Exam Code: 121203   **Paper Code: 8301**

Programme: Bachelor of Arts, Semester-III

Course Title: English (Elective)

Course Code: BARL- 3198

Time Allowed: 3 Hours   **Max. Marks: 100**

Note:- Attempt five questions in all selecting at least one from each section. Fifth question can be attempted from any section. Each question carries equal (20) marks

Section-A

Part A

Answer all 4 questions in about 50 words each   **(4*3=12)**

Q. 1. a) Describe in your own words the "unnumbered treasures" in Belinda's dressing table.
    b) What are the "mind---forged manacles"?
    c) How does Wordsworth describe nature?
    d) What is Byron's ultimate regret?

Part B

Q. 2. Transcribe the following words Phonetically   **(8*1=8)**
    1. Agony
    2. Antonym
    3. Capable
    4. Committee
    5. Dusty
    6. Duckling
    7. Encourage
    8. flower.   **(4*3+8*1=20)**

Section-B

Answer any 1 question in about 400-----500 words   **(1*20=20)**

Q. 3. a) Write a character sketch of Napoleon.
    b) Discuss the theme of Animal Farm.

Section-C

Answer any 1 question in about 400-----500 words   **(1*20=20)**

Q. 4. a) Write a critical summary of "The Cloud".
    b) Discuss the theme of "Futility".

Section-D

Answer any 1 question in about 400-----500 words   **(1*20=20)**

Q. 5. a) What major criticism of formal education does Holt discuss in "School is bad for children"?
    b) Discuss the role of media in society.

2124   20

Exam Code: 111603

Paper Code: 9301.

Programme: Bachelor of Vocation (Management and
Secretarial Practices) Semester-III

Course Title: Marketing Management

Course Code: BVML-3323

Time Allowed: 3 Hours

Max Marks: 40

- Attempt Five questions out of Eight selecting at least
  one question from each section. Fifth question can be
  attempted from any section.
- Each questions carry equal marks (8 Marks each)

Section A

1. "Marketing is an indispensable aid for smooth
   functioning of the present day industrial structure."
   Discuss its philosophies and importance.

2. Explain various dimensions of business environment
   with relevant examples.

Section B

3. Explain the concept of market segmentation and
   targeting. Discuss various levels of marketing
   segmentation with suitable illustrations.

4. What is product life cycle? Describe the marketing strategies which the firms can use at different stages of product life cycle.

Section C

5. Products can be of different types depending upon different factors. Elaborate this statement by explaining the classification of products.

6. a) Describe the functions of labelling in the marketing of products.
   b) Explain various levels of packaging in detail.

Section D

7. Write short notes on :
   a) Difference between advertising and personal selling
   b) Word of Mouth Marketing

8. What are various types of distribution channels used for marketing the products? Explain with suitable examples.

Exam Code: 111203

Paper Code: 9302

Bachelor of Vocation (Textile Design and Apparel Technology)
Semester–III
Course Title: Apparel Industry and Quality Control
Course Code : BVTL-3232

Time Allowed: 3 Hrs

Max. Marks:40

NOTE— Attempt five questions in all selecting atleast one question from each section. The fifth question can be attempted from any section. Each question carries equal (8) marks.

Section-A

1. Write a note on apparel production, different types of seams and its uses?

8

2. What is fabric sourcing, its importance, role and steps?

8

Section-B

3. Explain quality control in apparel industry?

8

4. Describe in detail the concept of quality management?

8

Section-C

5. What are the common defects found in printing and explain its remedies also?

8

6. Write in detail about design, cutting and sewing departments?

8

Section-D

7. Explain warp direction fabric defects its cause and remedies?

8

8. Describe different steps of shipping procedure?

8

2124

20

(For Reappear Candidates only (2020-21), (2022-23))

Exam Code: 111203   Paper Code: 9303

Bachelor of Vocation (Textile Design and Apparel Technology)
Semester- III
Course Title: Soft Skills and Communication
Course Code: BVNL /BVTL -3101

Time Allotted: 3 Hours   Max Marks: 40

<u>Note</u>: - Attempt five questions in all selecting one from each section and fifth question can be attempted from any one of four sections. Each question carries eight marks.

Section – A

1) What are purposes of reading? Explain.

OR

2) Read the following passage carefully and answer the questions that follow:

Reading is a fundamental skill that plays a vital role in our lives. It's not just about deciphering words on a page but about the doors it opens, the knowledge it imparts, and the worlds it allows us to explore. Reading is an essential tool for learning, expanding our horizons, and fostering imagination.

When we read, we acquire knowledge. Whether it's reading textbooks, newspapers, or online articles, we gain information that helps us understand the world. Books, in particular, are a treasure trove of knowledge. They contain the wisdom of generations, the discoveries of great minds, and the stories of diverse cultures. Reading books can educate us on history, science, literature, and countless other subjects. It's like having a mentor, guiding us through the complexities of life.

Reading also broadens our horizons. It exposes us to different viewpoints, perspectives, and experiences. When we read about characters from various backgrounds or explore far-off lands through the pages of a novel, we step into their shoes and see the world from a different angle. This broadening of perspective fosters empathy and understanding, making us more tolerant and open-minded individuals.

In our modern digital age, reading has taken on new forms. E-books and audio books have made it more accessible and convenient. With just a few clicks or taps, we can access a vast library of literature. However, there's something timeless and intimate about holding a physical book, flipping its pages, and smelling the scent of paper and ink.

Attempt the following questions:

a). What are some of the benefits of reading mentioned in the passage?

b). How does reading broaden our horizons and foster empathy?

c). How have e-books made reading more convenient?

d). Books are a treasure of knowledge, explain how ?

Section – B

3) Describe various forms of Basic Sentence Pattern in detail.

OR

4) Fill in the blanks with proper forms of words given in brackets:

1) My teacher gave me some very useful ……… (Advice/advise).

2) My poor pronunciation sometimes .... (Affects/ effects) my ability to communicate in English.

3) I haven't seen her....... (already/yet)

4) My limited vocabulary ....(prevented/avoided) me from getting a good grade in the test .

5) If you learn the vocabulary in this book, you have a better........ (chance/possibility) of passing the exam.

6) Did you enjoy the party? - Yes it was........(fun/funny).

7) You can borrow my car, but if you.......(damage/harm) it , I'll never talk to you again.

8) I like working here. It's a good.......(job/work).

Section – C

5) What are the guidelines of effective writing? Explain.

OR

6) Write a paragraph on the Importance of Discipline.

Section – D

7) Team Work is very essential to achieve goals. Explain the importance of Team Work in organisations.

OR

8) What do you understand by Goal Setting ? Why setting goals is essential for achieving overall developmental goals?

(5X8=40)

Exam Code: 111403   Paper Code: 9304

Bachelor of Vocation (Nutrition, Exercise and Health)
Semester- III
Course Title: Soft Skills and Communication
Course Code: BVNL-3101

Time Allotted: 3 Hours   Max Marks: 40

<u>Note</u>: - Attempt five questions in all selecting atleast one question from each section. Fifth question can be attempted from any one of four sections. Each question carries eight marks.

Section – A

1) What are characteristics of reading? Explain.

OR

2) Read the following passage carefully and answer the questions that follow:

We were happy to be in Tolstoy's study where he wrote some of his famous novels such as War and Peace, and Anna Karenina and corresponded with kindred spirita including Mahatma Gandhi. There we saw the hard-bottomed sofa on which he was born, a phonograph which was presented to him by Edison, a picture of thickens which he had brought from England and the woodwork presented to him by peasants whom be loved. There was also his writing desk, on which was his scrap book, made up from odd bits of papers which others would have thrown into the wastepaper basket. Baj to Kumariji said that Gandhiji too could not bear to throw away any bit of paper which could be used and, like Tolstoy, kept a scrap book. The most touching sight of all was in the candle on the writing desk which he blew out for the last time on the night of 10 November, 1910 when he decided to renounce his home and family and go out and live a simple life. That night he wrote a letter to his wife, explaining his decision, thanking her for the life they had lived together, and apologizing to her for any lack of consideration on his part. One soul, his wife's, remained strange to this man who has plumbed the depths of the human heart in many imperishable novels.

Attempt the following questions:

a). Name some of Tolstoy's famous novels. Where did he write them?

b). In what connection has Mahatma Gandhi been mentioned here?

c). What was the similarity between Tolstoy and Mahatma Gandhi?

d). What was the most touching sight?

Section – B

3) Describe Basic Sentence Pattern in detail.

OR

4) Fill in the blanks with proper forms of words given in brackets:

1) My teacher gave me some very useful ……… (Advice/advise).

2) My poor pronunciation sometimes ……… (Affects/ effects) my ability to communicate in English.

3) I haven't seen her……. (already/yet)

4) My limited vocabulary ……….(prevented/avoided) me from getting a good grade in the test .

5) If you learn the vocabulary in this book, you have a better…….. (chance/possibility) of passing the exam.

6) Did you enjoy the party? - Yes it was……..(fun/funny).

7) You can borrow my car, but if you…….(damage/harm) it , I'll never talk to you again.

8) I like working here. It's a good…….(job/work).

Section – C

5) Write a letter to the Post Master of your locality complaining against the irregular delivery of letters.

OR

6) What are the basics of effective writing? Explain.

Section – D

7) Team building is very essential to achieve goals. Explain the importance of Team Building.

OR

8) How is having time management skills effective?

(5X8=40)

Exam Code: 226403

Paper Code: 9306

Programme: Master of Arts (English) Sem. Semester-III
Course Title : Poetry- Victorian and Modern
Course Code : MENL-3211

Time:3 hrs.

Marks: 64

Section-A

Note: Attempt any four of the following short answer type questions in about 150 words each.

Ques. 1.

i)   What is Tennyson's message to the Victorian people in *Ulysses*?
ii)   Shed some light on the theme of *Mariana*.
iii)   Explain the reason behind speaker's preference for the world of art over Nature in Yeats' *Sailing to Byzantium.*
iv)   Is it possible that the "rough beast" in Yeats' *The Second Coming* turns out to be good for the world for the coming generations?
v)   Why is April "the cruellest month" in *The Wasteland* ?
vi)   Who is Madam Sosostris and what does she symbolize ?

(4x4=16)

Section-B

Note: Attempt either of the two questions in about 600 words.

Ques.2 How does Tennyson transcend a moment of personal loss to deal with the spiritual crisis in his poem *In Memoriam* ?

Ques.3 Critically analyse Tennyson's *The Lady of Shalott*.

(12x1=12)

Section-C

Note: Attempt either of the two questions in about 600 words.

Ques.4 Discuss the use of symbols in Yeats' prescribed poems.

Ques.5 Critically evaluate Yeats' *A Prayer for My Daughter.*

(12x1=12)

Section-D

Note: Attempt either of the two questions in about 600 words each.

Ques.6   Why is T.S. Eliot's *The Waste Land* a modernist poem?

Ques. 7 How does T.S. Eliot describe 'the wasteland' as a location as well as a metaphor ?

(12x1=12)

Section-E

Ques. 8 Explain any two of the following with suitable examples from the prescribed poems:

a) Difference between Dramatic and Interior Monologue
b) Symbolism
c) Allusion

(6 x2=12)

2124

Exam Code: 117903

Paper Code: 9307

Programme: Bachelor of Computer Applications
Semester-III

Course Title: Foundation of Data Science

Course Code: BCAL-3111

Time Allowed: 3 Hours

Max Marks: 60

Note: Attempt five questions selecting at least one question from each section, fifth question may be attempted from any section. All questions carry equal marks (12).

SECTION A

1. What is Data Science? Explain the Evolution and Need of data science.
2. Explain the Similarities and Differences between Data Science and Business Intelligence.

SECTION B

3. What are various Methods used for Data Collection? Explain.
4. Discuss the term Data Analytics, its Process and types.

SECTION C

5. "Data Science is Everywhere", explain through applications of Data Science.

6. What are the desirable Skills that a Data Scientist must have?

SECTION D

7. What is Data Story Telling? Explain different Techniques for data Visualization Story telling.

8. What is Power BI? Explain Components of Power BI Architecture.

Exam Code: 117903   Paper Code: 9308
Programme: Bachelor of Computer Applications, Semester-III
Course Title: Database Management System
Course Code: BCAL - 3112
Time Allowed: 3 Hours

Max Marks: 60

Note: Attempt five questions in all, selecting at least one question from each section. The fifth question may be attempted from any section. each question carries equal (12) marks.

Section-A

1. Define a database and a database management system (DBMS). Explain its structure and components.   (12)

2. What is an E-R diagram? Draw an E-R diagram for a student database and explain its components.   (12)

Section-B

3. a) State and explain Codd's Rules for relational database systems. Why are they important?   (8)
   b) Explain the differences between relational algebra and relational calculus.   (4)

4. a) What is query optimization? Explain its importance in database systems.   (10)
   b) Define relational algebra.   (2)

Section-C

5. a) What is normalization? Explain the need of normalization in databases.   (6)
   b) Define 1NF, 2NF, and 3NF with suitable examples.   (6)
6. a) Discuss the ACID properties of a transaction.   (6)
   b) What is concurrency control? Explain any two methods used to manage concurrency. (6)

Section-D

7. Explain the DDL, DML, and DCL components of SQL with examples.   (12)

8. a) Define Big Data and explain its importance in modern data management.   (6)
   b) What is NoSQL? Discuss its features and how it differs from traditional relational databases.   (6)

2124

Exam Code: 117903   **Paper Code: 9309**

Bachelor of Computer Applications (Semester-III)
Course Title: Computational Problem Solving
Course Code: BCAL - 3113

Time Allowed: 3 Hours   **Max Marks: 60**

Note: Attempt five questions in all, selecting atleast one question from each section. The fifth question can be attempted from any section. Each question carries 12 marks.

Section-A

1. Explain the process of computational problem-solving, discuss the features of Python that make it suitable for beginners.

2. Define literals, variables, and identifiers in Python, illustrate the use of different data types with examples, explain the difference between expressions and statements, and provide a Python code snippet to swap two variables.

Section-B

3. What are lists in Python, and what are their properties and methods? What are the advantages of using lists over arrays, and how can you handle exceptions when accessing list elements?

4. Discuss advanced text parsing techniques using dictionaries, and compare iteration and recursion with examples.

Section-C

5. Define Boolean expressions and logical operators and their significance in control structures. Explain nested conditions with a sample code.

6. What are the fundamental concepts of functions in Python and write a Python function to calculate the factorial of a number using recursion.

Section-D

7. How do you open and read from files in Python? Explain exception handling with an example of file handling, and write a program that reads a file and counts the number of words.

8. Introduce the concept of Object-Oriented Programming (OOP) in Python and describe the basics of databases and SQL with a simple example of data modelling.

Exam Code: 121103 (B.Com.) Paper Code: 9310
117903 (BCA)

Bachelor of Commerce, Bachelor of Computer Applications, Semester-III
Course Title: Environmental Studies (Compulsory)
Course Code: AECE-3221

Time Allowed: 3 Hours Max Marks:60

NOTE: **Part A** consist of short answer question. Attempt any five questions out of seven. Each question carries 4 marks. Answer to each question not exceed 2 pages.

Part B consist of long answer question. Attempt any five questions out of eight. Each question carries 8 marks. Answer to each question not exceed 5 pages.

PART -A

1. What is the scope of environmental education? Describe in details. 4
2. What do you mean by Tropic- level of ecosystem? What is its type? 4
3. What do you understand by sustainable and non- sustainable development? 4
4. What do you mean by thermal pollution? Describe its effect. 4
5. What are the effects of over-population on environment? 4
6. What are the causes of the spread of AIDS? 4
7. What do you understand by Acid Rain? What are its effects? 4

PART – B

1. Explain water resource, its uses and over utilization, flood, drought, dam benefits and problems. 8
2. What do you understand by Ecosystem? Explain its structure and functions. 8
3. Define desert ecosystem. Explain the causes, prevention and features of Desert Ecosystem. 8
4. What do you mean by radiation pollution? Describe its sources and effects? 8
5. What are the problems associated with development projects? Describe the NARMADA BACHAO ANDOLAN. 8
6. What are the causes of marine pollution? Explain the method to prevent it. Give some examples of marine pollution. 8
7. What do you know about ozone layer? what will be effects of its depletion? 8
8. What do you mean by food chain and food web? Give their importance. 8

(HINDI VERSION)

नोट: भाग (ए) में लघु उत्तरीय प्रश्न शामिल है। सात में से किन्हीं पाँच प्रश्नों का उत्तर दीजिए। प्रत्येक प्रश्न 4 अंक का है। प्रत्येक प्रश्न का उत्तर 2 पेज से अधिक नहीं होना चाहिए।

भाग (बी) में दीर्घ उत्तरीय प्रश्न शामिल हैं। आठ में से किन्हीं पाँच प्रश्नों का उत्तर दीजिए। प्रत्येक प्रश्न 8 अंक का है। प्रत्येक प्रश्न का उत्तर 5 पेज से अधिक नहीं होना चाहिए।

भाग-(ए)

1. पर्यावरण शिक्षा का दायरा क्या है? विस्तार से वर्णन करें. 4
2. पारिस्थितिकी तंत्र के उष्णकटिबंधीय-स्तर से आप क्या समझते हैं? इसका प्रकार क्या है? 4
3. सतत एवं गैर-स्थायी विकास से आप क्या समझते हैं? 4
4. तापीय प्रदूषण से आप क्या समझते हैं? इसके प्रभाव का वर्णन कीजिये. 4
5. अत्यधिक जनसंख्या का पर्यावरण पर क्या प्रभाव पड़ता है? 4
6. एड्स फैलने के क्या कारण हैं? 4
7. अम्लीय वर्षा से आप क्या समझते हैं? इसके प्रभाव क्या हैं? 4

1. जल संसाधन, इसके उपयोग और अधिक उपयोग, बाढ़, सूखा, बांध के लाभ और समस्याओं की व्याख्या करें। 8
2. पारिस्थितिकी तंत्र से आप क्या समझते हैं? इसकी संरचना एवं कार्यों को समझाइये। 8
3. रेगिस्तानी पारिस्थितिकी तंत्र को परिभाषित करें। मरुस्थलीय पारिस्थितिकी तंत्र के कारण, निवारण एवं विशेषताएं बताइये। 8
4. विकिरण प्रदूषण से आप क्या समझते हैं? इसके स्रोतों एवं प्रभावों का वर्णन करें? 8
5. विकास परियोजनाओं से जुड़ी समस्याएँ क्या हैं? नर्मदा बचाओ आंदोलन का वर्णन करें। 8
6. समुद्री प्रदूषण के कारण क्या हैं? इसे रोकने की विधि बताइये। समुद्री प्रदूषण के कुछ उदाहरण दीजिए। 8
7. ओजोन परत के बारे में आप क्या जानते हैं? इसके ख़त्म होने का क्या असर होगा? 8
8. खाद्य श्रृंखला एवं खाद्य जाल से आप क्या समझते हैं? उनका महत्व बताइये। 8

(PUNJABI VERSION)

ਨੋਟ: ਭਾਗ A ਵਿੱਚ ਛੋਟੇ ਜਵਾਬ ਵਾਲੇ ਸਵਾਲ ਹਨ। ਸੱਤ ਵਿੱਚੋ ਕੋਈ ਪੰਜ ਸਵਾਲ ਕਰਨ ਦੀ ਕੋਸ਼ਿਸ਼ ਕਰੋ। ਹਰੇਕ ਸਵਾਲ ਵਿੱਚ 4 ਅੰਕ ਹੁੰਦੇ ਹਨ। ਹਰੇਕ ਸਵਾਲ ਦਾ ਜਵਾਬ 2 ਪੰਨਿਆਂ ਤੋਂ ਵੱਧ ਨਾ ਹੋਵੇ।

ਭਾਗ B ਵਿੱਚ ਲੰਬੇ ਜਵਾਬ ਵਾਲੇ ਸਵਾਲ ਹਨ। ਅੱਠ ਵਿੱਚੋ ਕੋਈ ਪੰਜ ਸਵਾਲ ਕਰਨ ਦੀ ਕੋਸ਼ਿਸ਼ ਕਰੋ। ਹਰੇਕ ਸਵਾਲ ਵਿੱਚ 8 ਅੰਕ ਹੁੰਦੇ ਹਨ। ਹਰੇਕ ਸਵਾਲ ਦਾ ਜਵਾਬ 5 ਪੰਨਿਆਂ ਤੋਂ ਵੱਧ ਨਾ ਹੋਵੇ।

ਭਾਗ -ਏ

1. ਵਾਤਾਵਰਨ ਸਿੱਖਿਆ ਦਾ ਕੀ ਦਾਇਰਾ ਹੈ? ਵੇਰਵੇ ਵਿੱਚ ਵਰਣਨ ਕਰੋ। 4
2. ਈਕੋਸਿਸਟਮ ਦੇ ਟ੍ਰੋਪਿਕ- ਪੱਧਰ ਤੋਂ ਤੁਹਾਡਾ ਕੀ ਮਤਲਬ ਹੈ? ਇਸ ਦੀ ਕਿਸਮ ਕੀ ਹੈ? 4
3. ਤੁਸੀਂ ਟਿਕਾਊ ਅਤੇ ਗੈਰ-ਟਿਕਾਊ ਵਿਕਾਸ ਨੂੰ ਕੀ ਸਮਝਦੇ ਹੋ? 4
4. ਥਰਮਲ ਪ੍ਰਦੂਸ਼ਣ ਤੋਂ ਤੁਹਾਡਾ ਕੀ ਮਤਲਬ ਹੈ? ਇਸਦੇ ਪ੍ਰਭਾਵ ਦਾ ਵਰਣਨ ਕਰੋ। 4
5. ਵਾਤਾਵਰਣ 'ਤੇ ਜ਼ਿਆਦਾ ਆਬਾਦੀ ਦੇ ਕੀ ਪ੍ਰਭਾਵ ਹਨ? 4
6. ਏਡਜ਼ ਦੇ ਫੈਲਣ ਦੇ ਕੀ ਕਾਰਨ ਹਨ? 4
7. ਤੁਸੀਂ ਐਸਿਡ ਰੇਨ ਨੂੰ ਕੀ ਸਮਝਦੇ ਹੋ? ਇਸ ਦੇ ਪ੍ਰਭਾਵ ਕੀ ਹਨ? 4

ਭਾਗ - ਬੀ

1. ਜਲ ਸਰੋਤ, ਇਸਦੀ ਵਰਤੋਂ ਅਤੇ ਵੱਧ ਵਰਤੋਂ, ਹੜ੍ਹ, ਸੋਕਾ, ਡੈਮ ਦੇ ਲਾਭ ਅਤੇ ਸਮੱਸਿਆਵਾਂ ਬਾਰੇ ਦੱਸੋ। 8
2. ਤੁਸੀਂ ਈਕੋਸਿਸਟਮ ਦੁਆਰਾ ਕੀ ਸਮਝਦੇ ਹੋ? ਇਸਦੀ ਬਣਤਰ ਅਤੇ ਕਾਰਜਾਂ ਦੀ ਵਿਆਖਿਆ ਕਰੋ। 8
3. ਮਾਰੂਥਲ ਈਕੋਸਿਸਟਮ ਨੂੰ ਪਰਿਭਾਸ਼ਿਤ ਕਰੋ। ਮਾਰੂਥਲ ਈਕੋਸਿਸਟਮ ਦੇ ਕਾਰਨਾਂ, ਰੋਕਥਾਮ ਅਤੇ ਵਿਸ਼ੇਸ਼ਤਾਵਾਂ ਬਾਰੇ ਦੱਸੋ। 8
4. ਰੇਡੀਏਸ਼ਨ ਪ੍ਰਦੂਸ਼ਣ ਤੋਂ ਤੁਹਾਡਾ ਕੀ ਮਤਲਬ ਹੈ? ਇਸਦੇ ਸਰੋਤਾਂ ਅਤੇ ਪ੍ਰਭਾਵਾਂ ਦਾ ਵਰਣਨ ਕਰੋ? 8
5. ਵਿਕਾਸ ਪ੍ਰੋਜੈਕਟਾਂ ਨਾਲ ਜੁੜੀਆਂ ਸਮੱਸਿਆਵਾਂ ਕੀ ਹਨ? ਨਰਮਦਾ ਬਚਾਓ ਅੰਦੋਲਨ ਦਾ ਵਰਣਨ ਕਰੋ। 8
6. ਸਮੁੰਦਰੀ ਪ੍ਰਦੂਸ਼ਣ ਦੇ ਕਾਰਨ ਕੀ ਹਨ? ਇਸ ਨੂੰ ਰੋਕਣ ਦਾ ਤਰੀਕਾ ਦੱਸੋ। ਸਮੁੰਦਰੀ ਪ੍ਰਦੂਸ਼ਣ ਦੀਆਂ ਕੁਝ ਉਦਾਹਰਣਾਂ ਦਿਓ। 8
7. ਤੁਸੀਂ ਓਜ਼ੋਨ ਪਰਤ ਬਾਰੇ ਕੀ ਜਾਣਦੇ ਹੋ? ਇਸ ਦੇ ਘਟਣ ਦੇ ਕੀ ਪ੍ਰਭਾਵ ਹੋਣਗੇ? 8
8. ਫੂਡ ਚੇਨ ਅਤੇ ਫੂਡ ਵੈਬ ਤੋਂ ਤੁਹਾਡਾ ਕੀ ਮਤਲਬ ਹੈ? ਉਹਨਾਂ ਦਾ ਮਹੱਤਵ ਦੱਸੋ। 8

For Reappear Candidates only (2022-23)

Exam Code: **118003**   Paper Code: **9311**

**Programme: Bacholer of Science (Information Technology)
Semester-III**

Course Title: System Analysis and Design

Course Code: BITL-3113

Time Allowed: 3 Hours   **Max Marks: 60**

Note: Attempt five questions selecting at least one question from each section, fifth question may be attempted from any section. All questions carry equal marks (12)

SECTION A

1. What is Feasibility Study? Explain the Importance and Steps to do feasibility study.
2. What are the Roles and Responsibilities of Systems Analyst?

SECTION B

3. What do you know about Architectural design and Data design?
4. What are different tools for Structured design? Explain.

SECTION C

5. What is Testing? What are different types of testing?

6. Explain the documentation tools used during the development of Information Systems.

SECTION D

7. What do you know about Quality Assurance?

8. What is Systems Maintenance? Compare various types of maintenance.

Programme	Exam Code	Course Code
Bachelor of Commerce, Semester-III	121103	BCRL-3212
Bachelor of Business Administration, Semester-III	121703	BBRL-3212
Bachelor of Arts, Semester-III	121203	BARL-3212

Course Title: English (Compulsory)

Time Allowed: 3 Hours   Max Marks: 40

Section-A

1. **Attempt any ten sentences out of given fifteen. Each sentence will carry one marks.**

   i. **Make one sentence from two. Use who/that/which:**

   A girl was injured in the accident. She is now in hospital.

   The girl _____

   ii. **Put in so, such or such a :**

   I was surprised that he looked _____ well after his recent illness.

   iii. **Read the situations and complete the sentences using *where*:**

   You play football in a park on Sundays. You show a friend the park. You say: This

   is the _____ on Sundays.

   iv. **Make one sentence from two , using who(m)/whose/which/where:**

   Catherine is very friendly. (She lives next door.)

   Catherine _____

   v. **Complete the sentence Using all of, most of + whom/which:**

   All of Helen's brothers are married.

   Helen has three brothers, _____

   vi. **Complete the sentence using *There is /There was* and the words given in the bracket:**

   That house is empty. (nobody/live/in it)

   vii. **Choose the correct word:**

   I was (disappointing/disappointed) with the film. I had expected it to be better.

   viii. **Put in the correct word:**

   This tea tastes a bit _____ (strange/strangely)

   ix. **Complete each sentence using an adverb:**

   Our team lost the game because we played very _____

   x. **Put in *good or well*:**

   I play tennis but I'm not very _____

   xi. **Put in *so, such or such a*:**

   It was a great holiday. We had _____ good time.

   xii. **Make one sentence from two using too or enough:**

   We couldn't carry the boxes. They were too heavy.

   The boxes _____

   xiii. **Put the words in the right order to complete the sentences:**

   The weather was better than we had expected. It was _____. (a/ nice/ quite/day)

   xiv. **Complete the sentences by Using a comparative form (-er or more ...):** Yesterday the

   temperature was six degrees. Today it's only three degrees. It's ___ it was yesterday.

   xv. **Complete the sentence using as ... as:**

   I'm tall, but you are taller. I'm not _____   (1x10=10)

Section-B

Q2. Write an essay in about 300 words.

Pollution due to urbanization

OR

Effects of *Violent Cartoons on children* (6x1=6)

Q3. Write one word for given phrases (any four out of given six).

    i.   A number of sheep

    ii.   A number of workmen, prisoners, thieves

    iii.   A collection of books

    iv.   A large collection of trees

    v.   A place where bread and cakes are made

    vi.   A place for the treatment of sick people (4x1=4)

Section-C

Q4. Do any five synonym out of given six:

    i.   To get away with a threat

    ii.   Financial success

    iii.   Importance in society

    iv.   To try to reach

    v.   Existing today

    vi.   People from similar age group (5x1=5)

Q5. Fill in the blanks using the words given in box.

approves of	native	racial	settled	issue
process	flow	likely	declined	hardships

    i.   There is good news for the government. The latest opinion polls shows that 65% of the public _____ the way it is running the country.

    ii.   The weak economy will be an important _____ in the next elections.

    iii.   Language shift is the technical name for the _____ by which group of people move from first language to new first language.

    iv.   In the late 1840's, the _____ of the Irish immigrants into the United States became very strong.

    v.   When Europeans settled in America and elsewhere, they often oppressed the _____ people they found there. (5x1=5)

Section-D

Q6. Attempt any two questions out of the given three in about 100 words.

    i.   Trace the development of thought in the poem *Ulysses*.

    ii.   Explain the theme of poem *"That Time of Year Thou Mayst in Me Behold"*.

    iii.   *Belinda's Dressing Table* is a satire on the aristocratic women of 18th century England. Comment. (2x3=6)

Q7. Explain one of the following stanza (in 200 words) with reference to context.

I met a lady in the meads, Full beautiful—faery's child,

Her hair was long, her foot was light, And her eyes were wild.

I made a garland for her head,

And bracelets too, and fragrant zone; She looked at me as she did love, And made sweet moan.

OR

Sweet rose, whose hue angry and brave

Bids the rash gazer wipe his eye; Thy root is ever in its grave,

And thou must die.

Sweet spring, full of sweet days and roses, A box where sweets compacted lie;

My music shows ye have your closes, And all must die. (4x1=4)

Paper Code: 9312

Programme	Exam Code	Course Code
Bachelor of Commerce, Semester-III	121103	BCRL-3212
Bachelor of Business Administration, Semester-III	121703	BBRL-3212
Bachelor of Arts, Semester-III	121203	BARL-3212

Course Title: English (Compulsory)

Time Allowed: 3 Hours   **Max Marks: 40**

Section-A

1. **Attempt any ten sentences out of given fifteen. Each sentence will carry one marks.**
   i. **Make one sentence from two. Use who/that/which:**
      A girl was injured in the accident. She is now in hospital.
      The girl _____
   ii. **Put in so, such or such a :**
      I was surprised that he looked _____ well after his recent illness.
   iii. **Read the situations and complete the sentences using *where:***
      You play football in a park on Sundays. You show a friend the park. You say: This
      is the _____ on Sundays.
   iv. **Make one sentence from two , using who(m)/whose/which/where:**
      Catherine is very friendly. (She lives next door.)
      Catherine _____
   v. **Complete the sentence Using all of, most of + whom/which:**
      All of Helen's brothers are married.
      Helen has three brothers, _____
   vi. **Complete the sentence using *There is /There was* and the words given in the bracket:**
      That house is empty. (nobody/live/in it)
   vii. **Choose the correct word:**
      I was (disappointing/disappointed) with the film. I had expected it to be better.
   viii. **Put in the correct word:**
      This tea tastes a bit _____ (strange/strangely)
   ix. **Complete each sentence using an adverb:**
      Our team lost the game because we played very _____
   x. **Put in *good or well:***
      I play tennis but I'm not very _____
   xi. **Put in *so, such or such a:***
      It was a great holiday. We had _____ good time.
   xii. **Make one sentence from two using too or enough:**
      We couldn't carry the boxes. They were too heavy.
      The boxes _____
   xiii. **Put the words in the right order to complete the sentences:**
      The weather was better than we had expected. It was _____ . (a/ nice/ quite/day)
   xiv. **Complete the sentences by Using a comparative form (-er or more ...):** Yesterday the
      temperature was six degrees. Today it's only three degrees. It's ____ it was yesterday.
   xv. **Complete the sentence using as ... as:**
      I'm tall, but you are taller. I'm not _____   **(1x10=10)**

Section-B

Q2. Write an essay in about 300 words.

Pollution due to urbanization

OR

Effects of *Violent Cartoons on children*   (6x1=6)

Q3. Write one word for given phrases (any four out of given six).

i.   A number of sheep
ii. A number of workmen, prisoners, thieves
iii. A collection of books
iv. A large collection of trees
v.   A place where bread and cakes are made
vi. A place for the treatment of sick people   (4x1=4)

Section-C

Q4. Do any five synonym out of given six:

i.   To get away with a threat
ii. Financial success
iii. Importance in society
iv. To try to reach
v.   Existing today
vi. People from similar age group   (5x1=5)

Q5. Fill in the blanks using the words given in box.

approves of	native	racial	settled	issue
process	flow	likely	declined	hardships

i.   There is good news for the government. The latest opinion polls shows that 65% of the public _____ the way it is running the country.
ii. The weak economy will be an important _____ in the next elections
iii. Language shift is the technical name for the _____ by which group of people move from first language to new first language.
iv. In the late 1840's, the _____ of the Irish immigrants into the United States became very strong.
v.   When Europeans settled in America and elsewhere, they often oppressed the _____ people they found there.   (5x1=5)

Section-D

Q6. Attempt any two questions out of the given three in about 100 words.

i.   Trace the development of thought in the poem *Ulysses*.
ii. Explain the theme of poem *"That Time of Year Thou Mayst in Me Behold"*.
iii. *Belinda's Dressing Table* is a satire on the aristocratic women of 18th century England. Comment.   (2x3=6)

Q7. Explain one of the following stanza (in 200 words) with reference to context.

I met a lady in the meads, Full beautiful—faery's child,
Her hair was long, her foot was light, And her eyes were wild.
I made a garland for her head,

And bracelets too, and fragrant zone; She looked at me as she did
love, And made sweet moan.

OR

Sweet rose, whose hue angry and brave

Bids the rash gazer wipe his eye; Thy root is ever in its grave,
And thou must die.
Sweet spring, full of sweet days and roses, A box where sweets compacted lie;
My music shows ye have your closes, And all must die.   (4x1=4)

Exam Code: 107503

Paper Code: 9314

Bachelor of Arts (Honours) English (Semester–III)
Course Title: Romantic Poetry
Course Code: BOEL-3213

Time Allowed: 3 hour

Max. Marks: 40

Section–A

Note: Attempt any four questions in about 100 words approximately. Each question carries 4 marks.

(4×4=16 Marks)

1. Comment on the title of the poem 'The World is too Much With Us' by William Wordsworth.

Or

Discuss the theme of the poem 'I Wandered Lonely as a Cloud'.

2. What is the message of the poem "On First Looking Into Chapman's Homer"?

Or

Prove that "To Autumn" is a song of ripeness.

3. Describe different activities of the cloud in the sky in the poem "The Cloud".

Or

The Cloud says, 'I change but I cannot die, though the sky appears clear after rain'. Explain.

4. Define the term Symbolism.

Or

What do you understand by the term Ballad ?

Section–B

Note: Attempt any one question in about 600 words approximately. Each question carries 8 marks.

(3×8=24 Marks)

5. Critically Analyze the poem "Three Years She Grew "by William Wordsworth.

Or

Trace the development of thought in the poem "The World is Too Much with Us".

Section–C

Note: Attempt any one question in about 600 words approximately. Each question carries 8 marks.

6. What is the main theme of the poem "On First Looking Into Chapman's Homer"?

Or

Write a critical appreciation of the poem "Ozymandias" by John Keats.

Section–D

Note: Attempt any one question in about 600 words approximately. Each question carries 8 marks.

7. Discuss PB Shelley as a Romantic poet with reference to his poems in your syllabus.

Or

Critically analyze the poem "Ode to the West Wind".

Exam Code: 107503   Paper Code: 9315

Bachelor of Arts (Honours) English (Semester- III)
Course Title: American Fiction and Prose
Course Code: BOEL-3215

Time Allotted: 3 Hours   Max Marks: 40

Section- A

<u>Note</u>: **Answer the questions in 100 words each. Each question carries four marks.**

1) How narrator introduced Madeline in the story '*The Fall of House of Usher*'?

OR

How narrator manages to free himself from the binding straps in the story '*The Pit and Pendulum*'?

2) Give a brief introduction of Eugenio, the courier boy, in the novella '*Daisy Miller*'.

OR

What acquaintance does Mrs. Costello have with Winterbourne?

3) What is importance of being a self-reliant person?

OR

How Emerson starts his essay '*The American Scholar*'?

4) Elaborate the term Gothic Fiction

OR

Explain the term Transcendentalism.   (4x4=16)

Section – B

Note: - Attempt any one question in 600 words. Each question carries eight marks.

5) Discuss in detail the plot construction of the story '*The cask of Amontillado*'.

OR

Give an analysis of the story *The Black Cat*.

Section – C

Note: - Attempt any one question in 600 words. Each question carries eight marks.

6) Clash of cultures is clearly defined through various characters in the novella '*Daisy Miller*'. Give your views.

OR

Give analysis of Winterbourne's character.

Section – D

Note: - Attempt any one question in 600 words. Each question carries eight marks.

7) What is impact of society on individual on his way to be Self Reliant?

OR

Write detailed note on the main influences discussed by Emerson in the essay The American Scholar.

                                                             (3x8=24)

Programme	Exam Code	Course Code
Bachelor of Science (Non-Medical)	121303	BSNM-3333 (I)
Bachelor of Science (Economics)		BECM-3333 (I)

Course Title: Mathematics (Analysis)

Semester – III

Time Allowed: - 3 Hours   Max Marks: 40

NOTE – Attempt five questions in all selecting at least one question from each section. Fifth question can be attempted from any section. Each question carries eight marks.

Section – A

1(a) Prove that the sequence $\{\frac{2n-7}{3n-2}\}$ is

(i) Monotonically increasing   (ii) Bounded   (iii) Convergent

(b) Prove that sequence $\{a_n\}$ where

$a_n = \frac{1}{n+1} + \frac{1}{n+2} + \frac{1}{n+3} + - - - - + \frac{1}{2n}$ is convergent.   [4,4]

2(a) Prove that a convergent sequence is always cauchy.

(b) Prove that $\{a_n\}$ sequence ,where $a_n = 8 + \frac{1}{n^3}$ is a Cauchy sequence .   [4,4]

Section – B

3(a) Discuss the convergence or divergence of the series $\sum \frac{1}{n} \tan \frac{1}{n}$

(b) Discuss the convergence or divergence of series -

$\frac{1}{1.2.3} + \frac{3}{2.3.4} + \frac{5}{3.4.5} + - - - -----------$ [4,4]

4 (a) State and prove D' Alembert's Ratio's Test.

(b) Discuss the convergence of the series $\sum \frac{(n!)^2}{(2n)!} x^n, x > 0$.   [4,4]

Section – C

5 (a) Let $f(x) = 3x+1$ on $[1,2]$. Prove that f is R-integrable on $[1,2]$.

(b) State and prove Fundamental Theorem of Integral calculus.   [4,4]

6(a) Prove that If f and g are two integrable functions on $[a,b]$, then their product fg is also integrable on $[a,b]$.

(b) If $0 < a < b$, show that $\left| \int_a^b \frac{\sin x}{x} dx \right| \leq \frac{2}{a}$ [4,4]

Section – D

7(a) Examine the convergence of integrals

$$\int_0^\infty \left(\frac{1}{1-x} - e^{-x} \right) \frac{dx}{x}.$$

(b) Examine the convergence of integrals –

$$\int_0^1 \frac{\log x}{x} dx$$ [4,4]

8(a) Evaluate $\dfrac{\tau(3)\,\tau\left(\frac{5}{2}\right)}{\tau\left(\frac{11}{2}\right)}$

(b) Prove that $\beta(m,n) = \int_0^\infty \frac{x^{m-1}}{(1+x)^{m+n}} dx = \int_0^\infty \frac{x^{n-1}}{(1+x)^{m+n}} dx$ [4,4]

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Exam Code: 121303   Paper Code: 9318

Bachelor of Science (Semester-III)
Course Title: Mathematics (Analytical Geometry)
Course Code: BSNM/ BECM-3333 (II)

Time Allowed: - 3 Hours   Max Marks: 40

NOTE: Attempt five questions in all, selecting at least one question from each section. The fifth question can be
attempted from any section. Each question carries eight marks.

Section-A

1 (a). Check whether the triangle formed by the lines $ax^2 + 2hxy + by^2 = 0$ and $lx + my + 1 = 0$ is isosceles if
$h(l^2 - m^2) = (a - b)lm$. Justify your answer. (4)

(b). By means of rotation of axes, transform the equation $x^2 + 4xy + 4y^2 - 3x = 6$ into an equation that has no
product term. (4)

2 (a). For what values of k do the equation $2x^2 + 3xy + y^2 - 3x + ky - 2 = 0$ represents a pair of straight lines?
(4)

(b). Check whether t and Δ are invariant when the equation of the curve $4x^2 + y^2 - 5x - 2y = 0$ is
transformed to another by shifting origin to the point $(1, -1)$ without changing the direction of axes. (4)

Section-B

3 (a). Prove that the semi latus rectum of a parabola is the harmonic mean between the segments of a focal chord.
(4)

(b). Check that the area of the triangle inscribed in the parabola $y^2 - 4ax = 0$ is
$\frac{1}{8a}|(y_1 - y_2)(y_2 - y_3)(y_3 - y_1)|$, where y_1, y_2, y_3 are the ordinates of the angular points. (4)

4 (a). State and prove Diameter property of parabola. (4)

(b). Find the equations of the tangents to the parabola $y^2 = 16x$, which pass through the point (3,8). (4)

Section-C

5 (a). Find the pole of the chord $x - 2y = 1$ w.r.t the hyperbola $4x^2 - 9y^2 = 12$. (4)

(b). Find the lengths of major and minor axes, coordinates of foci, vertices and eccentricity of $9x^2 + 16y^2 = 144$.
(4)

6 (a). Classify the conic represented by the equation $x^2 - xy - y^2 - 6x + 3y + 5 = 0$. (4)

(b). Check that the locus of the poles of the normal chords of the ellipse $\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$ is the $curve$

$\frac{a^6}{x^2} + \frac{b^6}{y^2} = (a^2 - b^2)^2$. (4)

Section-D

7 (a). Find the point of intersection of the planes $x - y + 2z = 3$, $x + 2y + 3z = 5$, $3x - 4y - 5z + 13 = 0$.
(4)

(b). Check whether a point, whose sums of the squares of the distances from the planes
$x + y + z = 0, x - z = 0, x - 2y + z = 0$, is 9, must lie on the sphere. (4)

8 (a). Find the equations of the tangent planes to sphere $x^2 + y^2 + z^2 + 6x - 2z + 1 = 0$ which pass through the
lines $x + z - 16 = 0, 2y - 3z + 30 = 0$. (4)

(b). Find the radical axis of the sphere $x^2 + y^2 + z^2 + 2x + 2y + 2z + 2 = 0$, $x^2 + y^2 + z^2 + 4x + 4z + 4 = 0$ and $x^2 + y^2 + z^2 + x + 6y - 4z - 2 = 0$. (4)

Exam Code: 121303   **Paper Code: 9320**

Bachelor of Science (Semester-III)
Course code: BSNM-3395(I)
Physics (Statistical Physics and Thermodynamics)

Time: 3 Hours   **Marks: 30**

Note: Candidates are required to attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any Section. Each question carries equal (6) marks. Students can use Non-Scientific calculators or logarithmic tables.

Section-A

1. n similar coins are tossed simultaneously for a large number of times. Prove that the probability of getting r heads up is

$$\frac{n!}{r!\,(n-r)!} \times \frac{1}{2^n}$$

Hence find (i) the probability of most probable state and (ii) the probability of least probable combination.   (6)

2 (a) What is the meaning of the principle of equal apriori probability?   (2)

(b) Discuss the distribution of n distinguishable particles in K compartments, which are further sub-divided into cells of equal a priori probability.   (4)

Section-B

3. (a) Using Bose Einstein distribution law, derive Plank's law for Black Body Radiation.   (4)

(b) What is the minimum size of phase space cell in the classical and quantum mechanics?   (2)

4. Apply the Fermi Dirac distribution law to derive the energy distribution of free electrons inside a conductor.   (6)

Section-C

5. (a) Show that the efficiencies of all reversible heat engines, working between the same two temperatures are the same.   (3)

(b) The efficiency of carnot cycle is 1/6, by lowering the temperature of sink by 65 K, it increases to 1/3. Find the initial and final temperatures.   (3)

6. Define Peltier and Thomson coefficient. For a thermocouple, show thermodynamically that

$\sigma_a - \sigma_b = T\frac{d^2E}{dT^2}$ where letters have their usual meanings.   (6)

Section-D

7. (a) What is the temperature of inversion? Give its importance in Joule-Thomson Effect.   (3)

(b) Derive Clausius- Clayperon's equation from Maxwell's relations and explain the change of ice into water on the basis of it.   (3)

8. Using Maxwell's thermodynamic relations, prove that for a perfect gas $C_p-C_v = R$ and show that the Van der Waal gas becomes identical with the perfect gas under certain conditions.   (6)

Exam Code: 121303

Paper Code: 9321

Bachelor of Science (Semester-III)
Course Code: BSNM-3395(II)
Course Title: Physics (Optics and Laser)

Time: 3 hrs

M.M: 30 Marks

Note: Attempt five questions in all, selecting atleast one question from each section. Fifth question can be attempted from any section. each question carries equal (6) marks. Use of log table / non programmable calculator is allowed.

Section-A

1. a) Explain the experimental arrangement and method to find wavelength of light by Newton rings in reflected light? (4)

   b) What is interference of light? Write conditions for sustained interference. (2)

2. a) Derive an expression for net amplitude on superposition of two waves in young double slit interference and derive the conditions of maxima in terms of path difference as well as phase difference. (4)

   b) State and prove Stoke's Law (2)

Section-B

3. State and explain Rayleigh's criterion for limit of resolution. Derive an expression for resolving power of microscope and telescope. (6)

4. What is Fresnel's half period Zones. Discuss their area and amplitude contribution. Compare intensities for odd and even number of zones. (6)

Section-C

5. What are Polaroids? Explain the polarisation action of a wire grid polariser. Give important uses of Polaroids. (6)

6. What is double refraction? How will you produce circular and elliptical polarised light? (6)

Section-D

7. Explain the principle, construction and working of a He-Ne laser. (6)

8. What are Einstein co-efficients? Show that they are related as

$$B_{12} = B_{21} \, and \, \frac{A_{21}}{B_{21}} = \frac{h\omega^2}{\pi^2 c^3}$$

(6)

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20

Exam Code: 121303   Paper Code: 9322

Programme: Bachelor of Science (Semester: III)

Course Title: Chemistry (Organic Chemistry)

Course Code: BSMM-3084(I)

Time Allowed: 3 Hours   Max Marks: 30

Note: Attempt five questions in all selecting at least one question from each section. The fifth question can be attempted from any section. Each question carries equal (6) marks.

Section-A

Q: 1(i) Walden inversion does not necessarily mean optical inversion. Justify the statement.   (2)

(ii) Differentiate between racemic mixture and meso compounds. Describe any two methods to resolve racemic mixtures.   (4)

Q: 2 (i) Define enantiomers and diastereomers. How can we distinguish between them?   (2)

(ii) Describe conformational analysis of cyclohexane and discuss its stability with the help of potential energy diagram.   (4)

Section-B

Q:3 (i) Draw the structure of product formed in dehydration of 1-butanol and write its mechanism.   (3)

(ii) How will you distinguish between primary, secondary and tertiary alcohols by Victor-Meyer method.   (3)

Q:4 (i) Describe with mechanism the oxidative cleavage of vicinal glycols using HIO_4.   (3)

(ii) Identify the reaction and discuss its mechanism.   (3)
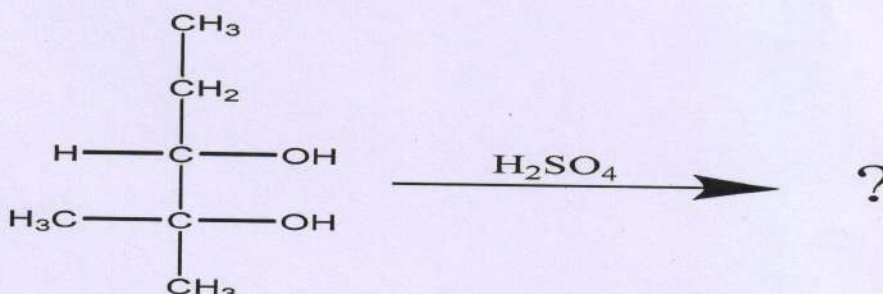
Section-C

Q:5 (i) Discuss the resonance stabilization of phenoxide ions.   (2)

(ii) Discuss what product will be formed in Gatterman reaction with suitable mechanism ?   (4)

Q:6 (i) Outline the mechanism of synthesis of phenol starting from cumene?   (3)

(ii) Describe the reaction and mechanism of the Fries rearrangement and its significance.   (3)

Section-D

Q:7 (i) Discuss with mechanism synthesis of acetone staring from 1,3-dithiane.   (3)

(ii) Write detail mechanism of Knoevenagel condensation reaction with suitable example.   (3)

Q:8 (i) Identify the reaction and write the product and mechanism of following transformation.   (3)
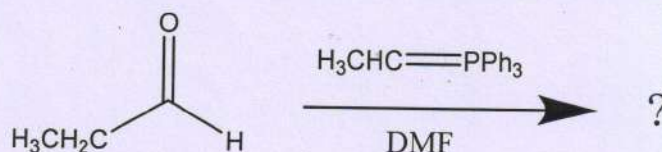
(ii) Write a note on Clemmensen Reduction.   (3)

2124

Exam Code: 121303   Paper Code: 9323

Programme: Bachelor of Science (Semester – III)

Course Title: Chemistry (Physical Chemistry)

Course Code: BSMM/BSNM-3084 (II)

Time: 3 Hours   Max Marks: 30

Note: - Attempt five questions in all, selecting at least one question from each section. The fifth question may be attempted from any section. Each question carries 6 marks.

SECTION-A

1. (a) Differentiate between isobaric and isochoric processes. (2)

   (b) Show that for adiabatic expansion of an ideal gas
   PV^γ = constant. (4)

2. (a) Derive thermodynamically Kirchoff's equation giving the variation of heat of reaction with temperature. (3)

   (b) State First law of thermodynamics. What are its limitations? (3)

SECTION-B

3. Describe carnot cycle. Derive an expression for the efficiency of a reversible heat engine working between T_1 and T_2. (6)

4. (a) Calculate the amount of heat supplied to a Carnot cycle working between 368 K and 288 K if the maximum work obtained is 895 joules. (3)

(b) Derive the relation $\Delta S = C_v \ln \frac{T2}{T1} + R \ln \frac{V2}{V1}$ (3)

SECTION-C

5. Derive Clausius-Clapeyron equation for liquid-vapour equilibrium. Show how the equation can be expressed in the integrated form. What are its important applications? (6)

6. (a) State and explain Nernst heat theorem. (3)

   (b) Give the thermodynamic derivation of the law of chemical equilibrium. (3)

SECTION-D

7. (a) What do you mean by critical solution temperature? Explain one system that has an upper CST. (3)

   (b) Derive "Gibbs Phase Rule" thermodynamically. (3)

8. (a) How Nernst Distribution Law can be applied to terms with the extent of association or dissociation of the solute? (3)

   (b) At 15°C, an aqueous solution of oxalic acid containing 5.0 g of oxalic acid per 100 cc of water is in equilibrium with an ethereal solution containing 0.50 g per 100 cc. The solubility of oxalic acid in water at 15°C is 10 g per 100 cc. Calculate the solubility. (3)

Exam Code: 120603   Paper Code: 9324

Programme: Bachelor of Science (Bio-Technology) Semester: III
Course Title: Chemistry –II
Course Code: BBTM-3083

Time Allowed: 3 Hours   Max Marks: 30

Note: Attempt five questions in all, selecting at least one question from each section. The fifth question can be attempted from any section. Each question carries equal (6) marks.

Section-A

Q1. (a) Explain why phenols are stronger acids than alcohol.   (3)

   (b) Account for unusual stability of cycloheptatrienyl cation.   (3)

Q2. (a) Define the term hyperconjugation and explain it in terms of orbital concept. How does it explain the relative stability of alkenes.   (3)

   (b) Calculate the formal charge for all the resonance structures of diazomethane (CH_2N_2).
(3)

Section-B

Q3. (a) Using Friedal-Crafts reaction, sketch the following transformation.   (3)
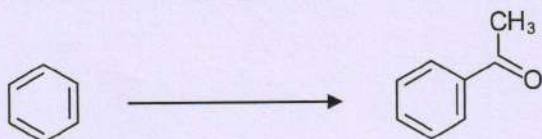
   (b) What are σ and π complexes ? Illustrate their role in aromatic electrophilic substitution reactions with the help of an energy profile diagram.   (3)

Q4. (a) Methyl group attached to benzene ring has no lone pair of electrons but is still ortho, para-directing in nature. Explain why ?   (3)

   (b) Explain the mechanism of nitration of benzene.   (3)

Section-C

Q5. (a) Distinguish between enantiomer and diastereomer with suitable example.   (3)

   (b) Identify the chiral center in the following compounds   (3)

(i)   (ii)

2124   20
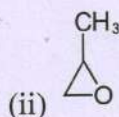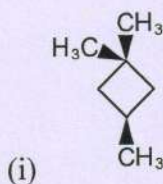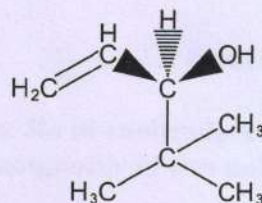
Q6. (a) Draw potential energy diagrams for various conformations of n-ethane and discuss their relative stabilities. (3)

(b) Assign (R) and (S) designation to each of the following compounds. (3)
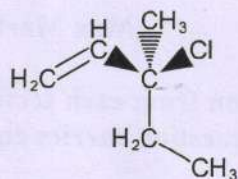
(i)   (ii)

Section-D

Q7. (a) Justify that S_N^2 reactions proceed by inversion of configuration. (3)

(b) How does carbocation stability affect the rate of S_N^1 reactions? Arrange the following in increasing order of S_N^1 reactivity: methyl, primary, secondary, and tertiary alkyl halides.

(3)

Q8. (a) What are carbocation rearrangements in S_N^1 reactions? Provide an example where a hydride or methyl shift occurs. (3)

(b) Distinguish between S_N^1 and S_N^2 reactions. (3)

Exam Code: 119703   Paper Code: 9325

Bachelor of Science (Home Science) (Semester-III)

Course Title: Basic Physics

Course Code-BHSL-3393

Time allowed- 3 Hours   Maximum Marks- 40

Note: Candidates are required to attempt five questions, selecting at least one question from each section. The fifth question can be attempted from any Section. Each question carries 8 marks.

Section-A

1. Define the SI units and write their application.
2. Differentiate between
   a) Linear and angular velocity
   b) Linear and angular acceleration

Section-B

3. What are the different types of energy?
4. Explain dimensions and units of force, work and Power.

Section-C

5. Explain the Fluid pressure and atmospheric pressure.
6. Discuss the working of wedges and Scissors.

Section-D

7. Explain transmission of heat through conduction and convection.
8. Explain the difference between conductors and insulators.

Exam Code: 112413.

Paper Code: 9326.

Programme: Bachelor of Science (Honours) Mathematics
Semester-III

Course Title: Linear Algebra

Course Code: BOML-3334

Time Allowed: 3 Hours

Max Marks: 80

Note : Attempt FIVE question in all, selecting at least ONE question from each section. The fifth question may be attempted from any section. Each question carries equal marks. (16 each)

Section A

1. (a) Define Ring. Give an example of

    (i) Commutative ring without unity,

    (ii) Commutative ring with unity . 04

    (b) Determine the subset W = $\{(a_1, a_2, a_3): a_1 = a_2 + 3\}$ form a subspace of

    R^3 or not. 04

    (c) Prove that union of two subspaces of V is a subspace of V iff one of the

    subspaces is contained in the other. 08

2. (a). Check for linear independence of the vectors (2, 2, 1), (1, 3, 1) and

    (1, 2, 2) in $R^3(R)$.Also write (3, 1, 5) as linear combination of these vectors. 08

    (b) Prove or give a counter example: if U_1, U_2 and W are subspaces of V such

    that $V = U_1 \oplus W$ and $V = U_2 \oplus W$ then $U_1 = U_2$ 08

Section B

3. (a) Any two bases of a finite dimensional vector space have the same number of elements. 10

(b) Let U be the subspace of R^5 defined by

$U=\{(x_1, x_2, x_3, x_4, x_5) \in R^5 : x_1 = 3x_2, x_2 = 7x_4,\}$, Find basis and

dimension of U 06

4. (a) Let U and W be two subspaces of R^4, where

U= {(a, b, c, d): b + c + d=0} and W={(a, b, c, d): a + b=0, c=2d}. Find

basis and dimension of (i) U (ii) W (iii) U∩ W. Also find dimension of 07

U+W.

(b) Let V be finitely generated vector space over F. Then any maximal

linearly independent subset of V is a basis of V. 07

(c) Define Quotient space. 02

Section C

5. (a) Check the mapping T: $R^2 \rightarrow R^2$ defined as $T(x_1, x_2) = (x_2, 0)$ is linear

transmation. 04

(b) Find a linear transformation T: $R^4 \rightarrow R^3$ whose range space is spanned

by (0,1,-3) and (0,-3,4). 06

(c) Let V and W be finite dimensional vector spaces with dim V=dim W.

Then a linear transformation T : V→W is one-one iff T is onto. 06

6. (a) Let B= $\{v_1, v_2, ..., v_n\}$ be a basis for vector space V(F). Let T:V→V be a

linear transformation. Prove that for any vector v in V, [T;B][v;B]=[T(v);B]. 06

(b) Let T be a linear operator on R^2 defined by T(x, y) = (3x-4y,x+5y). Find

matrix of T relative to the basis B={(1,3), (3,4)}. 05

(c) If matrix of linear operator T on R^3 relative to usual basis is

$\begin{bmatrix} 1 & 1 & -1 \\ -1 & 1 & 1 \\ 1 & -1 & 1 \end{bmatrix}$, then find the matrix of T relative to the basis

05

$\mathcal{B} = \{(1,2,2), (1,1,2), (1,2,1)\}$.

Section-D

7. (a) Give definition of elementary matrix and also an example of it.   04

  (b). Elementary row and column operations on a matrix are rank preserving.   12

8. (a) If A is an m*n ordered matrix of rank r over some field F, then there exist

suitable invertible matrices P and Q such that PAQ=$\begin{bmatrix} I_r & O \\ O & O \end{bmatrix}$, where I_r is the   10

identity matrix of order r.

(b) Determine whether the following system of linear equations has a solution:

x+ 2y- z =1

2x+ y+ 2z =3   06

x- 4y+7z =4.

Exam Code: 121103

Paper Code: 9387

Programme: Bachelor of Commerce
Semester-III

Course Title: Business Environment

Course Code: BCRL-3093

Time Allowed: 3 Hours

Max Marks: 40

Candidates are required to attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any section. Each question will carry 8 marks.

Section-A

1. What is Business Environment? Discuss various components of business environment in detail.

2. What do you mean by Balance of Payment? What are the main causes of adverse balance of payment in India?

Section-B

3. What do you mean by Parallel economy? Discuss various measures adopted by Government to control Parallel economy in detail.

4. What are the objectives of New Monetary Policy? Discuss various components of Monetary Policy in detail.

Section-C

5. What is Deficit Financing? Examine the effect of deficit financing on Indian Economy.

6. What are the objectives of economic Planning in India? Why economic planning is failure in India?

Section-D

7. What are the objectives of EXIM Policy? Discuss the features and measures adopted in the policy.

8. Discuss in detail various provisions of Consumer Protection Act, 1986.

Exam Code: 121103   Paper Code: 9327-R

Programme: Bachelor of Commerce (Semester-III)
Course Title: Business Environment
Course Code: BCRL-3093

Time Allowed: 3 Hours   Max Marks: 40

Note: Attempt five questions in all, selecting at least one question from each section. The fifth question can be attempted from any section. Each question carries 8 marks.

Section-A

1. What do you mean by business environment? Explain various environmental factors which create a impact on the business.

2. What is the impact of Income, Savings and Investment on Industrial growth of the country?

Section-B

3. a. What are the various issues involves in the privatization?

   b. Discuss features of Industrial Policy in detail.   (4 + 4)

4. What are the various tools of fiscal policy? Critically evaluate the fiscal policy of India.

Section-C

5. Write a detailed note on Deficit Financing and its implications for Indian Economy?

6. What is NITI Aayog? Discuss its role in Economic Planning.

Section-D

7. Explain salient provisions of Foreign Trade Policy.

8. Discuss the provisions of Foreign Exchange Management Act, 1999.

Exam Code: **121103**   Paper Code: **9328**

Programme: **Bachelor of Commerce**
Semester-III

Course Title: **Company Law**

Course Code: **BCRL-3094**

Time Allowed: **3 Hours**   Max Marks: **40**

Note: **Attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any section. Each question carries 8 marks**

SECTION—A

1. "A promoter is not a trustee or agent for the company but he stands in a Fiduciary position towards it". Discuss.

2. 'An incorporated company is a totally different person or entity from its member-the individuals comprising it." Explain and illustrate.

SECTION—B

3. Explain the following :
   a) Demat of Shares
   b) Buyback of Shares

4. "Memorandum of association is a charter of the Company" Comment upon the statement and explain the clauses which are included in a Memorandum of Association of a Company.

SECTION—C

5. "The board of directors of a company can do all such acts and things and exercise all such powers as the company itself may do and exercise." Comment.

6. What do you understand by company liquidator? Describe the duties and powers of liquidator appointed by the Tribunal.

SECTION—D

7. Write a short note on 1
   a) CIN
   b) DIN
   c) OPC
   d) LLP

8. The objectives of producer companies must satisfy the requirement laid down in section 581B of the Company Act, 1956. Discuss.

Exam Code: 121103   Paper Code: 9329.

Programme: Bachelor of Commerce

Semester-III

Course Title: Corporate Accounting

Course Code: BCRM-3097

Time Allowed: 3 Hours   Max Marks: 30

Note: Attempt five questions selecting at least one question from each section. Fifth question may be attempted from any section. Each question carries 5 marks. Non- Scientific calculator can be used.

SECTION - A

1. A company offered for public subscription 10,000 shares of Rs. 10 each at Rs. 11 per share. Money payable as

follows:

Rs. 3 on application

Rs. 4 on allotment

Rs. 4 on first and final call.

Applications were received for 12,000 shares and the directors made prorate allotment. A, an applicant for 120 shares, could not pay the allotment and call money. B, a holder of 200 shares, failed to pay the call. All these shares were later on forfeited.

Out of the forfeited shares, 150 shares (the whole of A's shares being included) were reissued at Rs. 9 per share. Pass the journal entries for recording the above transactions.

2. What do you mean by final accounts? Explain the form and content of final accounts of a joint stock company.

SECTION - B

3. The following is the Balance Sheet of Rocky Ltd

	Amount in Rs.
Equity Share Capital (10,000 shares of 10 each)	1,00,000
Profit and Loss	35,000
12% Debentures	50,000
Creditors	15,000
Total	**2,00,000**
Goodwill	20,000
Fixed Assets	82,500
Current Assets	97,500
Total	**2,00,000**

Priya Ltd. agreed to take over assets at 10% less than book value (excepting goodwill, one fixed asset valued at Rs. 20,000 and cash Rs. 5,000 included in the Balance Sheet as above). The Priya Ltd. agreed to pay Rs. 30,000

for goodwill and to discharge the trade creditors and debentures.

The purchase consideration was to be discharged by the issue of 10,000 shares of Rs. 10 each, Rs. 8 called at market value of Rs. 10 per share and the balance in cash. Cost of liquidation amounted to Rs. 2,000. You are required to:

(i) Calculate purchase consideration.

(ii) Give journal entries to close the books of Rocky Ltd.

4. What is alteration of share capital? Discuss the procedure under companies Act for capital reduction and internal reconstruction of the company.

SECTION - C

5. From the following information, calculate the provision to be shown in the Profit and Loss Account of Syndicate Bank for the year ending on 31st March 2022.

Assets	Amount in Lacs
Standard	19,000
Sub-standard (Secured 70%)	7,000
Doubtful -(Upto one year)	1,300
-(Upto three year)	1,700
-(More than three year)	600
-(Unsecured)	300
Loss Asset	1,100

6. Write Notes On

(a) Non Performing Assets

(b) Advances

SECTION - D

7. The following Trial Balance was extracted from the books of the Life Insurance Corporation as on 31st March, 2016

Names of Accounts	Debit (Rs. in,000)	Credit (Rs. in,000)
(1)Life Assurance Fund as on 1st April 2015		29,72,300
(2) Paid up Share Capital- 1,00,00,000 Shares of 10each		1,00,000
(3) Dividend Paid	15,000	
(4)Bonus to Policyholders	31,500	
(5) Premiums received		1,61,500
(6) Clams paid	1,97,000	
(7) Commission paid	9,300	
(8) Management Expenses	32,300	
(9) Mortgages in India	4,92,200	
(10) Interest and Dividends received		1,12,700
(11) Agents Balances	9,300	
(12) Freehold Premises	40,000	
(13) Investments	23,05,000	
(14) Loans on Company's Policies	1,73,600	
(15) Cash on Deposits	27,000	
(16) Cash in hand and Current Account	7,300	
(17) Surrenders	7,000	
Total	33,46,500	33,46,500

Additional Information:

(a) Claims admitted but not paid 90,00,000

(b) Management expenses due 2,00,000

(c) Interest accrued 1,93,00,000

(d) Premiums outstanding 1,00,00,000

(e) Bonus utilised in reduction of premium 20,00,000

(f) Claims covered d under reinsurance 23,00,000

You are required to prepare the Corporation's Revenue Account for the year as on 31st March, 2016 and its Balance Sheet as on that date after taking the above information into considration.

8. Prepare Balance Sheet of General Insurance Company with imaginary figures.

Exam Code: **121103**

Paper Code: .933/-

(50)

Programme: Bachelor of Commerce
Semester-III

Course Title: Financial Management

Course Code: BCRL-3095

Time Allowed: 3 Hours

Max Marks: 40

Note: Candidates are required to attempt five questions selecting one question from each section. The fifth question may be attempted from any section. All questions carries (8) marks.

Section- A

1. What do you mean by financial management? What is the scope of finance function in business enterprise? Should the goal of financial decision making be profit maximization or wealth maximization?

2. You are required to determine the Weighted average cost of capital of ABC Ltd. Using
   (i) book value weights and

(ii) market value weights. The following information is available for you perusal. Present book value capital structure is as follows:

	Amount
Debentures (Rs. 100 per debenture)	8,00,000
Preference shares (Rs. 100 per share)	2,00,000
Equity shares (Rs. 10 per share)	10,00,000
	20,00,000

All these securities are traded in capital markets. Recent prices are debentures @ Rs. 110, preference shares @ Rs. 120 and Equity shares @ Rs. 22. Dividend expected on equity shares at the end of the year is Rs. 2 per share, and the anticipated growth rate in dividend is 5% and company has the practice of paying all its earnings in form of dividend. The corporate tax rate is 50%.

Section- B

3. Explain the meaning of the term capital structure and mention the factors affecting the capital structure.

4. What is operating leverage? Give the different formulas to calculated operating leverage and degree of operating leverage along with suitable examples.

Section- C

5. What is the meaning of working capital? Discuss various approaches to determine an appropriate financing mix of working capital.

6. Explain in details various factor affecting the requirement of working capital.

Section- D

7. Explain various factors which influence the dividend decision of firm.

8. Capital and Countries Ltd. is considering two projects, only one of which can be accepted. The data in respect of these two are given as below:

	Project I	Project II
Outlay at t=0	10,000	50,000
Net inflows		
t=1	5,000	10,000
t=2	5,000	15,000
t=3	3,000	25,000
t=4	2,000	25,000
t=5	1,500	21,000

Calculate:
(i) Pay back period of both projects
(ii) Post pay back period
(iii) Net Present Value (NPV)
(iv) Profitability index (PI)

Exam Code: **121703**   Paper Code: **9334**

Programme: Bachelor of Business Administration
Semester-III

Course Title: Statistics for Business

Course Code: BBRL-3173

Time Allowed: 3 Hours   Max Marks: **40**

Note:- Attempt five questions, selecting one question from each section. The fifth question may be attempted from any section. Each question carries **8** marks each.

Section-I

1. Solve the following equations for x, y and z.

$$7x - y - 8 = 0$$
$$10x - 2y + z = 8$$
$$6x + 3y - 2z = 7$$

8

2. (a) Discuss the properties of determinant.   4
   (b) Draw a suitable diagram to represent the following information:

Plans	Deficit financing during the Plans Rs.(in crore)
I	550
II	950
III	1133
IV	3750
V	2780
VI	5000
VII	14000

4

Section-II

3. Find the missing frequency in the following distribution if N=100 and median=30

Marks:	0-10	10-20	20-30	30-40	40-50	50-60
No students:	10	?	25	30	?	10

8

4. An analysis of the monthly wages paid to worker in Firm A and B belonging to the same industry gives the following results:

	Firm A	Firm B
No. of workers	500	600
Average monthly wage(Rs.)	186	175
Variance of distribution of wage (Rs.)	81	100

(i) Which Firm pays a larger wage bill?

(ii) In which firm is there greater variability in individual wages?

(iii) Find the combined mean and standard deviation of wages of the two firms taken together.

8

Section-III

5. Explain briefly the components of time series.

8

6. The following table gives the marks in Economics and statistics of 10 students selected at random.

Marks in Economics	25	28	35	32	31	36	29	38	34	32
Marks in Statistics:	43	46	49	41	36	32	31	30	33	39

Find (i) The two regression equations

(ii) The most likely marks in statistics when marks in economics are 30.

8

Section-IV

7. Construct Index Number of Prices from the following data by

    a) Laspeyre's Method

    b) Paasche's Method and

    c) Fisher's Method

Commodity	1994		1995	
	Price (Rs.)	Value (Rs.)	Price (Rs.)	Value (Rs.)
A	8	100	10	90
B	10	60	11	66
C	5	100	5	100
D	3	30	2	24
E	2	8	4	20

8

8. Explain the properties of Normal distribution.

8

Exam Code: **121703** Paper Code: **9335**.
(50)

Programme: Bachelor of Business Administration
Semester-III

Course Title: Management Accounting

Course Code: BBRL-3327

Time Allowed: 3 Hours Max Marks: **40**

NOTE: Candidates are required to attempt five questions, selecting one question from each section. The fifth question may be attempted from any section. Each question carries 8 marks.

SECTION-A

1. Explain the nature and functions of Management Accounting.

2. The following are the Balance Sheets of XYZ Ltd. for the years 2019 and 2020. Prepare a Comparative Balance Sheet and comment on the financial position of the concern.

Balance Sheet
As on 31ˢᵗ December

Liabilities	2019 (Rs.)	2020 (Rs.)	Assets	2019 (Rs.)	2020 (Rs.)
Equity Share Capital	6,00,000	8,00,000	Land & Building	3,70,000	2,70,000
Reserves & Surplus	3,30,000	2,22,000	Plant & Machinery	4,00,000	6,00,000
Debentures	2,00,000	3,00,000	Furniture & Fixtures	20,000	25,000
Long term loans	1,50,000	2,00,000	Other Fixed assets	25,000	30,000
Bills payable	50,000	45,000	Cash in hand	20,000	80,000
Sundry Creditors	1,00,000	1,20,000	Bills receivable	1,50,000	90,000
Other Current Liabilities	5,000	10,000	Sundry Debtors	2,00,000	2,50,000
			Stock	2,50,000	3,50,000
			Prepaid Expenses	-----	2,000
	14,35,000	16,97,000		14,35,000	16,97,000

SECTION-B

3. Explain the following ratios with suitable examples:

   a. Acid Test Ratio

   b. Debtors Turnover Ratio

   c. Operating Profit Ratio

   d. Return on Investment Ratio

4. The following are the Balance Sheets of ABC Ltd. for the years 2015 and 2016. You are required to prepare a Funds Flow Statement.

Balance Sheet
As on 31ˢᵗ December

Liabilities	2015 (Rs.)	2016 (Rs.)	Assets	2015 (Rs.)	2016 (Rs.)
Equity Share Capital	2,00,000	2,40,000	Land & Building	1,05,000	1,50,000
8% Debentures	50,000	------	Plant & Machinery	2,90,000	3,20,000
Share Premium	------	10,000	Furniture	9,000	10,000
General Reserve	30,000	50,000	Inventories	1,30,000	1,05,000
Profit & Loss A/C	48,000	68,000	Sundry Debtors	75,000	85,000
Sundry Creditors	1,30,000	1,50,000	Cash	15,000	26,000
Proposed Dividend	20,000	24,000			
Provision for Depreciation:					
Plant & Machinery	1,40,000	1,50,000			
Furniture	6,000	4,000			
	6,24,000	6,96,000		6,24,000	6,96,000

Additional Information:

1. Furniture which cost Rs. 5,000, written down value Rs. 1,000, was sold during the year 2016 for Rs. 2,000.

2. Plant & Machinery which cost Rs. 20,000 and in respect of which Rs. 13,000 had been written off as depreciation, was sold for Rs. 3,000.

3. The dividend of 2015 was paid in 2016.

SECTION-C

5. What do you mean by Management Reporting? What is its significance? Discuss the various kinds of reports prepared for different levels of management.

6. What is the importance of Working Capital Management? Explain the factors influencing working capital requirements.

SECTION-D

7. What is meant by responsibility centres? How are these centres determined and for what purpose?

8. Explain the various methods of Transfer Pricing. How would you select a transfer pricing method?

Exam Code: 508303   Paper Code: 9336

Programme: Bachelor of Commerce (Honours)
Semester-III

Course Title: Analytical Skills

Course Code: BCOL-3331

Time Allowed: 3 Hours   Max Marks: 80

There are total Eight questions of equal marks (16 marks each), two in each of the four Sections (A-D). Candidates are required to attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any section.

Section-I

1. (a) Study the following table carefully and answer the questions given below.

Marks out of 50 Subject	40 and above	30 and above	20 and above	10 and above	0and above
Physics	9	32	80	92	100
Chemistry	4	21	66	81	100
(Aggregate) Average	7	27	73	87	100

8

(i) Find the number of students scoring less than 40% marks in aggregate?

(ii) If atleast 60% marks in Physics are required for pursuing higher studies in Physics, how many students will be eligible to pursue higher studies in Physics?

(b) A cosmetic company produces five different products. The sales of these five products (in lakh number of packs) during 1985 and 2000 are shown in the following bar graph. Answer the questions given below based on this graph.
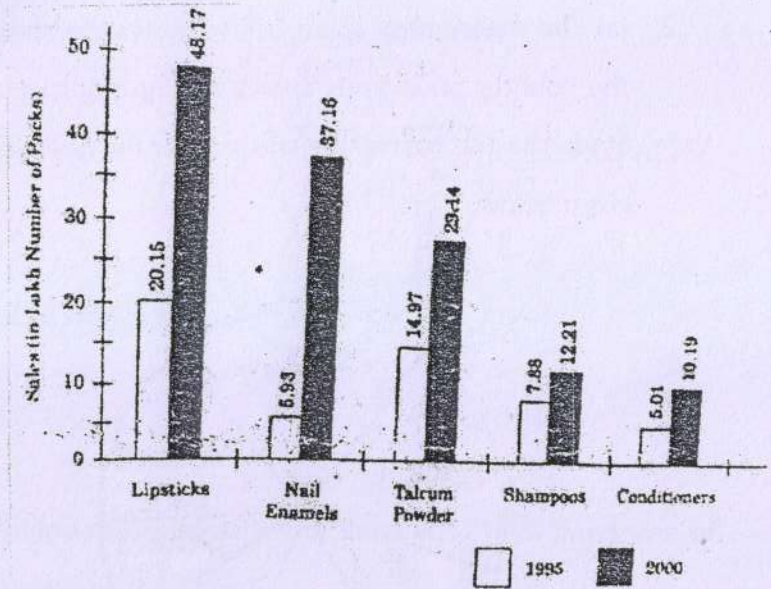

(i) The sales of lipsticks in 2000 was by what percent more than the sales of nail enamels in 2000?

(ii) what is the approximate ratio of the sales of nail enamels in 2000 to the sales of talcum powders in 1995?

8

2. (a) The circle graph given below shows the spending of the country on various sports during a particular year. Study the graph carefully and answer the questions given below. 8
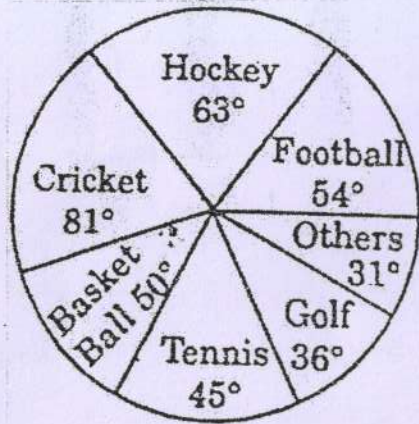
(i) What percent of the total spendings is spent on Tennis?

(ii) How much percent more is spent on Hockey than that on Golf'?

(b) Read the given Venn's diagram and answer the following question:
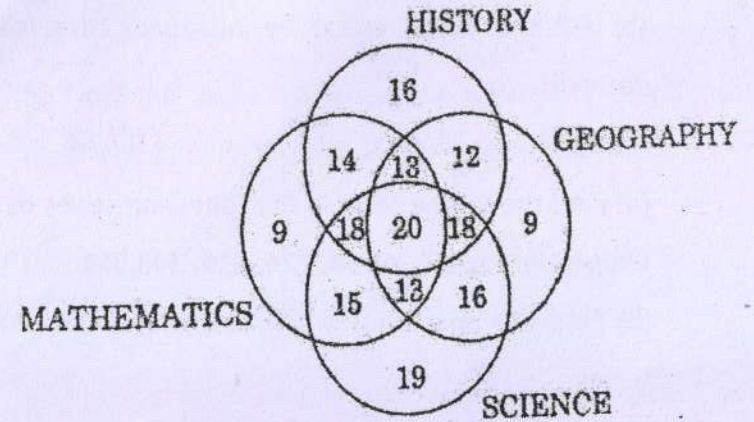
(i) Find the number of students who took any three of the subjects.

(ii) Which subject was taken by the largest number of students? 8

Section-II

3. (a) Which number comes next in the sequence 4, 8, 28, 80, 244? 8

(b) Fill the blank space by observing the following pattern

A,CD,GHI,___,UVWXY, 8

4. (a) Find the wrong term in the following series by giving the proper logic 7, 28, 63, 124, 215, 342,511. 8

(b) Find the next term in the following alpha- numeric series:

Z1A, X2D, V6G, T21J , R88M ,P445P 8

Section-III

5. (a) Anil introduces Rohit as the son of the only brother of his father's wife. How is Rohit related to Anil?

8

(b) Find the largest number which divides 62,132 and 237 to leave the same remainder in each case.

8

6. (a) What was the day of the week on 4th June 2002 ?

8

(b) Find the angle between the hour hand and the minute hand of a clock when the time is 3.25. 8

Section-IV

7. (a) A sum of Rs 391 has been divided between A, B, C in the ratio

$\frac{1}{2} : \frac{2}{3} : \frac{3}{4}$. Find the share of each. 8

(b) A man is 30 times older than his son. Eighteen years later he will be only thrice as old as his son. What is man's present age? 8

8. (a) Anita can cover a certain distance in 1 Hour 24 minutes by covering two-third of the distance at 4 km/hr and the rest at 5 km/hr. Find the total distance.

8

(b) A man sells an article at a profit of 20%. If he had bought it at 20% less and sold for rupee five less, he would have gained 25%. Find the cost price of the article.

8

Exam Code: **508303**

Programme: Bachelor of Commerce (Honours).
Semester-III

Course Title: Corporate Accounting

Course Code: BCOM-3096

Time Allowed: 3 Hours

Max Marks: 50

Note: Attempt five questions, selecting at least one question from each section. Fifth question may be attempted from any section. Each question carries 10 marks. Students are allowed to use Non-scientific calculators.

SECTION - A

1. Balance Sheet of Raj Ltd. is as follows:

Equity and Liabilities	Rs.
Equity Share Capital :	16,00,000
1,60,000 shares of Rs. 10 each fully paid up	
12% Red Pref. Shares of Rs.100 each Rs. 80 per share paid up	8,00,000
Securities Premium Reserve Account	30,000
Profit and Loss Account	1,49,990
Current Liabilities	2,30,470
TOTAL	28,10,460
Assets	
Fixed Assets	19,00,000
Investments	1,00,000
Current Assets	7,60,460
Input CGST	25,000
Input CGST	25,000
TOTAL	28,10,460

The Redeemable Preference Shares are to be redeemed at a premium of 10%. The directors decided that only the minimum number of fresh equity shares of Rs. 10 each at a premium 5% be issued to provide for Redemption of such preferences shares as could not otherwise be redeemed. You are required to give the journal entries and also prepare the balance sheet. Calculate the minimum number of fresh shares to be issued in working notes.

2. Discuss accounting treatment of issue of shares at par along with entries of forfeiture and reissue of shares.

SECTION — B

3. Discuss cumulative sinking fund method of redeeming debentures and its accounting treatment.

4. Prepare a Statement of Profit & Loss account for the year ending March 31, 2023, from the balances extracted of Rahul Sons Ltd. Also prepare a balance sheet as at that date.

Debit Balances	Rs	Credit Balances	Rs.
Opening Stock	1,35,000	Share Capital (1,000 shares of Rs 100 each)	1,00,000
Rent and Taxes	6,000	5% Debentures	25,000
Purchases	60,900	Sales	1,85,000
Wages	55,200	Creditors	1,18,000
Discount	1,500	Bank Overdraft	27,000
Coal and Water	2,570	Discount	2,200
Building	80,000	Transfer Fees	100
Carriage	1,200	Return Outwards	2,125
Debtors	25,000		
Plant and Machinery	30,000		
Goodwill	23,000		
Advertisement	3,000		
Bad Debts	1,030		
Debentures Interest (Paid up to 30th September 2022)	625		
Loose Tools	6,000		
General Expenses	4,400		
Salaries	20,000		
Insurance	1,000		
Cash and Bank Balances	3,000		
	4,59,425		4,59,425

Adjustments:

(i) Closing stock was valued at Rs 1,3 5,000

(ii) Plant and Machinery was to be depreciated by 10%.

(iii) Loose Tools to be revalued at Rs. 4,400.

(iv) Provide reserve for bad debts at 3% on debtors and 2% reserve for discount debtors.

(v) Provide for dividend on shares at 15%.

(vi) Transfer Rs. 10,000 to Reserve Fund.

SECTION —C

5. Discuss amalgamation in the nature of purchase in detail along with its accounting treatment

6. The Capital of Bad Luck Company Private Limited (in Liquidation) was as follows:

   2,000 Preference Shares of Rs. 100 each fully paid;

   8,000 Equity Shares of Rs. 100 each fully paid;

   6,000 Equity Shares of Rs. 100 each Rs. 80 per Share paid;

   2,000 Deferred Shares of Rs. 100 each, Rs. 80 Share paid.

   Under the Articles of the Association, Preference Shares have priority as to repayment of capital over the Equity Shares and Equity Shares priority over Deferred Shares in Balance Sheet. The cost of Liquidation including the Liquidator Remuneration amounted to Rs. 14,000 and the Creditors for Rs. 1,78,000. The assets realized Rs. 3,74,000. The calls made by the Liquidator on Deferred Shareholders for the adjustment of the rights of Shareholders (as between themselves) was fully paid. A Call of Rs.15 per Share was made on the partly paid Equity Shares which was duly paid with the exception of that on 200 Shares which was irrecoverable.

SECTION -D

7. Prepare format of Balance Sheet of Life insurance companies along with schedules there of

8. Prepare P&L A/c with the following figures extracted from the books of Kuber Bank Ltd. as on 31-03-2021 in Indian Rupees .

Interest on Loan 2,60,000	Interest on savings account 50,000
Interest on fixed deposit 3,20,000	Postage & telephone 35,000
Commission 8,800	Printing & stationery 40,000
Establishment expenses 25,000	Sundry expenses 30,000
Discount on bills discounted 1,30,000	Income on investment 70,000
Interest on cash credit 2,40,000	Profit on sale of investment 80,000
Rent & Taxes 30,000	Interest on overdraft 1,40,000

Bad debts to be written off Rs. 60,000 and Provision for Taxation to be made @ 50%.

Exam Code: 109103.   Paper Code: 9338.

Programme: Bachelor of Commerce (Honours)
Semester-III

Course Title: Business Ethics and Corporate Social Responsibility

Course Code: BCOL-3095

Time Allowed: 3 Hours   Max Marks: 80

Note:- Students are required to attempt five questions selecting one question from each section. The fifth question may be attempted from any selection. Each question carries 16 marks.

Section- A

1. "The key element for development of business is Ethics." Briefly explain this statement.
2. What do you mean by ethics in HRM? Explain various ethical issues in HRM.

Section- B

3. What do you mean by business ethics? Briefly explain the teleological theories of business ethics.

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4. "A value enlists the core principles that guide and direct the organization and its culture." In light of the statement explain various principles and benefits of value based organization.

Section- C

5. Explain CSR in business? Discuss in detail the various models of CSR?
6. Discuss the role and responsibility of business towards various interest groups?

Section- D

7. Define corporate governance. What are the various issues arise in corporate governance?
8. Define ethical leadership. Discuss the features and advantages of ethical leadership in detail.

Exam Code: 218703   Paper Code: 9305

Master of Vocation (Textile Design and Apparel Technology)
Semester III
Course Title: Industrial Safety
Course Code: MVTL-3233

Time Allowed: 3 Hours   Max. Marks: 40

Note: Attempt five questions, selecting one question from each section. The fifth question can be attempted from any section. Each question carries 8 marks.

Section –A

1. Write about various human factors that influence behaviour at work.
2. Write about various types of accidents and their effects.

Section- B

3. Discuss hazards and risks involved with the use of electricity at work.
4. Describe the prevention methods for using electrical equipments in workplace.

Section-C

5. Explain First-aid in the workplace.

6. Brief about different types of Fire alarm system.

Section-D

7. Discuss various Physical health Hazards associated with workplace and give the precautions for the hazard.

8. What are transport hazards? Discuss.