1. Explain, with reference to the context, why the characters in the story are described as "sleepwalking." 

2. Answer any six of the following questions:

(a) Which reported authors are referred to in the play, "The Three Musketeers?"
(b) Who is referred to as the "hanging guest?"
(c) Why are the Indian guests wearing masks?
(d) What are the usual themes of Miss Canfield's play?
(e) What does Mrs. Rowland do to find her family?
(f) Why did the fair put a spell on the paw?
(g) What is Mowrie's occupation?
(h) When do the Pandava Brothers seek from the Kuru.

Note: All questions are compulsory.

Maximum marks: 60

Time allowed: 3 hours
Supposing that a character did not know
Write a short scene with dialogue that revealed something
Shali discovered
Honor, warrior
Wordly, frank
Permission, awkward
Give a synonym for any five of the following words
10 Population, demons
Haughty, Governor, Hospitable, Alcoholic, Divorce, Airport
Subject: Prewar, effluent, admiral, hole, below, minimal
Give the pronunciation with primary stress of any ten
Discuss the appropriateness of the title "The Swan Song"

The play, "The Sleepwalkers," dwells on the comparison between
The Indian and American ways of thinking - Discuss.
Answer the following in about 300 words.

5. (a) Translate the following passage into Hindi.
5. (b) After two weeks. Give your travel details.
15 Write an email message to your travel agent asking him to make
or
(3)

6. (a) Bring out the significance of the title "The Sleepwalkers"
6. (b) Comment on Mrs. Rowland's attitude towards her
6. (c) What is the theme of the play "The Monkey's Paw"?
6. (d) Answer any two of the following questions in about 100

(2)
1. निम्नलिखित संदेश के लोगों के बीच किए गए विचारों को आंक दीजिए:

"हमें जरूरत है कि हमें कुछ नया सीखें। इसके लिए हमें उन्नति की जरूरत है।"

2. निम्नलिखित संदेश के लोगों के बीच किए गए विचारों को आंक दीजिए:

"इससे बस ज्यादा नहीं करेंगे। हमें कुछ नया सीखें।"

3. निम्नलिखित संदेश के लोगों के बीच किए गए विचारों को आंक दीजिए:

"इससे बस ज्यादा नहीं करेंगे। हमें कुछ नया सीखें। हमें कुछ नया सीखें।"

4. निम्नलिखित संदेश के लोगों के बीच किए गए विचारों को आंक दीजिए:

"इससे बस ज्यादा नहीं करेंगे। हमें कुछ नया सीखें। हमें कुछ नया सीखें। हमें कुछ नया सीखें।"
2 x 5 = 10

I.

2 x 5 = 10

I.

- I.

8.

1.

2 x 5 = 10

I.

2 x 5 = 10

I.

- I.

(3)
SANSKRT COMPELLS

8x2 = 16
8x2 = 16

Maximum marks : 80
Time allowed : 3 hours

Printed Pages : 3
Roll No.*
5. \( t = 4 \times 4 \)

\[ \frac{2}{3} x + \frac{1}{2} y + \frac{1}{4} z = \frac{5}{6} \]

6. \( t = 2 \times 4 \)

\[ \frac{3}{4} x + \frac{1}{4} y + \frac{1}{2} z = \frac{3}{4} \]

8. \( t = 2 \times 4 \)

\[ \frac{1}{2} x + \frac{1}{3} y + \frac{1}{4} z = \frac{1}{2} \]

8. \( t = 1 \times 8 \)

\[ \frac{1}{2} x + \frac{1}{3} y + \frac{1}{4} z = \frac{1}{2} \]

8. \( t = 1 \times 8 \)

\[ \frac{1}{2} x + \frac{1}{3} y + \frac{1}{4} z = \frac{1}{2} \]

9. \( t = 1 \times 9 \)

\[ \frac{1}{2} x + \frac{1}{3} y + \frac{1}{4} z = \frac{1}{2} \]
1. निष्कर्षात तुम्ही कसा करावा येईल?
2. निष्कर्षात तुम्ही कसा करावा येईल?
\[ 1 \times 4 = 4 \]
\[ 2 \times 4 = 8 \]
\[ 2 \times 2 = 4 \]
\[ 9 = 6 \times 1 \]
\[ 5 = 4 \times 1 \]
\[ 4 \times 2 = 8 \]
The first session of the Indian National Congress was held

I. Multiple Choice Questions (MCQs) (20 marks)

Explanatory notes will carry full marks.

If they wish to alter any question in lieu of the compulsory question, all questions carry equal marks. Blind candidates may attempt any other question in lieu of the compulsory question.

Note: Attempt five questions in all. The Question No. 1 is

Maximum marks: 80

Time allowed: 3 hours

Indian National Movement

Paper-Opt. (II)

HISTORY

Map of India

CSM / M-18

Printed Pages: 7

Roll No. 1556
1. When was the Non-Co-operation Movement suspended?
   (a) 1919
   (b) 1926
   (c) 1929
   (d) 1932

2. Who came to be known as the "Grand old man of India"?
   (a) Brijesh Singh Subedar
   (b) K. K. V. R. Subedar
   (c) K. K. V. R. Subedar
   (d) K. K. V. R. Subedar

3. In which year did the Indian National Congress declare attainment of complete independence as its goal?
   (a) 1930
   (b) 1931
   (c) 1932
   (d) 1933

4. Bhagat Singh, Sukhdev, and Rajguru were executed in which year?
   (a) 1922
   (b) 1923
   (c) 1924
   (d) 1925

5. Who is known as the "Governor of Allahabad"?
   (a) Netaji Subhash Chandra Bose
   (b) Rajendra Prasad
   (c) Shastri
   (d) K. K. V. R. Subedar

6. How many years did Netaji Subhash Chandra Bose serve as the Governor of the United Provinces?
   (a) 2
   (b) 3
   (c) 4
   (d) 5

7. What was the major achievement of the Indian National Congress in 1930?
   (a) Declaration of the Quit India Movement
   (b) The Congress split
   (c) Formation of the Supporters' League
   (d) The declaration of the achievement of complete independence as its goal

8. Who was the governor of the United Provinces?
   (a) K. K. V. R. Subedar
   (b) Netaji Subhash Chandra Bose
   (c) Shastri
   (d) Rajendra Prasad
(vi) Who gave the call of “Deliverance Day”?
(a) The Congress
(b) The Muslim League
(c) The Communist Party
(d) The Hindu Mahasabha
“मुक्ति दिवस” नामक का घोषणा किसने की?
(क) कॉग्रेस
(ख) मुस्लिम लीग
(ग) कम्युनिस्ट पार्टी
(घ) हिंदू महासभा

(vii) The “Forward Bloc” was formed by
(a) Lala Lajpat Rai
(b) Bhagat Singh
(c) Subhash Chandra Bose
(d) Chandra Shekhar Azad
“फॉरवर्ड ब्लॉक” वल का गठन किया गया?
(क) लाला लाजपत राय द्वारा
(ख) फगत शिंह द्वारा
(ग) सुभाष चंद्र बोस द्वारा
(घ) चंद्रशेखर आजाद द्वारा

(viii) The Prime Minister of Britain at the Time of India’s Independence was
(a) Ramsay Macdonald
(b) Winston Churchill
(c) Lord Mountbatten
(d) Clement Attlee
8x2=16
भारत की स्वतंत्रता प्राप्ति के समय ब्रिटेन के प्रधानमंत्री कौन थे?
(क) रेंजे मैकदोनॉल्ड
(ख) विंस्टन चर्चिल
(ग) लॉर्ड माउंटबेटन
(घ) क्लेंटेंट एटली

Unit-I (इक्काई-1)

2. What were the causes of the origin and growth of consciousness in India?

भारत में राष्ट्रीय वेतना की उत्पत्ति एवं विकास के कारण थे?

3. Describe the contribution of Annie Besant and Tilak in the growth of Home Rule Movement.

होमस्ल आंदोलन के विकास में श्रीमती ऐनी बेसेंट और तिलक के योगदान का वर्णन कीजिए।
7. Discuss the main provisions of the Money-Washing Reforms of 1999.

6. Detail the main provisions of the money-Washing Reforms of 1999.

5. Write an essay on the contribution of Bhagat Singh and HSRA in...
Problem 1: If the unemployment rate is reduced to zero, what will be the consequences? Explain the concept of the natural rate of unemployment.

Problem 2: What hypotheses are referred to when speaking of inflation of different types? Explain the concept of inflation.

Problem 3: What is the relationship between the rate of change of money wage and the unemployment rate? Explain the relationship between the rate of change of money wage and the unemployment rate based on this study.

Problem 4: Describe the Phillips curve and the unemployment rate. Based on this study, answer the question: Are there any sign of a Phillips curve in the period of 1981-1997 in the UK? If there was an existing model, describe it.
What is the concept of accumulations? Critically explain the working of accumulation.

1. Explain the meaning and working of investment multiplier.

(a) Which of the following is the cause of inflation?

(i) Increase in money supply

(ii) Increase in money demand

(iii) Increase in money supply

(b) Which of the following is a cause of deflation?

(i) Increase in money supply

(ii) Increase in money demand

(iii) Increase in money supply
3. State the meaning of learning. Describe the various laws of learning.

UNIT-II

2. Describe the various methods of learning up.

UNIT-I

1. What is warming up and cooling down? Describe its importance.

All questions carry equal marks.

Note: Attempt all the questions. Each question will carry 10 marks. From each unit, question No. 9 (UNIT-IV) is compulsory.

Maximum marks: 60

HEALTH AND PHYSICAL EDUCATION

GSM / M-18

Printed Pages: 3

ROLL NO.
9. Compulsory Question

UNIT-V (कक्षा-V)

1. Write in detail the structure of various respiratory organs. 10

2. Explain in detail the structure of various respiratory organs. 10

3. How respiratory system is altered as a result of training? 10

UNIT-IV (कक्षा-IV)

1. Name the father of modern Olympic Games. 10

2. Define Psychology. 10

3. What do you mean by Residual Volume? 10

4. Write short notes on Olympic movement and Olympic spirit. 10

5. Write down the highlights of sports performance of I.A.S. 10

6. Describe the historical background of ancient Olympic Games. 10

7. Describe General Warm up. 10

8. Write the importance of stretching in warming up. 10

9. Write in detail the need and importance of Sports Psychology. 10
1. Write in Notation of Vithalr-Krishna in any Rave of your Syllabus

Ltm-I (कोमट-1)

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

Maximum marks: 40

Time allowed: 3 hours

Theory

MUSIC (Vocal)

GSM/M-18

Prime Pages: 3
Roll No.
8. Write down the history of music during Medieval Period.


10. Explain about the following Sacred Gurus:

   (a) Swami Kunhi
   (b) Santac Rana
   (c) Chandrasekhar
   (d) Bhajan
   (e) Teeral
   (f) Charanmala

2+2+2=8
Turn over

3. Give full details of the plan and Chauhan Layar.

Raga: 

4. Write the notation of Drum Gene with two tones in any note: Attempt five questions in all, selecting at least one.

Time allowed: 3 hours

Maximum marks: 40

Paper—II
Instrumental Notes

Music

G&M/218

Printed pages: 3

Roll No.
UNIT III (खंड-III)

8. Write in your own words about the origin, development and parts of the following instruments:

8. Which is the role of science in promoting educational cultural

UNIT II (खंड-II)

6. What do you know about Avery-Bradley and Arithmetic?

7. Write about contribution of Haridas, Tansen and Baiju

5. Write about contribution of Haridas, Tansen and Baiju

4. Give detailed description of the following Tala:

9. Contribution towards music by Swami Ananda Dev
ek.

8. Compare the following instruments with their introduction:

8. Which are the different features of different types of instruments?

(b) Violin

(c) Sitar

4. What is the nature of a classical instrument?

3. What are the different types of classical instruments?
10. Discuss the main functions of Official Language Act applicable to Government offices.


8. What are the qualifications of a Government Secretary? What are the duties of a business house? Explain in detail.

7. Personal traits of a secretary can significantly contribute to running a business. Explain.


5. What do you mean by minute book? Give specimen of minutes.

4. Explain in detail: What do you mean by resolution? Explain in various types.

3. Give specimen of minutes of annual meeting.

2. Explain in detail: What do you mean by annual meeting. What provisions should be kept in mind by the company secretary regarding annual meeting. How shareholders’ meetings are held?

1. What do you mean by company meeting? Explain annual general meeting.

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

Maximum marks: 80

Time allowed: 3 hours
1. Short answer type questions:

(total 2 x 8 = 16)

1. Write two features of Hegel's science of history.

2. How many stages of history are described by Marx?

3. Write the third stage of capitalism, as written by

Which author?

Imperialism is the third stage of capitalism, as written by

1. Write two features of Hegel's science.

2. How many stages of history are described by Marx?

3. Write the third stage of capitalism, as written by

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Which author?

Imperialism is the third stage of capitalism, as written by

1. Write two features of Hegel's science.

2. How many stages of history are described by Marx?
6. Discuss the contribution of C.D. Cole to political thought.

UNIT III (Gandhi)

What is the main message of Mahatma Gandhi?

5. Discuss the main ideas of Mao Zedong.

UNIT II (Marx)

What did Karl Marx mean by class struggle?

4. Write a short essay on Lenin's views on revolution.

UNIT I (Hegel)

Discuss Hegel's theory of dialectics.

2. Discuss the Enlightenment theory of justice.

9. Discuss the Enlightenment theory of justice.


7. Examine Laski's views on state and sovereignty.

(3)
5. Discuss the contribution of G.D.H. Cole to Political Thought.

UNIT III (20 marks)

1. Discuss Mao's theory of Cultural Revolution.

UNIT II (20 marks)

1. Examine Hegel's views on State.

UNIT I (20 marks)

1. Critically discuss Marxian theory of surplus value.

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

Maximum marks: 80

Time allowed: 3 hours

WESTERN POLITICAL THOUGHT

PAPER-1 (optional)

POLITICAL SCIENCE

GSM/ M-18

1596

Printed Pages: 4

ROLL NO.
9. Objective Multiple Choice (Select the correct answer) 8 x 2 = 16

Unit 7 (Chapter 7)

16. Explain the basic features of Nokoko's theory of justice.


Test the convergence of the infinite series.

\( 2 \% \)

Using integral test, test the behavior of the series.

\( 2 \% \)

Test the convergence of the infinite series.

\( 2 \% \)

State and prove Cauchy's Test for the Convergence

Unit III

\( 2 \% \)

Show that the Cauchy product of the convergent series

\( 0 \neq x, \left( \frac{u}{x+1} \right)^{\infty} \sum_{n=0}^{\infty} \frac{1+u^t}{u}(1-1) \)

is convergent.

\( 2 \% \)

Show that the series

\( 2 \% \)

of alternating series

\( 2 \% \)

State and prove Limiting Test for the Convergence

\( \frac{u}{x+1} \) \( \sum_{n=0}^{\infty} \frac{1}{u}(1-1) \)

also converges to a

\( \frac{u}{x+1} \) \( \sum_{n=0}^{\infty} \frac{1}{u}(1-1) \)

If a sequence converges to a and

\( \frac{u}{x+1} \) \( \sum_{n=0}^{\infty} \frac{1}{u}(1-1) \)

then the sequence converges to a and

\( \frac{u}{x+1} \) \( \sum_{n=0}^{\infty} \frac{1}{u}(1-1) \)
\[ f(x) = \sqrt{1 - x^2} \]

Prove that \( f(x) = \sqrt{1 - x^2} \) is the solution of the differential equation.

2. Find the power series solution of the differential equation.

Section A

\( a \)

Find the inverse Laplace transform of \( \frac{1}{s-1} \).

\( b \)

Find the Laplace transform of \( \sin t \cos t \).

\( c \)

Prove that \( 0 = \int_0^1 x \, dx \).

\( d \)

Show that \( \frac{x}{\sin^2 x} \) is a constant.

Computory Question

Carry equal marks.

Each section \( Q \& N \) is compulsary. All questions.

Note: Attempt five questions in all, selecting one question from each section. Maximum marks: 25.

Time allowed: 3 hours

Paper-BM-242

TRANSFORMS

SPECIAL FUNCTIONS AND INTEGRAL

GSM / M-18

\[ f(x) = \sqrt{1 - x^2} \]

Proved Pages: 3

Roll No.
2% Find the Fourier sine and cosine transforms of $f(x) = x^2$.

(b) $0 < t < 1$ and $0 > x > 0$ when $f(x) = 0$.

(iii) $0 = (1, 0)$.

(iv) $0 = (1, 0)$.

Hence evaluate

\[ I = \left\{ \begin{array}{ll}
0 & \text{for } |x| \leq 1 \\
|x| & \text{for } |x| > 1
\end{array} \right. = (x)'(x).\]

Section B

(a) Find the Fourier transform of $e^{-x}$.

(b) Find the Fourier transform of $e^{-x^2}$.

Section C

(a) Find the inverse Laplace transform of $\mathcal{L}^{-1}\{\mathcal{L}(f(x))\}$.

(b) Find the inverse Laplace transform of $\mathcal{L}^{-1}\{\mathcal{L}(f(x))\}$.

Section D

(a) Find the solution of the equation in terms of Bessel's function.
Section I

1. Write a program to find the compound interest for given

2. Write a program to find the cube root of a given number using the bisection method.

3. What is the general characteristic of C-Language?

4. What is the current format of a library function from its access point?

5. What is library function accessed? How is information passed to

Section II

6. Distinguish between the following:

7. Summarize the rule that apply to all numeric type

Section III

8. Solve the following equation using relaxation method.

9. Solve the system of equations using Jacobi’s method.

10. Write a program to find the cube root of a given number using the bisection method.

Note: Answer five questions in all, selecting at least one from each section. Question No. 1 is compulsory.

Maximum marks: 20

Time allowed: 3 hours

Paper-BM-243

ANALYSIS

PROGRAMMING IN C AND NUMERICAL

COMPUTER

Bye
Let \( A + B \) be bounded subsets of \( R \). Prove that

\[
\sup(A + B) = \sup A + \sup B
\]

and supremum \( \{ x \in R : \forall y \in A, \exists z \in B \text{ such that } x = y + z \} \) is also bounded.

2. (a) Let \( A \) and \( B \) be bounded subsets of \( R \). Prove that

\[
0 = \sup \left( \frac{u}{x} + 1 \right) \bigg|_{x=1}^{u}
\]

- Discuss the convergence of the infinite product.
- Test the convergence of the series
- \( \sum_{n=1}^{\infty} \sin \left( \frac{u}{x} \right) \).

(c) Give an example of a sequence in \( \mathbb{R}^n \) which is not bounded but \( \lim_{n \to \infty} u_n = 0 \).

(d) Give an example of a set which is not bounded.

(e) Give examples of sequences in \( \mathbb{R}^n \) which may not belong to the set.

(f) Give examples to show that infimum of a set may not coincide with supremum.

**Computer Question**

Question No. 1 is a question from each section. Question No. 1 is:

Note: Attempt five questions in all, selecting at least one from each section. Maximum marks: 70

Time allowed: 3 hours

Paper - BMI - 241

SEQUENCES AND SERIES

GSM / M-18

Page 1

1623

Printed Pages: 3

Roll No.
Section III

4. [Insert mathematical content here]

Section II

4. [Insert mathematical content here]

Section I

4. [Insert mathematical content here]
2. (a) Solve the differential equation in power series:

\[ 0 = 4 \frac{d^2 y}{d x^2} + 4 \frac{dy}{dx} + 1 \]

\[ \frac{1}{2} \frac{d^2 y}{dx^2} - \frac{dy}{dx} + (x-1)y = 0 \]

(b) Let \( y = \sum_{n=0}^{\infty} a_n x^n \)

(c) \( y = \frac{1}{x} \sum_{n=0}^{\infty} b_n x^n \)

(d) \( y = \frac{1}{x} \int_{0}^{1} \frac{x}{\cos x} \, dx \)

(e) \( y = \frac{1}{x} \int_{0}^{1} \frac{x}{\cos x} \, dx \)

(f) Prove that \( \frac{u}{1-u} \) is a series for \( u > 0 \) and \( |u| < 1 \).

(g) Prove that \( \frac{u}{1-u} \) is a series for \( u > 0 \) and \( |u| < 1 \).

(h) Show that \( \int_{0}^{1} \frac{x}{1-x} \, dx = 1 \).

(i) Show that \( \int_{0}^{1} \frac{x}{1-x} \, dx = 1 \).

Total marks: 40

Time allowed: 3 hours

Roll No.:

Primed Pages: 3
\[ 0 < t < 1, \quad 0 < x < 0 \]

**Initial Conditions**

\[ \frac{\partial^2 u}{\partial x^2} + \frac{\partial u}{\partial x} = 0 \]

**Problem I**

Find the Laplace transform of the function \( e^{-x} \cos t \) about \( x = 0 \).

\[ (a) \quad \left( \frac{\partial}{\partial s} \right) \mathcal{L} \{ e^{-x} \cos t \} = \frac{s - 1}{(s^2 + 1)^2} \]

**Problem II**

\[ \frac{d}{dx} \left[ \frac{d}{dx} \right] \mathcal{L} \{ e^{-x} \cos t \} \]

\[ (b) \quad \left( \frac{\partial^2}{\partial x^2} \right) \mathcal{L} \{ e^{-x} \cos t \} \]

**Problem III**

\[ \left( \frac{d}{dx} \right) \mathcal{L} \{ e^{-x} \cos t \} \]

\[ (c) \quad \left( \frac{\partial}{\partial x} \right) \mathcal{L} \{ e^{-x} \cos t \} \]

\[ (d) \quad \mathcal{L} \{ e^{-x} \cos t \} = \frac{s - 1}{(s^2 + 1)^2} \]

**Problem IV**

\[ \mathcal{L} \{ e^{-x} \cos t \} = \frac{s - 1}{(s^2 + 1)^2} \]

**Problem V**

\[ \left( \frac{\partial}{\partial s} \right) \mathcal{L} \{ e^{-x} \cos t \} = \frac{s - 1}{(s^2 + 1)^2} \]

**Problem VI**

\[ \left( \frac{\partial^2}{\partial x^2} \right) \mathcal{L} \{ e^{-x} \cos t \} = \frac{s - 1}{(s^2 + 1)^2} \]

**Problem VII**

\[ \left( \frac{\partial}{\partial x} \right) \mathcal{L} \{ e^{-x} \cos t \} = \frac{s - 1}{(s^2 + 1)^2} \]

**Problem VIII**

\[ \mathcal{L} \{ e^{-x} \cos t \} = \frac{s - 1}{(s^2 + 1)^2} \]

**Problem IX**

\[ \left( \frac{\partial}{\partial s} \right) \mathcal{L} \{ e^{-x} \cos t \} = \frac{s - 1}{(s^2 + 1)^2} \]

**Problem X**

\[ \left( \frac{\partial^2}{\partial x^2} \right) \mathcal{L} \{ e^{-x} \cos t \} = \frac{s - 1}{(s^2 + 1)^2} \]

**Problem XI**

\[ \left( \frac{\partial}{\partial x} \right) \mathcal{L} \{ e^{-x} \cos t \} = \frac{s - 1}{(s^2 + 1)^2} \]


Unit-I

7. Find the real root of equation by Newton-Raphson Method, correct up to three decimal places. (a)

8. Find the real root of equation by Secant method, correct up to three decimal places. (b)

9. What is meant by the meaning of slanting properties of a function? (c)

Unit-II

10. What is the function of these, in an Interpretation? (d)

11. Define the operator. (e)

12. What is the syntax of 'Simple' function? (f)

13. What is the syntax of 'Main' function? (g)

14. Define the operator of a source program in C. (h)

15. 1. Describe the purpose and syntax of various decision making processes. (i)

5. (a) What is an array? Explain why arrays are used in programming. (b)

4. What is a loop? Describe two different forms of. (c)
1. Explain Debye's model of specific heat of solids. Devise a parameter that expresses the deviation from the Einstein's model.

2. Derive relation for deviation from the state of maximum probability.

3. (a) Derive an expression for $p$-parameter.

   $$ p = \frac{x}{p_{\text{max}}} $$

   Where $p$ is fractional deviation and others have their usual meanings.

4. (a) Derive Planck's law for black body radiation in terms of frequency and wave lengths.


6. Find the number of possible arrangements of 3 particles in 5 cells. Give basic assumptions of B.E. and P.D. statistics. What do you mean by phase space?

7. Give statistical and thermodynamic definition of entropy.

8. What are addition and multiplication theorems of probability?


10. Find the number of possible arrangements of 3 particles in 5 cells. Give basic assumptions of B.E. and P.D. statistics. What do you mean by phase space?

11. Give statistical and thermodynamic definition of entropy.

12. What are addition and multiplication theorems of probability?

Note: Question no. 1 is compulsory. Attempt four more questions selecting one from each unit. Each question carries equal marks.
Wave and Optics

GSW M-18

Paper-VIII

Time allowed: 3 hours

Maximum marks: 40

Attempt five questions in all.

Note: A scientific (non-programmable) calculator is allowed.

Section A: Four more questions are to be attempted.

1. What is the name of the method used for formation of translation
   matrix?

2. Discuss the method used for formation of translation
   matrix.

3. Why are matrix methods used in partial order questions?

4. What is a Gaussian function?

5. Show that the Fourier transformation of a Gaussian function is
   translation invariant.

6. State and prove modulation theorem for a Fourier
   transformation.

Section B: A name known for the Fourier transformation of a
   Gaussian function.

7. Give Fourier integral for even function.

8. State and prove Parseval’s theorem.

9. From the full wave equation, write the electric field in any
   plane wave receiver. Define dipole factor and find its value in
   optical plane.

10. What is a Fourier series? Use this for analysis of output from a full
    wave receiver. Define dipole factor and find its value in optical plane.

11. What are the different types of optical fibers?

12. Describe the different types of optical fibers.

13. Explain the different types of fiber optic cables.

14. Explain the different types of fiber optic cables.

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49. Explain the different types of fiber optic cables.

50. Explain the different types of fiber optic cables.
Section A

1. (a) What is the formula of sodium carbonate?
(b) The most common oxidation state of lanthanide
(c) Fill in the blank. NO is: ________
(d) Write the expression for solubility product.
(e) Name the most important acid of lanthanum.
(f) Which element of the actinide series has highest melting point.

2. (a) Why are 2- block elements Why are they so called?
(b) Lanthanides have poor tendency to form complexes
(c) Give two examples of nuclear fuels.
(d) Give two important uses of lanthanides.
(e) Explain.

Section B

1. (a) How will you test for NH₃?
(b) Name the various basic Radicals of Group II A and III B.
(c) What is sodium carbonate expected.
(d) Briefly explain the theory of precipitation.
(e) Define Quantitative analysis. Name his two types.
(f) Radicals.

2. (a) How can you replace HS⁻ in basic radicals of Group II A?
(b) What is the colour of Plane of Be²⁺ and Sr²⁺ ions?
(c) Explain the chemistry of Plane Test for Nitrate ion.
(d) How will you test for SO₄²⁻?
(e) What is common ion effect?
(f) H₂SO₄.

3. (a) Name the Acid Radicals that are tested with Conc. HNO₃.

Section C

1. (a) Name the Radicals that are tested with Conc. HNO₃.
(b) Which are consequences of Lanthanide contraction?
(c) Which are causes of Lanthanide contraction?
(d) Z = 69 = Z
(e) Write the electronic configuration for Cd (Z= 64) and In.
(f) Most of Lanthanides are coloured explain.

Note: Marks are indicated against each question.

Marks allowed: 3 hours

Paper-XI-CH-204

INORGANIC CHEMISTRY

CSM/MA-18

Time allowed: 3 hours

Maximum marks: 32

Preceded Pages: 2

Roll No.
2. Discuss the lattice energy of NaCl.

3. Write the name of two minerals which contain:
   (a) Na or Li
   (b) Which is thermally more stable and why? Li2O or Na2O?
   (c) Which is more basic and why? O2 or O2?

4. Explain the following:
   (a) What are lattice ions?
   (b) What is common ion effect and give its importance in
      precipitations.
   (c) Co-precipitation
   (d) Post-precipitation

5. Discuss the chemistry of Chalk.

Unit-II

\begin{align*}
\mathcal{E}_{\text{293 K}} & \overset{\mathcal{E}_{\text{298 K}}}{\leftrightarrow} \mathcal{E} \\
\mathcal{E} & \overset{\mathcal{E}_{\text{298 K}}}{\leftrightarrow} \mathcal{E}_{\text{293 K}}
\end{align*}

2. Complete the following:

3. Discuss the complex forming tendencies of actinides.

Note: Attempt five questions in all, selecting two questions from each unit.

Maximum marks: 27

Time allowed: 3 hours
2 \frac{H}{2} = \frac{d}{2} \left[ \frac{\partial E}{\partial T} \right]_{CG(T)}

3. Derive the relationship for the efficiency of a reversible heat engine.

2. What is a cyclic process? Describe Carnot cycle derived

---

Section A

2. What is an electrochemical cell?

(i) E.M.F. of a cell

(ii) Electrode Potential

3. Explain the following:

2. Give three statements of Second Law of Thermodynamics.

1. (a) Difference between Gibbs free energy and Helmholtz free energy.

---

Note: Attempt the questions in all sections at least two.

Maximum marks: 32

PAPER-XIICH-205

PHYSICAL CHEMISTRY (THEORY)

CSM/M-18

Page 3

Printed Pages: 3

ROLL NO.: ............
Write one of the following:

1. What is liquid junction potential? Explain.
2. Sperlingly soluble salt can be determined.
3. With the help of EMF measurements, how can solubility of \( \text{CuSO}_4 \) (\( m = 0.44, T = 0.64, \text{CuSO}_4 \cdot n = 0.4, T = 0.22 \)) be calculated?

9. a) Calculate the EMF of the following concentration cell at 35°C.
b) Calculate the EMF of basic buffer solution.
c) Explain buffer action in alkaline cell.
d) What are buffer solutions? Explain buffer action in acidic cell.

8. a) Derive Nernst Equation for measuring the E.M.F. of a \( \text{Cu} | \text{CuSO}_4 | \text{Cu} \) cell.
b) What is residual entropy? What is its origin and how can it be calculated?
c) Define entropy. Show that entropy is a state function.

5. a) How much work is done on 1 F and how much is the heat evolved at 170°C during each cycle?
b) What is the efficiency of an engine operating between 275°C and 110°C?
c) Calculate the maximum efficiency of an engine operating.

2. What is internal energy? What is its origin and how can it be calculated?

7. a) Write \( \text{Cu}_2\text{SO}_4 \) cell initially contains 1 M Ag and 1 M \( \text{Cu} \) cell.
b) Explain the concentration and working of electrochemical cell.

Section B

1. 1.25 electron flow.
2. A Carnot engine absorbs heat 6.0 KJ at 300°C. How much of this heat is evolved at 110°C?
3. State the first law of thermodynamics. What is the importance of the law?
4. a) Calculate the free energy change which occurs when 46 moles of an ideal gas expands reversibly & isothermally at 300K from initial volumes of 5 dekleere to 50 dekleere.
b) What are the potential benefits of using renewable energy sources such as solar and wind power? Explain.

1632 1632
2.2

Derive Nernst equation for measuring EMF of a cell.

3

The help of hydrogen electrode?

What is the potential difference determined experimentally with potential of nickel electrode.

The standard EMF of the cell.

The standard EMF of the cell is 0.34 Volt. Calculate the standard reduction potential of copper.

N.N.|N.C.N.

3.2

What is the Nernst equation potential? Derive an expression for the Nernst equation potential.

2.2

What are the Nernst potential? How are they classified into different types?

2.2

What are the Nernst potentials of reversible electrodes? Describe.

2.2

Write a short note on Nernst standard cell.

3.2

Define the potentiometric method to determine the solubility of a sparingly soluble salt.

5.2

Derive an expression for the calculation of the entropy of a reaction to occur.

The chemical reaction is 2H₂(g) + O₂(g) → 2H₂O(l) with Q = -237 kJ. Explain the term free energy. What information does the expression provide about the spontaneity of a reaction.

4.2

Explain the law of mass action. What does the expression  k = [H⁺][OH⁻] represent?

3.2

1. T₁ to T₂, and the pressure changes from P₁ to P₂. Explain the changes of an ideal gas when the temperature changes from T₁ to T₂.

2. (a) Derive an expression for the calculation of the entropy of a reaction.

(b) Calculate the entropy change when 2 moles of an ideal gas are allowed to expand from a volume of 1.0 liter to a volume of 10.0 liters at 27°C.

(c) Calculate the entropy change when 2 moles of an ideal gas are allowed to expand from a volume of 1.0 liter to a volume of 10.0 liters at 27°C.

Let's determine the working between temperatures T₁ and T₂.

1. (a) Derive an expression for the efficiency of a reversible heat engine.

2. (a) Derive an expression for the efficiency of a reversible heat engine.

Section A

Programmable calculator is allowed.

Note: Attempt five questions in all sections at least two.

Maximum marks: 25

Physical Chemistry

Paper- XII CH - 205

Chemistry

C. M. - 18

Printed Pages: 2

Roll No.: 2
2. (a) CH₃CH₂COOH and CH₃-C-CH₃
(b) CH₂=CH₂ and CH₃-CH=CH₂

(b) How will you distinguish between the following pairs on the basis of IR spectroscopy?

(a) Which one is a weaker base and why? Explain in terms of resonance effect on absorption frequency.

(b) Explain giving example the resonance effect on absorption frequency.

2. (a) Give two reactions.
(b) How will you distinguish between acetaldheyde and methylene.
(c) Which one is a weaker base and why? Explain in terms of resonance effect on absorption frequency.
(d) Explain giving example the resonance effect on absorption frequency.

Composite Question

Composite: Select two questions from each unit.
Notes: Attempt five questions in all. Question no. 1 is mandatory.
Time allowed: 3 hours

Paper-XIII CH-206
ORGANIC CHEMISTRY

GSM/M-18
Printed Pages: 3
Roll No: 10
6. (a) How will you prepare the following using benzene diazonium chloride?

(b) Give all resonance structures.

7. (a) Why does benzene have a lower density than water?

(b) Why does benzene have a higher boiling point than water?

8. (a) Explain why formaldehyde does not give aldol condensation in basic medium with ammonia.

(b) Explain why formaldehyde does not give aldol condensation with formaldehyde and water.

9. (a) Which one is more reactive towards nucleophilic addition: benzene, carbon tetrachloride, or formaldehyde?

(c) Explain why formaldehyde does not give aldol condensation with formaldehyde and water.

10. (a) Why is benzene denser than water?

(b) Why is benzene more reactive towards nucleophilic addition than water?

(c) Why is benzene more reactive than water towards nucleophilic addition?

(d) Why is benzene more reactive than water towards nucleophilic addition?

(e) Why is benzene more reactive than water towards nucleophilic addition?
(a) Write the reaction of CH₂O + CH₂O → ...
(b) Give the names of the following compounds:
(i) CH₂O
(ii) CH₃CHO

Section A

1. Draw the structure of CH₃CHO and CH₂O.
2. Explain the properties of CH₂O and CH₃CHO.
3. Write the reactions of both compounds and give the products formed.
4. Write the method of preparation of CH₂O and CH₃CHO.
5. Write the uses of both compounds.

Section B

1. What is the difference between the two compounds based on their properties?
2. Explain the principle of IR spectroscopy and give its applications.
3. Define the term and discuss the vibrations in CH₂O.
4. Calculate the fundamental vibration mode in CH₂O.

Note: Attempt five questions in all sections at least one.

Maximum marks: 25
2. Write in detail about fundamental components of the economy.

UNIT I

1. Explain the following components of the economy:

(a) Physical system of classification
(b) Cytology
(c) Physical
(d) Monograph
(e) Class of plants
(f) Herbarium
(g) Kingdom
(h) Chlamydomonas
(i) Holography

1. Explain the following components of the economy:

2. Explain the following components of the economy:

**COMPULSORY ANSWER**

Carry equal marks.

Answer all parts of question 1 at same place. All questions from each unit. Question No. 1 is compulsory and attempt five questions in all selecting two questions from each unit. Maximum marks: 40.

**TIME ALLOWED: 3 HOURS**

**BIOLOGY AND DIVERSITY OF SEED PLANTS—II**

**PAPER—I**

**BIOCHEMISTRY**

GSM/M-18

Prepared Pages: 3
8. Write in brief about the following:

(a) Economic importance of family, personal and social diagonal
(b) Type of features and classification of class Diagonal
(c) Merits and demerits of English and Pratin system of

7. Give diagnostic features of family, personal and social diagonal

4. As given by Bennam and Hooker

6. Write in brief about the following:

Line II

8. Explain various types of recession irrespective with suitable

5. Inherent sequential keys and parallel sequential keys.

3. Type Concept

4. Write short notes on the following:

(a) Taxonomic ranks
(b) Principle of priority

3. Write in brief about the following:
Unit-I

1. Define/ Explain the following Terms.

(a) Endosperm

(b) C Resiniferous Glands

(c) Embryo

(d) Sectionary Layer

(e) Spicule

(f) Penanth

(g) Antler

(h) Antler

2. Describe the statement that, however is a modified shoot with the help of relevant examples.

3. What is microspore? Give the detailed information of formation of microspores.

4. Describe various types of fruits in angiosperms.

5. What is seed? Describe the process of seed dispersal in angiosperms.


7. Write short notes on:

(a) Nuclear Endosperm

(b) Endosperm

(c) Resiniferous Glands

(d) Sectionary Layer

(e) Spicule

(f) Penanth

(g) Antler

(h) Antler

Unit-II

1. Define /Explain the following Terms.

(a) Pollination

(b) Self-incompatibility

(c) Cross-pollination

2. Write short notes on:

(a) Cross-pollination

(b) Self-pollination

3. What is seed? Describe the process of meiosis in angiosperms and meiosis.

4. Describe various types of fruits in angiosperms.

5. Write short notes on:

(a) Nuclear Endosperm

(b) Endosperm

(c) Resiniferous Glands

(d) Sectionary Layer

(e) Spicule

(f) Penanth

(g) Antler

(h) Antler

Note: (a) Attempt five questions in all selecting two questions

Time allowed: 3 Hours

Maximum marks: 40

Paper-II

BOTANY

CSM/MI-18

Page

2

1639

1639

1639
2. Describe structure and working of heart of Frog.

Section-A

1. $1.5 \times 10 = 15$

Section-B

5. Give an account of male reproductive system of Hemichasmus.

4. (a) Describe evolutionary tree of reptiles.

3. (a) Discourse poisonous appendages in snakes.

3. (a) Buccopharyngeal cavity of frog.

3. (a) Care of eggs in amphibians.

3. Give a brief note on the following:

2. Explain the following terms in about 20 words each:

(a) Migratorium

(b) Scrotum

(c) Blind spot

(d) Rectrices

(e) Secondary flipper

(f) Syrinx

(g) Jacobson's organs

(h) Paures

(i) Hypothalamus

(j) Amygdalae

Time allowed: 3 hours

Maximum marks: 40

Note: Answer five questions in all. Selecting two questions each from Section A and II (Question no. I is compulsory).
Part-1

1. Explain the mechanism of blood coagulation.

2. Explain the different phases of excitation.

3. Describe the process of fertilization.

4. (a) Explain the function of the various hormones of anterior pituitary gland.

5. (a) Describe the neural phase of menstrual cycle.

6. (a) Describe the function and disorders of hormones secreted by thyroid glands.

7. (a) Discuss the mechanism of condensation of nerve impulse.

8. (a) Describe Na and K exchange pump.

9. (a) Explain the role of antidiuretic hormone (ADH) in osmoregulation.

Part-11

1. Answer the following questions or explain terms in 25-30 words:

(a) What is respiration?

(b) What is aldosterone's disease?

(c) Define adrenal virilism.

(d) What is hypothalamic delay?

(e) Define neurohumorants.

(f) What is necrosis?

(g) Define Hadamard effect.

(h) What is cardiac output?

(i) What is oxygen dissociation curve?

(j) What is mean blood pressure?

2. Attempt two questions each from Part-I and Part-II

Note: Ques. no. 1 is compulsory

Maximum marks: 40

Time allowed: 3 hours

Mammalian Physiology-II

Zoology

Paper-II

CSM/M-18

Printed Pages: 2

Roll No.
Discuss starting voltage in Oscillator.

Unit II

Resistors
4. (a) Prove the effect of voltage feedback on Oscillator.
4. (b) Prove that non-linear distortion decreases with negative feedback.

Unit I

(a) Define and Explain Line Regulation and Load Regulation.
(b) Discuss construction of a Crystal Oscillator.
(c) Discuss Electro-Mechanical Equivalent Circuit for a Crystal Oscillator.
(d) Justify the choice of high input resistance and low output resistance in Oscillators.

Comprehen. Question

Q. No. 1 is compulsory

Note: Attempt questions in all sections one from each unit.
Maximum marks: 40

Page 9

OP-AMP AND LINEAR INTEGRATED CIRCUIT-II

Paper-1 (Theory)

ELECTRONICS

GM / M-18

Printed Pages: 2

Roll No.

1644
4.4 2 Unit: 1

Discuss the three possible modes of data transfer: 1 to and from
the terminal mechanisms in the
transferred through handshake signals with wiring diagrams. Explain how the data is

What do you mean by handshake? Explain how the data is

Unit-1

and explain its working.

4.4 Problem: Discuss the circuit diagram of successive approximation ADC
diagram. Discuss its benefits.

Explain the working of single slope ADC with circuit
is preferred over weighted resistor DAC?

Dissent the working of R-2R ladder type DAC and why it

Explain the weighted resistor DAC with circuit diagram.

Unit-III

4.4 Problem: Write a short note on microcomputer core memory.

4.4 Problem: Discuss Programmable Logic Arrays (PLA).

5.4 Problem: Write a short note on PROM.

4.4 Problem: Explain the working of static RAM using multi-counter BTL.

4.4 2 Unit: 1

(q) to introduce time delay

(a) as timer counter

3. Explain how a shift register can be used:

Generator

Explain the application of shift register in sequence
with circuit diagram.

2. (a) Discuss the working of Parallel-in-Serial-out Shift register

Unit-1

Computer and each peripheral device?

4.4 (d) What are the differences between working of central

ADCP?

(c) What are the merits of dual slope ADC over single slope

(b) Explain the difference between RAM and ROM.

1. (a) What is a Universal Shift Register?

Computer Question

Attempt one question from each unit.

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

Maximum marks: 40

Time allowed: 3 hours

Digital Electronics

Paper-II

Electronics

GSM / M-18

Printed Pages: 2

Roll No.
1. Compulsory Question:

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

(i) Define Class

(ii) What do you mean by object of a class?

(iii) What are manipulators?

(iv) What is array?

(v) Define polymorphism.

(vi) What is the use of new operator?

(vii) What do you mean by modular approach in programming?

(viii) What do you mean by modular approach in programming?
Unit I

What do you mean by function overloading? Write a program to overload a function.

What is function overloading? Write a program to overload a function.

What are the advantages of using inline function? What are the conditions of making a function inline?

Unit II

What is the difference between procedure oriented programming and object oriented programming? Write a program of using structures.

What is the difference between procedure oriented programming and object oriented programming? Write a program using local class.

(3) Structures
(3) Local class

(1) Data Members and Member Functions
(1) Data Members and Member Functions

Examples:

Example 1:

Example 2:

Unit III

Explain different functions used for formatting the output.

Explain the concept of parameterized constructors and copy constructors with suitable examples.

What is the difference between procedure oriented programming and object oriented programming? Write a program using friend class.

What is the difference between procedure oriented programming and object oriented programming? Write a program using friend function.

What is the difference between procedure oriented programming and object oriented programming? Write a program using friend class.

2. Explain the following concepts of C++ with the help of suitable examples:

(3)
1. Explain disk structure.
2. What is disk management? Explain.
3. Explain file access and file allocation methods in detail.

Unit III

5. What is mean by inter process communication?

Note: Question No.1 is compulsory. Attempt five questions in all.

Maximum marks: 50; 5 = 40
Time allowed: 3 hours

Operating System

Paper II

Computer Science

GSM / M-18

Practical Paper: 2

Roll No.
GSM/M-18
COMPUTER APPLICATION
Paper-I

Web Designing Using Advanced Tools

Time allowed : 3 hours} [Maximum marks : 40

Note : Attempt 5 questions in all, selecting one question from each unit in addition to Compulsory Question No. 1.
All questions will carry equal marks.

(Compulsory Question)

1. (a) What are background properties available in XML?  
(b) What is the difference between “FontSize” and “Font Size” in DHTML?  
(c) Name the company which developed JavaScript.  
(d) What is difference between include directive and include action in Java Server Pages?  

Unit-I

2. (a) What are application areas of DHTML?  
(b) What are the role of Filters and Transitions in DHTML?  

3. How you will add following in DHTML:
   (a) Table  
   (b) Image  

[1650] [P.T.O.]
(2).

(c) Sound
(d) Page Break

Unit-II

4. (a) What is the structure of XML document? 4
(b) What is Document Object Model in XML? Why it is used? 4

5. Write various formatting and appearance tools available in XML. 8

Unit-III

6. Write various control statements available in JavaScript? 8

7. (a) What is a "Closure" in JavaScript? Provide an example. 4
(b) What are the major advantages of JavaScript? 4

Unit-IV

8. Write various JavaScript Build-in Objects with suitable examples. 8

9. What are the role of Java Server Pages? Also write few important tools available in JSP. 8
1. Write code in VB.

2. Increase lifetime of a local variable.

3. Discuss each component.

4. Write output programming approaches.

5. Write output programming. How it is different from

6. Remember which circumstances are required?

7. Write output programming.

8. Discuss each component.

9. Design a form for password validation. Then, the form

10. Interests and display.

Example:

How multi-dimensional arrays are defined in VB? Discuss using

of each.

Discussion if they else and select-case statements using one example

UM-III

4. Variables having conventions.

(a) What do you mean by static variables? Discuss different

(b) Module and public scope.

(c) Private and public scope.

5. (a) Difference between

(b) Discuss different operations in Visual basic.

UM-II

(2)

Maximum marks: 40

Program in Visual Basic

Note: Candidate is required to attempt five questions in all

Section 1: compulsory. All questions carry equal

Section 2: Selecting one question from each of the four units.

Time allowed: 3 hours

Compulsory Applications
1. Name a recombinant DNA vaccine. (1))

2. Why E. coli is a preferred host for recombinant protein production? (1)

3. Why is the significance of selectable markers? (1)

4. Define promoter sequences. (1)

5. When are linkers? (1)

6. Mention the function of DNA ligase. (1)

7. Write an essay on the role of DNA technology for development of therapeutic products for human welfare. (4)

8. Describe the principles and application of the directed biotechnological programs. (4)

9. What are genomic and cDNA libraries? Discuss their utility in DNA engineering enzymes. (4)

10. Methods used for selection of recombinant. (4)

Note: Answer the questions in all sections as long as possible. No. of words: At least 40

Maximum marks: 40

Time allowed: 3 hours
Turn over

1. Define Proteome, Name various techniques applied in
   (a) Gene expression
   (b) Gene expression
   (c) Gene expression
   (d) Gene expression

2. Give various applications of Bioinformatics
   (a) Genome 
   (b) Gene expression 
   (c) Gene expression 
   (d) Gene expression 
   (e) Gene expression 
   (f) Gene expression 
   (g) Gene expression 
   (h) Gene expression

3. Give conclusions of Gene Bank, NCBI Model
   (a) Gene expression
   (b) Gene expression
   (c) Gene expression
   (d) Gene expression

Unit-I

8 x 1 = 8

1. Define Full form of following:
   (a) Genome
   (b) Gene expression
   (c) Gene expression
   (d) Gene expression
   (e) Gene expression
   (f) Gene expression
   (g) Gene expression
   (h) Gene expression

Compulsory Question

Note: Question No. 1 is compulsory, Attempt any two questions.

Time allowed: 3 hours

Maximum marks: 40

Biomathematics

Paper IX

Biotechnology

GSM M-18
लेखक का उद्देश्य विभिन्न रूपों में विभाजित करना है।

लेखक की भीतरी संदेश समूहों का विभाजन करना है।

हाँ, इतने कारणों से लेखक के उद्देश्य को विभाजित करना है।

(अ) इतने कारणों से लेखक के उद्देश्य को विभाजित करना है।

(ब) इतने कारणों से लेखक के उद्देश्य को विभाजित करना है।

(ब) उपरोक्तायुक्ता विभाजित करना है।

1. उपरोक्तायुक्ता विभाजित करना है।

Maximum marks : 40

PAPER-II
Hindi Compulsory
GSM/M-18

prime pages : 3

Roll No.
Note: Estimate, Evaluation.
Blowout, Bill, Circulation, Capital, Conduct, Damage.
Acknowledgements, Admission, Approval, Arrivals, Attendance.

5.
6.
7.
8.
9.
10.

Time allowed: 3 hours
[Maximum marks: 40]
1. त्रिकोणमिति के समानार्थक उत्तर (a)
2. त्रिकोणमिति के समानार्थक उत्तर (b)
3. त्रिकोणमिति के समानार्थक उत्तर (c)
4. त्रिकोणमिति के समानार्थक उत्तर (d)

2 \times 4 = 8

Maximum marks : 40

Time allowed : 3 hours

Paper-1

COMPULSORY

SANSKRT COMPULSORY FOR B.S.C.

CSE/M-18

Printed Pages : 3

ROLL NO :
1. Write brief answers of the following

**Compulsory Question (हिंदी में)**

1. "...

Note: Attempt five questions in all, selecting at least two from each unit

**Course 211**

Applied And Community Nutrition

**1834 GSM/M-18**

Total Pages: 04

Maximum Marks: 40

Time: Three Hours
UNIT IV (Unit IV)

8. Describe the various types of food spoilage. What principles should be followed in storage of food to avoid spoilage?

7. Why is important to preserve food? Explain in detail.

8. What are the various principles of food preservation?

6. Discuss the causes that lead to food spoilage. What measures of vitamin deficiency diseases? Explain.

5. What are the various causes, symptoms, and preventive measures of vitamin deficiency diseases? Explain.

4. PEM is a major nutritional problem among poor Indian children. Explain the causes behind it. Discuss its physical, psychological, and beneficial effects on food.

3. Describe various types of microbes. Give their harmful and beneficial effects on food.
1. Explain briefly the following:

2x4=8

Compulsory Question (All marks)

Note: Attempt five questions in all. Selecting two questions from each unit Q. No. 1 is compulsory. All questions carry equal marks.

Maximun Marks: 40

Course 212
Apparel Designing and Selection

GSM/M-18

Total Pages: 03

Roll No. ...
UNIT II

1. Explain the principles of design. What are the principles of design?

2. Write short notes on the following:
   a. Different processes of making clothes
   b. Clothing for lactating mothers

3. "Clothing is an integral part of life." Discuss the following:
   a. Its advantages and disadvantages also.

4. When should the body be kept in mind while selecting clothes?

5. Write short notes on the following:
   a. Different processes of making clothes

6. When are the principles of design explained?

UNIT I (Stage I)

1. Explain the principles of design. What are the principles of design?

2. Discuss the qualities of Readymade garments and explain

3. "Clothing is an integral part of life." Discuss the following:
   a. Its advantages and disadvantages also.

4. When should the body be kept in mind while selecting clothes?

5. Write short notes on the following:
   a. Different processes of making clothes

6. When are the principles of design explained?

UNIT II

1. Explain the principles of design. What are the principles of design?

2. Write short notes on the following:
   a. Different processes of making clothes
   b. Clothing for lactating mothers

3. "Clothing is an integral part of life." Discuss the following:
   a. Its advantages and disadvantages also.

4. When should the body be kept in mind while selecting clothes?

5. Write short notes on the following:
   a. Different processes of making clothes

6. When are the principles of design explained?

UNIT I (Stage I)

1. Explain the principles of design. What are the principles of design?

2. Discuss the qualities of Readymade garments and explain

3. "Clothing is an integral part of life." Discuss the following:
   a. Its advantages and disadvantages also.

4. When should the body be kept in mind while selecting clothes?

5. Write short notes on the following:
   a. Different processes of making clothes

6. When are the principles of design explained?
2. Explain the factors affecting physical and emotional development of children.

(a) 

(b) Basic emotional reactions during infancy.

(c) 

(d) Puberty growth spurts.

1. Write short notes on the following:

Unit 1 (Psychology I)

Note: Attempt five questions in all, selecting two questions from each unit. Q. No. 1 is compulsory. All questions carry equal marks.
2. Explain the possible causes of underlining problematic behavior.

3. Give the characteristics of a problematic child.

6. Define Socialization. Explain different factors affecting socialization process of a child.

9. Explain the following:

Unit II (Unit)

4. (a) Explain the different stages of language development.

2×4=8
2. Define failure and explain the reasons of failure and
   different types of failure:
   (a) 
   (b) 
   (c) 
   (d) Evaluation of time plan
   (e) Time as an important resource

I. Explain the following:

Unit I (Family Income)

Note: Attempt five questions in all, selecting at least one

Course: 2.14
FAMILY RESOURCE MANAGEMENT
GSN/M-18
1837

Maximum Marks: 40

Time: Three Hours

Roll No.
Total Pages: 03
7. Define Marking and discuss its concept in detail.

8. Define the following:
   (a) Money
   (b) Types of Expenditure
   (c) Regular Income

6. Write notes on the following:
   (a) Planning
   (b) Effects of Energy Cost
   (c) Work Curves
   (d) Consumer
   (e) Real Income
   (f) Peak Load
   (g) Provident Fund

9. Define the following:
   (a) Budget
   (b) Types of Budget

8. Explain the following:
   (a) Principles of Saving
   (b) Types of Saving

4. Define work simplification in detail.

3. Define Energy: How energy can be managed.
I. Answer the following:

Comprehensive Question (निर्देशादि कोट) 4×2=8

Note: Attempt five questions in all. Selecting more questions carries equal marks.

Course No. 215
EXTENSION EDUCATION II
COMMUNITY DEVELOPMENT
GSM/M-18 1838
Roll No. 03
Describe the role of home science extension specialists in
philosophy of extension education. Explain the concept and

Unit II (ქართულ) (I)

1. Define Extension Education. Explain the concept and

2. What do you mean by development? Describe the

3. What was the philosophy behind community development

4. Explain the importance of projected aids in educational

5. Development programme suggests some measures to

6. Define Extension Education. Explain the concept and

7. What is the role of various do's and don'ts of extension workers?

8. What do you mean by programme planning? Describe

9. What is the significance and its process?
(v) Explain the concept of energy conservation. Why?

(iii) Antisepsis should be of low surface tension: Why?

(ii) What are the applications of elasticity?

(i) What are the properties of these wires?

Compulsory (Question (for all))

Select at least one question from each unit.

Note: Total Five questions are to be attempted. Q. No. 1 is

Maximum Marks: 40

Course: 216

Introudcatory Physics

GSM/M-18

1839

Roll No. ........................................

Total Pages: 03
6. Explain the principle, construction and working of A.C.

7. Write notes on the following:

(a) CFL
(b) Vacuum Coffee Maker
(c) Pressure Cooker
(d) Scissors
(e) New Cancer

8. Explain the various properties of solids with suitable examples.

9. (ii) Explain the sources of heat. Explain the
difference between heat and temperature.
(iii) Give the properties of heat.
Define the complexity of binary search.

When are the conditions for binary search also recorded?

Determine the difference between fixed and variable length.

\[ X = (p + q)(r - s) \]

Draw the tree for the expression.

Define complete binary tree with example.

---

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

Maximum Marks: 80

Time: Three Hours

BCA-241

ADVANCED DATA STRUCTURE

BCA/M-18

R07/10/1-1916

---

UNIT IV

9. (a) What is file? Describe various types of files and their uses.

10. Explain sequential, direct and indexed sequential file organization with example.

16. Describe various file operations that can be done on files.
Unit I

Unit II

Unit III
4.11/4 L-1917

P.T.O.

Explain the concept of virtual function with one example in C++.

2. (a) What is the use of polymorphism feature in C++?

Unit I

1. (i) What is a data type?
   (ii) What is the use of delete operator?
   (iii) What is a unary operator?
   (iv) What do you mean by Module?
   (v) When is an expression?
   (vi) Write examples of derived data types.
   (vii) What is Single Inheritance?
   (viii) What is the use of an object?

I. Compulsory Question:

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

BCA-242

ADVANCED PROGRAMMING USING C++

BCA/M-18

1917

Total Pages: 03

Roll No. 03

Maximum Marks: 80

Time: Three Hours
Unit III

6. (a) What is the use of inheritance in C++? Why do we prefer to implement multiple inheritance?

(b) What do you mean by private, protected, and public data members and member functions with suitable declaration?

(c) What do you mean by private functions and member data with suitable declaration?

(d) How do you understand by conversion between different classes Explain with the help of example.

(e) How can we convert data from one form to another?

Unit II

9. (a) What is the role of constructor and destructor in C++?

(b) What is the concept of virtual function with example.

(c) What is the use of pure virtual function?

(d) Explain a destructor in a class Explain why it is necessary to use.

Unit I

8. (a) What are the limitations of a text file? Explain.

(b) What are the different operations that can be performed on a file? Explain.

(c) What are the limitations of the file systems available for the operations?

(d) What are inputs and output streams? Describe the operations.

9. (a) What is an exception? How can we catch and throw an exception in C++.

(b) How to implement a try catch block.

(c) How to implement a class that can throw an exception.

(d) What is the role of destructor and virtual destructor in C++.
(c) What do you mean by Social Commerce? Explain briefly.

(b) Distinguish between the working of eBay model and Flipkart model.

(a) Briefly explain the concept of URL blocking.

1. (a) Explain various risks of using Internet.

(a) Describe advantages and disadvantages of B2B e-commerce. What are its benefits?

(b) Explain Buyer-Oriented Marketplace and Educational

UNIT IV (Section IV)

ECOMMERCE

Maximum Marks: 80

BCA-M-18

1918

Total Pages: 04

How real estate market is influenced by

limitations of auctions?

(b) What is e-auction? What are benefits and
Explain the impact of e-commerce on tourism.

List and explain various types of EPS (Electronic Payment System).

What are the various technical and non-technical limitations of e-commerce?

What are the various advantages and disadvantages of e-Banking/Online Banking?

What is e-Governance? Explain the concept of Discrimination and

Explain the concept of Discrimination and

What is e-Governance? Explain the concept of Discrimination and

What are the various advantages and disadvantages of e-Banking/Online Banking?

What are the various advantages and disadvantages of e-Banking/Online Banking?

What is e-Governance?}

Explain the concept of Discrimination and

What are the various advantages and disadvantages of e-Banking/Online Banking?

What is e-Governance? Explain the concept of Discrimination and

What are the various advantages and disadvantages of e-Banking/Online Banking?

What is e-Governance? Explain the concept of Discrimination and

What are the various advantages and disadvantages of e-Banking/Online Banking?
1. Define the basic term of Relational Model.
6. Explain: How views are created and destroyed in SOL.
   (b) Different classes.
   (c) What are the data types we use in SOL.
   (d) Difference.

Unit III

5. Close or functional dependencies.
   (c) Transitive and multivalued dependencies.
   (a) Trivial and non-trivial functional dependencies.

4. Write notes on the following with supportive examples:
   (a) Normal forms.
   (b) Normalization.

Unit II

8. Write the following in PL/SOL:
   (a) Column.
   (b) Table.

6. Write the following:
   (a) Create a table.
   (b) Update a specific tuple.
   (c) Define a relationship.
   (d) Update a specific tuple.

Unit I

4. Write the following:
   (a) SQL statements.
   (b) Primary key.
   (c) Null.

3. Write the following:
   (a) SQL statements.
   (b) Primary key.
   (c) Null.

2. Write the following:
   (a) SQL statements.
   (b) Primary key.
   (c) Null.
Define two characteristics of ANOVA.

x and y is 0,8.

Respectively and coefficient of correlation between.

\( \text{If standard deviation of } x \text{ and } y \text{ are } 4 \text{ and } 4, \) find the regression coefficient of \( x \) on \( y \).

Regression

Define two differences between correlation and

\( \text{cov}(x, y) = 16.3, \text{ Var}(x) = 2.89, \text{ Var}(y) = 100 \)

Find the coefficient of correlation when

Give two merits of Harmonic mean

Give types of measures of central tendency

Define Discrete Random Variables

Define Range

I. What

II. What questions carry equal marks.

Select at least one question from each line. All

Note: Attempt Five questions in all. 0, 1 is compulsory.

Maximum Marks: 80

BCA-245

METHODS

COMPUTER ORIENTED STATISTICAL

1920

BCA/M-1.8

Total Pages: 05

Roll No. ________________________________
8. Following data:

Find the line of regression of $y$ on $x$ for the

Unit IV

3. (a) Compute the standard deviation for the following:

<table>
<thead>
<tr>
<th>$x$</th>
<th>2</th>
<th>4</th>
<th>8</th>
<th>10</th>
<th>16</th>
<th>26</th>
<th>30</th>
<th>40</th>
<th>50</th>
</tr>
</thead>
<tbody>
<tr>
<td>$f$</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

8. Following:

Find the mean deviation from AM of the

Unit II

2. (a) Two unbiased dice are thrown together at random. What is the expected value of sum of the numbers shown by the two dice?

Unit I

8. Compute the mean deviation from AM of the

<table>
<thead>
<tr>
<th>Weights in kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below 40-45</td>
</tr>
<tr>
<td>45-50</td>
</tr>
<tr>
<td>50-55</td>
</tr>
<tr>
<td>55-60</td>
</tr>
<tr>
<td>60-65</td>
</tr>
</tbody>
</table>

8. Weights of trainees in a wrestling coaching camp:

Given below is a grouped frequency distribution of marks.

<table>
<thead>
<tr>
<th>Marks</th>
<th>0-10</th>
<th>10-20</th>
<th>20-30</th>
<th>30-40</th>
<th>40-50</th>
<th>50-60</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

8. Given below is a grouped frequency distribution of marks. Compute the frequency table into:

Marks

<table>
<thead>
<tr>
<th>More than form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than form</td>
</tr>
</tbody>
</table>

8. A die is thrown 6 times. Letting an odd number is a success. What is the probability of:

(i) At most 5 successes.

(ii) At least 5 successes.

(iii) 5 successes.

8. Ten students success in statistics and mathematics.

First students success the following marks in statistics:

<table>
<thead>
<tr>
<th>Marks</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>$x$</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
</tr>
</tbody>
</table>

8. Find $cov(x,y)$ between $x$ and $y$. If:

(i) All most 5 successes.

(ii) All least 5 successes.

(iii) 5 successes.
8. A sample of this size is 8.5% and 17.5%.
Show that E.T. of the proportion of rotten ones in
a random sample of 500 apples were taken.
(a) 1
Defining 95% level of hypotheses and also define its
(b) 2
Sample means and standard error of 95%.
8
Variates, Test the hypotheses that the population
three correlate normal populations with equal
(c) 3
Three samples, each of size 5, were drawn from
(d) 4

<table>
<thead>
<tr>
<th>Class</th>
<th>Expected Frequency</th>
<th>Observed Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>7</td>
<td>24</td>
</tr>
<tr>
<td>B</td>
<td>4</td>
<td>38</td>
</tr>
<tr>
<td>C</td>
<td>15</td>
<td>24</td>
</tr>
<tr>
<td>D</td>
<td>4</td>
<td>29</td>
</tr>
<tr>
<td>E</td>
<td>4</td>
<td>1</td>
</tr>
</tbody>
</table>

8. (a) Find the value of Chi-square for the following:

<table>
<thead>
<tr>
<th>Class</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>1</td>
</tr>
<tr>
<td>B</td>
<td>2</td>
</tr>
<tr>
<td>C</td>
<td>3</td>
</tr>
<tr>
<td>D</td>
<td>4</td>
</tr>
<tr>
<td>E</td>
<td>5</td>
</tr>
</tbody>
</table>

8. (b) The profile of a certain company in the 6th year of
5
its life are given by

<table>
<thead>
<tr>
<th>x</th>
<th>f(x)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>7</td>
<td>8</td>
</tr>
</tbody>
</table>

8. Find the least square approximation of second degree
7
When the two lines of regression are $\bar{x}$
<table>
<thead>
<tr>
<th>(i)</th>
<th>Coefficients of correlation between $x$ and $y$</th>
</tr>
</thead>
<tbody>
<tr>
<td>(ii) Regression coefficients $b_{xy}$ and $a_{xy}$</td>
<td></td>
</tr>
<tr>
<td>(iii) Mean $x$ and $y$.</td>
<td></td>
</tr>
</tbody>
</table>
1. Define a physical and abstract information system.

2. Explain a prototype design model.

3. Distinguish between data verification and data validation.

4. What are the sources of information for different systems?

5. Why should managers study an information system?

6. Levels of management.

(Compulsory Question)

Questions carry equal marks.

Note: Attempt five questions in all, selecting at least one from each Unit. 0% No. 1 is compulsory. All questions from each Unit. 0% 80 Maximum Marks: Time: Three Hours

BCA-246

MANAGEMENT INFORMATION SYSTEM

BCA/M-18

1921

ROLL NO. ..........................................

TOTAL PAGES: 03
Support System (DSS) Write components and structure of a decision 
8
\( \text{(b)} \)
\( \text{(a)} \)
From an MIS (Management Information System) View a Decision Support System (DSS) is different
8
\( \text{(a)} \)
\( \text{(b)} \)
Elaborate the role of Internet in E-Business
8
\( \text{(a)} \)
\( \text{(b)} \)
What is E-Commerce? Write all its differences
8
\( \text{(a)} \)
\( \text{(b)} \)

Unit II
8
\( \text{(a)} \)
\( \text{(b)} \)
Can Information Provide Competitive Advantage? How
8
\( \text{(a)} \)
\( \text{(b)} \)
What is meant by Information Revolution? How
8
\( \text{(a)} \)
\( \text{(b)} \)
What are the uses of Information System in sales
8
\( \text{(a)} \)

Unit III
8
\( \text{(a)} \)
\( \text{(b)} \)
Distinguish between Planning Information and Information System.
8
\( \text{(a)} \)
\( \text{(b)} \)
Describe any two design tools for designing an Information System
8
8
\( \text{(a)} \)
\( \text{(b)} \)
System Implementation and System Maintenance.
8
\( \text{(a)} \)
\( \text{(b)} \)
Distinguish between Management Information System and MIS
8
\( \text{(a)} \)
\( \text{(b)} \)
Delineate the way how an Information System supports management roles.
8
8
\( \text{(a)} \)
\( \text{(b)} \)
Function of an MIS (Management Information System) Applying Open System
8
8
\( \text{(a)} \)
\( \text{(b)} \)
Explain the following:
8
8
\( \text{(a)} \)
\( \text{(b)} \)
System Boundary and Environment
8
\( \text{(a)} \)
\( \text{(b)} \)
Subsystems and their Interactions
8
\( \text{(a)} \)
\( \text{(b)} \)
What role do feedback and control in working of a system
8
8
\( \text{(a)} \)

Unit IV
8
\( \text{(a)} \)
\( \text{(b)} \)
Explain role of feedback and control in working of a system
8
8
\( \text{(a)} \)

1. 1921
Finding variance of binomial distribution

Find the mean and standard deviation

\( p(X = 2) = 4P(4) \)

If \( X \) is a Poisson variable such that:

\( \mu \), the sum of mean and variance of a binomial

UnilV

Find distribution function of \( X \).

Write any three lines to fill function, also zero values of the probability mass function.

developed basis, construct a table giving non-
variable which counts the total number of points on the random

Two dice are rolled, let \( X \) denote the random

\[
\begin{align*}
& \text{if } p < x \\
& \text{if } p \leq x \leq p + \frac{e^p}{x} \\
& \text{if } p 
\end{align*}
\]

Verify that following is a distribution function.
Probability density function

\[ f(x) = \begin{cases} 0 & \text{otherwise} \\ \frac{18}{3+x} & \text{for } 3 \leq x \leq 2 \\ \frac{\alpha}{3} & \text{for } 2 \leq x \leq 1 \\ \alpha x & \text{for } 1 \leq x \leq 0 \end{cases} \]

Franklin 1.1-12385

Let \( X \) be a continuous random variable with

\[ f(x) = \begin{cases} 0 & \text{otherwise} \\ \frac{18}{3+x} & \text{for } 3 \leq x \leq 2 \\ \frac{\alpha}{3} & \text{for } 2 \leq x \leq 1 \\ \alpha x & \text{for } 1 \leq x \leq 0 \end{cases} \]

Find the minimal spanning tree of the given connected weighted graph \( G \) of 5 vertices.

II

Skewness and Kurtosis

The first four moments of a distribution about the mean.

<table>
<thead>
<tr>
<th>Value</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-10</td>
<td>1</td>
</tr>
<tr>
<td>11-20</td>
<td>0</td>
</tr>
<tr>
<td>21-30</td>
<td>2</td>
</tr>
<tr>
<td>31-40</td>
<td>4</td>
</tr>
<tr>
<td>41-50</td>
<td>0</td>
</tr>
</tbody>
</table>

4. (a) Calculate the mean from the following:

<table>
<thead>
<tr>
<th>x</th>
<th>f</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>3</td>
</tr>
<tr>
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4. (a) Prove that every graph has an even number of odd vertices.

5. (a) Prove that there is exactly one path between every pair of vertices in a tree.

(b) Define connected graph and prove that if \( G \) be a connected graph and \( n \geq 2 \) be two distinct vertices of \( G \), then there exists a simple path between the vertices.

(b) Define connected graph and prove that if \( G \) be a connected graph and \( n \geq 2 \) be two distinct vertices of \( G \), then there exists a simple path between the vertices.

(c) Find the minimal spanning tree of the given connected weighted graph \( G \) of 5 vertices.
2. (a) Draw and explain the circuit of differentiation using OP-amp.

Unit II

2
Elaborate difference between Monostable and
2
shift oscillators.
2
Elaborate difference between Wien Bridge and Phase
What do you mean by the feedback ?
What do you mean by offset current ?

Unit I

No. I is compulsory, attempt one question from each.
A student is required to attempt five questions in all.

Note:

Maximum Marks: 40

Time: Three Hours
Draw and explain the circuit of monostable multivibrator.

Elaborate the use of 555 as astable multivibrator.

Draw and explain the circuit of monostable multivibrator using transistor.

Elaborate the use of 555 as monostable multivibrator with transistor.

Draw and explain the circuit of asable multivibrator.

Elaborate the circuit of Calphi oscillation.

Elaborate the condition of oscillations in a feedback.

Derive the frequency of oscillations.

Draw and explain the circuit of Calphi oscillation.

Elaborate the impact of feedback on voltage.

Draw and explain the circuit of Op-Amp.

Using 0p-Amp, draw and explain the circuit of voltage division.

Sketch and explain the circuit of High Pass Active.

Derive the condition of feedback with peak voltage of 10 V. Find the output voltage.

The input is a differentiation circuit is sinusoidal with peak voltage of 10 V, frequency = 10KHz.

(q) Gain

An amplifier has phasor voltage gain of 100. If 5% of output resistance is feedback, what will be the overall resistance at 10% of feedback is introduced?

An amplifier has open voltage gain of 106. If 5% of feedback is introduced, what will be the new gain?
3. Briefly explain the communication & satellite.
What do you mean by satellite control in satellite.

5. Discuss the merits and demerits of geosatellite.

2. Explain the different types of satellite orbits.

Unit I

2. Briefly explain the mode in hyperbolic cables.

(c) What do you mean by critical angle?

2. Explain the cavity resonators.

(q) Why are UHF and higher frequencies preselected in satellite communication?

1. (a) Why are UHF and higher frequencies preselected in communication?

By selecting only one question from each unit.
No. I is compulsory. Attempt remaining four questions.
carry equal marks. Attempt five questions in all. O.

Note: There are nine questions in this paper. All questions

Maximum Marks: 40

Time: Three Hours

BSIT-403

TELECOMMUNICATION-II

12387

BSIT/M-18

Roll No. 03

Total Pages: 03
4. Explain the working of Fiber optic Cables.

4. Briefly explain the light wave communication systems.

7. (a) What are the applications of Fiber Optics?

7. (b) Explain the construction of Fiber Optic Cables.

8. (a) Briefly explain the construction of Fiber optic cable.

8. Describe the working of Optical Transmitter and Receiver in optical fiber systems.

9. Discuss the working of optical fiber Transmitter and Receiver.

9. Briefly explain the attenuation mechanisms in optical fiber systems.

10. Discuss the construction of a Kyson microwave tube.

10. Explain the frequency of a waveguide dependent on what factors does the cutoff frequency depend.

10. Can waveguides have more than one cutoff frequency?

Unit II

2. (b) What is the use of transponders in satellite communication systems?

2. (a) Satellite Positioning

3. Discuss the satellite systems.

3. Write short notes on the following:
2. (a) Explain the interface of 8-bit DAC with 8085.

Unit 1

2. (d) What is piping?

2. (c) AX, 2000H and MOV AX, [2000H].

2. (e) Describe the difference between the instructions MOV and HLD.

2. (g) Explain the following control signals HRQ and PC?

2. (f) Write instructions to implement it.

Determin the control word in BSR mode to reset the

1. Attempt all questions.

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

Time: Three Hours

Maximum Marks: 40

BTIT-404

Programming II

Microprocessor Architecture and

BTIT-M-18

ROLL No. 03
A microprocessor have how many types of buses? 2x3=6

6. (a) General Data Registers
   (i) Explain the following registers:

7. How many flags are there in 8086? Discuss the difference between conditional and unconditional jumps? Explain the following:

8. What is the difference between program development tools of assembly language programming in 8086, Explain the program development tools of assembly language programming in 8086?

9. (a) CALL
   (i) ZN
   (ii) INS
   (iii) RET
   (iv) BR

5. (a) Draw block diagram of 8279 and give brief description of keyboard section and display section.

6. Draw control word format for 8254. 2

4. (a) What is Programmable Interval Timer? Explain the following:

3. A microprocessor have how many types of buses? 2x3=6

Unit IV

3. The stack is physical when H is used in:
(a) push
(b) pop

calculate the H in the stack pointer containing 4+1B H

5. (a) Draw block diagram of 8255 and give brief description of each port.
(b) What are the operating modes of 8255? Give brief details.
(c) When is Intel 8255? Explain its block diagram in the following types:
   - Port A - input mode of Port A - Mode 0
   - Port A - output mode of Port A - Mode 1
   - Port B - input mode of Port B - Mode 0
   - Port C - input mode of Port C - Mode 0
   - Port C - output mode of Port C - Mode 1

Unit V

3. Stack pointer contains 4+1B H then what is physical:
(a) push
(b) pop

calculate the H in the stack pointer containing 4+1B H

5. (a) Draw block diagram of 8255 and give brief description of each port.
(b) What are the operating modes of 8255? Give brief details.
(c) When is Intel 8255? Explain its block diagram in the following types:
   - Port A - input mode of Port A - Mode 0
   - Port A - output mode of Port A - Mode 1
   - Port B - input mode of Port B - Mode 0
   - Port C - input mode of Port C - Mode 0
   - Port C - output mode of Port C - Mode 1

(g) Determine the control word for the following:
UNIT I

2. Discuss direct access method in brief.

6. Discuss indexed sequential access method in brief.

UNIT II

4. Discuss various page replacement policies.

5. Discuss the concept of virtual memory.

3. Discuss the concept of segmentation. Write the
   advantages and disadvantages of this method.

UNIT III

2. (a) Discuss various directory operations.

6. (a) Discuss various types of file attributes.

3. (b) Discuss file attributes.

2. (b) Discuss file attributes.

UNIT IV

4. (a) Discuss directory structure.

5. (a) Discuss the concept of file system.

3. (a) Discuss the concept of file system.

2. (a) Discuss the concept of file system.

UNIT V

3. (b) Discuss fixed versus variable partitioned memory.

8. Discuss the various disadvantages of this allocation method. Give an example. What are the various advantages and disadvantages of this allocation method? Give an example. What are the various advantages and disadvantages of this allocation method? Give an example. What are the various advantages and disadvantages of this allocation method? Give an example. What are the various advantages and disadvantages of this allocation method? Give an example. What are the various advantages and disadvantages of this allocation method? Give an example. What are the various advantages and disadvantages of this allocation method? Give an example. What are the various advantages and disadvantages of this allocation method? Give an example. What are the various advantages and disadvantages of this allocation method? Give an example. What are the various advantages and disadvantages of this allocation method? Give an example. What are the various advantages and disadvantages of this allocation method? Give an example. What are the various advantages and disadvantages of this allocation method? Give an example. What are the various advantages and disadvantages of this allocation method? Give an example. What are the various advantages and disadvantages of this allocation method? Give an example. What are the various advantages and disadvantages of this allocation method? Give an example. What are the various advantages and disadvantages of this allocation method? Give an example. What are the various advantages and disadvantages of this allocation method? Give an example. What are the various advantages and disadvantages of this allocation method? Give an example. What are the various advantages and disadvantages of this allocation method? Give an example. What are the various advantages and disadvantages of this allocation method? Give an example. What are the various advantages and disadvantages of this allocation method? Give an example. What are the various advantages and disadvantages of this allocation method? Give an example. What are the various advantages and disadvantages of this allocation method? Give an example. What are the various advantages and disadvantages of this allocation method? Give an example. What are the various advantages and disadvantages of this allocation method? Give an example. What are the various advantages and disadvantages of this allocation method? Give an example. What are the various advantages and disadvantages of this allocation method? Give an example. What are the various advantages and disadvantages of this allocation method? Give an example. What are the various advantages and disadvantages of this allocation method? Give an example. What are the various advantages and disadvantages of this allocation method? Give an example. What are the various advantages and disadvantages of this allocation method? Give an example. What are the various advantages and disadvantages of this allocation method? Give an example. What are the various advantages and disadvantages of this allocation method? Give an example. What are the various advantages and disadvantages of this allocation method? Give an example.

Note: There are nine questions in this paper. All questions carry equal marks. Attempt five questions in all.

Maximum Marks: 40

Time: Three Hours
Example:

2. (a) What is a macro? Write a C program to find area of a circle using a macro AREA.

Unit I

2×4=8

(d) Explain the use of void pointer in C. Give syntax and example.

(e) Which functions are used to open and close a file.

I. Compulsory Question:

Questions carry equal marks.

All questions from each unit Q. No. 1 is compulsory. All
Note: Attempt Five questions in all, selecting at least one

Maximum Marks: 40

Time: Three Hours

BSIT-406
COMPUTER PROGRAMMING WITH C
BSIT/M-18
12390
Roll No. 03

Total Pages: 03
Unit I

2.6 Explain static storage class, scope and lifetime of data.

and example, another file using the pointers.

of a file and copy the contents to another file using pointers.

and how to read a program to register.

when should the register modifier be used.

Unit II

5.3 Explain the two formatted string input-output functions.

characters from a specified position of a given string.

Write a program to extract specified number of