन-से मुनिवर शाक्य राजा के घर आए? मुनिवर का नाम लिखिए। (2×8=16)

16523/50/KD/1775

[P.T.O.
14/12

2. (क) रघुवंश के निम्न श्लोकों में से किन्हीं दो की व्याख्या कीजिए :

(अ) मन्दः कविपशः प्रार्थी गमिष्यान्पुपहास्यताम्।
प्रांशुलभ्ये फले लोभाद् उद्बाहुरिव वामनः॥

(ब) ईप्सितं तदवशानाद् विद्धि सार्गलमात्मनः।
प्रतिबध्नाति हि श्रेयः पूज्यपूजाव्यतिक्रमः॥

(स) अनाकृष्टस्य विषयैर्विधानां पारदृशवनः।
तस्य धर्मरतेरासीद् वृद्धत्वं जरसा विना॥

(द) प्रजानामेव भूत्यर्थं स ताभ्यो बलिमग्राहीत्।
सहस्रगुणमुत्पद्युमादत्ते हि रत्नं रविः॥ (5×2=10)

(ख) निम्न सूक्तियों में से किसी एक की व्याख्या कीजिए :

(अ) संततिः शुद्धवंशया हि परत्रेह च शर्मणे।

(ब) फलानुमेयाः प्रारम्भाः संस्काराः प्राक्तामा इव। (6×1=6)

3. रघुवंश के प्रथम सर्ग का सार अथवा रघुवंश के लेखक का जीवन-परिचय प्रस्तुत कीजिए।
16

4. (क) बुद्धचरित के निम्न श्लोकों में से किन्हीं दो की व्याख्या कीजिए :

(अ) सा तुम्बनीनाग्नि वने मनोज्ञे ध्यानप्रदे देववनादनुने।

वासरेच्छया ग्राह पतिं प्रतीता सत्त्वानिभं दोहदमामनन्ति॥

(ब) लोकस्य मोक्षाय गुरौ प्रसूते शमं प्रपदे जगदव्यवस्थम्।

प्राप्येव नाथं खलु नीतिमन्त्रमेको न मारो मुदमाप लोके॥

16523/50/KD/1775

2

(स) ख्यातानि कर्माणि यशो मतिश्च पूर्व न भूतानि भवन्ति पश्चात्।

गुणा हि सर्वाः प्रभवन्ति हेतोर्निर्दर्शान्मय च नो निबोध॥

(द) अथ मुनिरसितो निवेद्य तत्त्वं सुतनियतं सुतविकल्पाय राज्ञे।

सबहुमतमुदीक्ष्यमाणरूपः पवनपथेन यथागतं जगाम॥

(5×2=10)

(ख) केवल एक सूक्ति की व्याख्या कीजिए :

(क) ज्वलिष्यति ज्ञानमयोहि सूर्यः।

(ख) कश्चित् क्वचित् श्रेष्ठ्यमुपैति लोके॥

(6×1=6)

5. बुद्धचरित के प्रथम सर्ग का सार अथवा बुद्धचरित के लेखक का जीवन-परिचय प्रस्तुत कीजिए।
16

16523/50/KD/1775

3