Paper Code: 4105

Programme	Exam Code	Course Code
Bachelor of Arts	103204	AECE-4221
Bachelor of Arts (Journalism & Mass Communication)	108704	
Bachelor of Science (Fashion Designing)	108604	
Bachelor of Arts (Honours) English	107504	
Bachelor of Vocation (Retail Management)	111804	
Bachelor of Vocation (Management & Secretarial Practices)	111604	
Bachelor of Vocation (Animation)	112204	
Bachelor of Vocation (Textile Design & Apparel Technology)	111204	
Bachelor of Vocation (Nutrition Exercise & Health)	111404	
Bachelor of Vocation (Beauty & Wellness)	113804	
Bachelor of Vocation (Hospitality and Tourism)	113904	
Bachelor of Vocation (Artificial Intelligence and Data Science)	114004	

Semester-IV
Course Title Environmental Studies (Compulsory)
(300)

Time Allowed: 3 Hours   **Max Marks: 30**

PART-A

Note: Attempt any 5 questions. Each question carries 4 marks. Length of the answer should not exceed 2 pages.

1. Explain the objectives and important of environmental studies.   4
2. What do you mean by food chain and food Web?   4
3. What are the uses of rain water harvesting system? How does it Work?   4
4. What is the role of individual in prevention of pollution?   4
5. Write a note on women and child welfare?   4
6. What is AIDS? How does it occur and spread?   4
7. Enlight the forest conservation act.   4

Part B

Note: Attempt any 5 questions. Each question carries 8 marks. Length of the answer should not exceed 4 pages.

1. Explain LAND RESOURCES. What are its causes, prevention of land degradation and soil erosion?   8
2. Define Ecosystem. Explain its structure and function. 8
3. Explain the character, structure, functions and features of Terrestrial and Aquatic ecosystem.   8
4. Define Water and Noise pollution. Discuss its cause, effects and control measure.   8
5. What are the threats to biodiversity and IN SITU And EX SITU conservation strategies?   8

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6. What is solid waste management. Explain causes, effects and control measure of urban and industrial waste. 8

7. Write an illustrated note on OZONE LAYER DEPLETION And ACID RAIN. 8

8. Describe forest ecosystem and Desert ecosystem in detail. 8

Hindi version

टिप्पणी : निम्नलिखित 7 प्रश्नों में से कोई 5 प्रश्नों को हल करे। प्रत्येक प्रश्न 4 अंक का है। उत्तर की लंबाई 2 पृष्ठों से अधिक नहीं होनी चाहिए।

भाग ए

1. पर्यावरण अध्ययन के उद्देश्यों और महत्व की व्याख्या करें।

    4

2. खाद्य श्रृंखला और खाद्य जाल से आप क्या समझते हैं?

    4

3. वर्षा जल संचयन प्रणाली के उपयोग क्या हैं और यह कैसे काम करता है। 4

4. प्रदूषण की रोकथाम में व्यक्ति की क्या भूमिका है? 4

5. महिला एवं बाल कल्याण पर एक नोट लिखें। 4

6. एड्स क्या है। यह कैसे फैलता है? 4

7. वन संरक्षण अधिनियम पर प्रकाश डालें। 4

भाग बी

टिप्पणी : निम्नलिखित 7 प्रश्नों में से कोई 5 प्रश्नों को हल करें। प्रत्येक प्रश्न 8 अंक का है। उत्तर की लंबाई 4 पृष्ठों से अधिक नहीं होनी चाहिए।

1. भूमि संसाधनों की व्याख्या कीजिए। भूमि क्षरण और मृदा अपरदन के कारण और रोकथाम की व्याख्या कीजिए। 8

2. एक पारिस्थिति की तंत्र की परिभाषा और इसकी संरचना और कार्य का उल्लेख कीजिए। 8

3. स्थलीय और जलीय पारिस्थिति की तंत्र के चरित्र, संरचना, कार्यों और विशेषताओं की व्याख्या करें। 8

4. पानी और ध्वनि प्रदूषण की परिभाषा, कारण, प्रभाव और नियंत्रण के उपाय बताऐं। 8

5. जैव विविधता के लिए क्या खतरे हैं। और IN-SITU और EX-SITU संरक्षण रणनीतियां बताऐं। 8

6. ठोस कचरा प्रबंधन क्या है? इसका कारण, प्रभाव, शहरी और औद्योगिक कचरे का नियंत्रण उपाय क्या है। 8

7. ओजोन परत की कमी और अम्ल वर्षा पर ध्यान दें। 8

8. वन पारिस्थितिकी तंत्र और मरूस्थलीय पारिस्थितिकी तंत्र का विस्तार से वर्णन करें। 8

Punjabi Version

ਹੇਠ ਲਿਖੇ ਸੱਤ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚੋਂ 5 ਪ੍ਰਸ਼ਨ ਕਰੋ। ਹਰ ਪ੍ਰਸ਼ਨ ਦੇ 4 ਅੰਕ ਹਨ। ਜਵਾਬ ਦੀ ਲੰਬਾਈ 2 ਪੰਨਿਆਂ ਤੋਂ ਵੱਧ ਨਹੀਂ ਚਾਹੀਦੀ।

ਭਾਗ ਏ

1. ਵਾਤਾਵਰਣ ਅਧਿਐਨ ਦੇ ਉਦੇਸ਼ਾਂ ਅਤੇ ਮਹੱਤਵ ਦੀ ਵਿਆਖਿਆ ਕਰੋ।   4

2. ਫੂਡ ਚੇਨ ਅਤੇ ਫੂਡ ਵੈੱਬ ਤੋਂ ਤੁਹਾਡਾ ਕੀ ਮਤਲਬ ਹੈ।   4

3. ਰੇਨ ਵਾਟਰ ਹਾਰਵੈਸਟਿੰਗ ਸਿਸਟਮ ਦੇ ਕੀ ਉਪਯੋਗ ਹਨ ਅਤੇ ਇਹ ਕਿਵੇਂ ਕੰਮ ਕਰਦਾ ਹੈ।   4

4. ਪ੍ਰਦੂਸ਼ਣ ਦੀ ਰੋਕਥਾਮ ਵਿੱਚ ਵਿਅਕਤੀ ਦੀ ਕੀ ਭੂਮਿਕਾ ਹੈ।   4

5. ਔਰਤਾਂ ਅਤੇ ਬਾਲ ਭਲਾਈ ਤੇ ਇੱਕ ਨੋਟ ਲਿਖੋ।   4

6. ਏਡਜ਼ ਕੀ ਹੈ ਇਹ ਇਸ ਨੂੰ ਕਿਵੇਂ ਫੈਲਾਉਂਦਾ ਹੈ ਅਤੇ ਕਿਵੇਂ ਫੈਲਦਾ ਹੈ?   4

7. ਜੰਗਲਾਤ ਸੰਭਾਲ ਐਕਟ ਬਾਰੇ ਚਾਨਣਾ ਪਾਓ।   4

ਭਾਗ ਬੀ

ਹੇਠ ਲਿਖੇ ਸੱਤ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚੋਂ 5 ਪ੍ਰਸ਼ਨ ਕਰੋ। ਹਰ ਪ੍ਰਸ਼ਨ ਦੇ 8 ਅੰਕ ਹਨ। ਜਵਾਬ ਦੀ ਲੰਬਾਈ 4 ਪੰਨਿਆਂ ਤੋਂ ਵੱਧ ਨਹੀਂ ਚਾਹੀਦੀ।

1. ਭੂਮੀ ਸੰਸਾਧਨਾਂ ਦੀ ਵਿਆਖਿਆ ਕਰੋ ਜ਼ਮੀਨ ਦੇ ਨਿਘਾਰ ਅਤੇ ਮਿੱਟੀ ਦੇ ਕਟੌਤੀ ਦੇ ਕਾਰਨ ਅਤੇ ਰੋਕਥਾਮ।   8

2. ਇੱਕ ਈਕੋਸਿਸਟਮ ਦੀ ਪਰਿਭਾਸ਼ਾ ਅਤੇ ਇਸਦੀ ਬਣਤਰ ਅਤੇ ਕਾਰਜ।   8

3. ਧਰਤੀ ਅਤੇ ਜਲ-ਜੀਵਨ ਪ੍ਰਣਾਲੀ ਦੇ ਚਰਿੱਤਰ, ਬਣਤਰ, ਫੰਕਸ਼ਨਾਂ ਅਤੇ ਵਿਸ਼ੇਸ਼ਤਾਵਾਂ ਦੀ ਵਿਆਖਿਆ ਕਰੋ।   8

4. ਪਾਣੀ ਅਤੇ ਸ਼ੋਰ ਪ੍ਰਦੂਸ਼ਣ ਦੀ ਪਰਿਭਾਸ਼ਾ, ਕਾਰਨ, ਪ੍ਰਭਾਵ ਅਤੇ ਕੰਟਰੋਲ ਮਾਪ।   8

5. ਜੈਵ ਵਿਭਿੰਨਤਾ ਲਈ ਖਤਰੇ ਕੀ ਹਨ ਅਤੇ IN SITU ਅਤੇ EX SITU ਸੰਭਾਲ ਰਣਨੀਤੀਆਂ ਹਨ।   8

6. ਠੋਸ ਰਹਿੰਦ-ਖੂਹੰਦ ਪ੍ਰਬੰਧਨ ਕੀ ਹੈ ਇਸਦਾ ਕਾਰਨ, ਪ੍ਰਭਾਵ ਅਤੇ ਸ਼ਹਿਰੀ ਅਤੇ ਉਦਯੋਗਿਕ ਕੂੜੇ ਦੇ ਨਿਯੰਤਰਣ ਮਾਪਦੰਡ ਹਨ।   8

7. ਓਜ਼ੋਨ ਲੇਅਰ ਡਿਪਲੇਸ਼ਨ ਅਤੇ ਐਸਿਡ ਰੇਨ 'ਤੇ ਨੋਟ ਕਰੋ।   8

8. ਜੰਗਲੀ ਵਾਤਾਵਰਣ ਅਤੇ ਮਾਰੂਥਲ ਪਰਿਵਾਰਣ ਪ੍ਰਣਾਲੀ ਦਾ ਵਿਸਥਾਰ ਵਿੱਚ ਵਰਣਨ ਕਰੋ।   8

Exam Code: 103204 (BA)/103304 (BSc)   **Paper Code: 4112**

Programme: Bachelor of Arts/ Bachelor of Science (Semester – IV)

Course Title: Banking (Financial Markets and Institutions)

Course Code: BARL/BECL-4026

Time Allowed: 2 Hours   **Maximum Marks: 80**

Note: Question paper comprises of 4 sections. Each section contains 15 MCQs. Students are required to attempt forty (40) MCQs, selecting at least eight (8) from each section. The remaining eight (8) MCQs may be attempted from any section. Each question carries 2 marks each.

SECTION-A

1. In which year does the Reserve Bank of India introduce the concept of classification of money into M1, M2, M3, and so on?
   a) 1956   b) 1961   c) 1977   d) 1998

2. Which out of the following is the correct formula for calculating the Broad money M3?
   a) Currency with public + Demand deposits with the Banking system (current account, saving account) + Other deposits with RBI
   b) M3 + All deposits with post office savings banks
   c) M1 + Time deposits with the banking system
   d) M1 + Savings deposits of post

3. Which among the following is/are known as Broad Money?
   a) M1, M2   b) M2, M3   c) M3, M4   d) M4, M2

4. What is Call Money?
   a) It is an overnight loan in the Money Market
   b) It is loan of above1 day to 14 days in the money market
   c) It is loan of above14 day to 364 days in the money market
   d) It is an amount charged on ISD

5. _____ is a source of financing to meet very short-term fund requirements of commercial banks with a provision of renewal.
   a) Treasury Bill   b) Commercial Paper
   c) Certificate of Deposit   d) Call Money

6. Which of the following is a short-term borrowing instrument issued by the Government of India, and is also known as zero coupon bond?
   a) Call Money   b) Treasury Bills   c) Commercial Bill   d) None of the above

7. Commercial paper has a maturity of around how many days?
   a) 1 days to 1 year   b) 10 days to 1 year
   c) 15 days to 1 year   d) More than one of the above

8. Mutual Funds are regulated in the country by _____.
   a) Association of Mutual Funds of India (AMFI)   b) NABARD
   c) Securities and Exchange Board of India   d) Reserve Bank of India

9. The NAV of mutual fund scheme must by mutual fund on ___basis.
   a) Yearly   b) Monthly   c) Weekly   d) Daily

10. _____ is basically an instrument of short-term borrowing by the Government of India maturing in less than one year.
    a) Call money   b) Treasury bill   c) Commercial paper   d) Certificate of deposit

11. What is the full form of LAF as used in banking world very frequently?

12. When RBI increases the cash reserve ratio (CRR), it will
   a) Decrease money supply in the economy
   b) Increase money supply in the economy
   c) Increase supply initially but decrease automatically later on.
   d) No impact on money supply in the economy

13. What is the mode of settlement through CCIL?
   a) Delivery Versus Payment
   b) Payment Versus Payment
   c) Payment Versus Delivery
   d) Payment and Settlement

14. Which monetary policy tool is used by RBI to control the money supply?
   a) Fiscal policy   b) Exchange rate policy   c) Repo rate   d) Trade policy

15. Who is the "lender of the last resort" in India?
   a).SBI   b) RBI   c) NABARD   d) SEBI

SECTION-B

16. Who controls the Capital Market in India?
   a) SEBI   b) NABARD   c) RBI   d) SBI

17. In which Market debt and stocks are traded and maturity period is more than a year?
   a) Money Market   b) Share Market   c) Short-Term Market   d) Capital Marke

18. What is a Secondary Market?
   a) The amount the seller receives following the sale of an asset after all costs and expenses are deducted.
   b) Where securities are traded by investors
   c) The value of the assets of the Company or the value of the assets being disposed of, determined without regard to any liabilities associated with such assets.
   d) None of the above

19. Capital market is a market for _____.
   a) Long term capital
   b) Short term capital
   c) Working capital
   d) More than one of the above

20. Primary capital markets are the platform where:
   a) New securities are issued
   b) New securities are sold
   c) New securities are borrowed
   d) Both (a) Both (a) and (b)

21. Which is the first mutual fund established in India?
   a) SBI Mutual Fund
   b) Kothari Pioneer
   c) UTI
   d) Aditya Birla Sun Life AMC Ltd.

22. Which color code represents lowest level of risk in a mutual fund scheme?
   a) Blue   b) Green   c) Yellow   d) Brown

23. What is the maximum period for which New Fund Offer (NFO) can remain open in market?
   a) 45 days   b) 15 days   c) 10 days   d) 30 days

24. The value of one unit of investment in Mutual fund is called the _____.
   a) Net Asset Value   b) Issue value   c) Market value   d) Gross Asset value

25. The __ market assists existing investors in selling their stocks.
   a) Primary market   b) Commodity market   c) Capital market   d) Secondary market

26. Income scheme mutual funds invest primarily in _____?
   a) Bonds or other dept securities
   b) Equities
   c) Other Mutual Funds
   d) Commercial Papers

27. A mutual fund is owned by
   a) The Govt. of India   b) SEBI   c) All its investors   d) AMFI

29. Money market deals with:
    a) Short term funds
    b) Long term funds
    c) Ownership funds
    d) Credit rating

30. The administrative head office of SEBI is at ------------.
    a) New Delhi
    b) Mumbai
    c) Kolkata
    d) Chennai

SECTION-C

31. "Equity Shares" are referred to as _____.
    a) Non-voting shares
    b) Redeemable shares
    c) Ordinary shares
    d) Non-voting ordinary shares

32. Bulls and bears are -------------.
    a) Ordinary investors
    b) Government agencies
    c) Speculators
    d) Money lenders

33. A person who sells the shares with the expectation of buying them in the future at a reduced Price.
    a) Bull
    b) Bear
    c) Stag
    d) None of these

34. ----------------- means eliminating the paper certificates and maintaining records in the form of electronic entries only.
    a) Dematerialization
    b) Depository
    c) Stock market index
    d) None of these

35. The mutual fund scheme in which the investor investing their money majorly in fixed Income instruments such as debentures, bonds etc. is called --------------.
    a) Growth fund
    b) Income fund
    c) Liquid fund
    d) Fund of fund

36. Who controls the money market?
    a) RBI
    b) SBI
    c) DFHI
    d) SIDBI

37. The regulatory body for the securities market in India is ------------.
    a) RBI
    b) SEBI
    c) IRDA
    d) Stock exchanges

38. SENSEX is the index of --------------------.
    a) Bombay Stock Exchange
    b) National Stock Exchange
    c) Cochin Stock Exchange
    d) None of these

39. The base year of Nifty is -------------.
    a) 1992
    b) 1978
    c) 1987
    d) 1995

40. Bonds where interest rate is a fixed percentage over the whole sale price index is called---------------.
    a) Capital index bonds
    b) Fixed-rate bonds
    c) Step-down bonds
    d) None of these

41. Bonds issued at a discount and redeemed prior to their maturity are called -----------------.
    a) Mortage bonds
    b) Zero coupon bonds
    c) Convertible bonds
    d) None of these

42. The form of a discount on issue of Debentures is in the nature of
    a) Deferred Revenue Expenditure
    b) Capital loss
    c) Revenue loss
    d) None of the above

43. When a company is liquidated, the debenture holders have a prior right for :
    a) Principal amount
    b) Interest
    c) Both (a) and (b)
    d) None of these

44. Debenture Application A/c is in the form of
    a) Current Account
    b) Nominal Account
    c) Personal Account
    d) Real Account

SECTION-D

46. Chalapathi Rao Committee was constituted for restructuring of
    a) State Financial Corporation in India
    b) Commercial Banks in India
    c) Co-operative Banks in India
    d) Regional Rural Banks in India

47. Who among the following created the Rural Infrastructure Development Fund?
    a) Ministry of Rural Development
    b) Ministry of Panchayati Raj
    c) NABARD
    d) Regional Rural Bank

48. NABARD's Long Term Irrigation Fund (LTIF) was instituted under which scheme to give a boost to irrigation projects?
    a) Accelerated Irrigation Benefit Programme (AIBP)
    b) Jal Jeevan Mission
    c) Pradhan Mantri Krishi Sinchayee Yojana (PMKSY)
    d) National Water Mission

49. Which institution launched the project E-Shakti for the digitization of all members of self-help groups in India?
    a) SIDBI
    b) SEBI
    c) IFCI
    d) NABARD

50. Co-operatives in India follow this type of organizational structure
    a) Centralized Structure
    b) Decentralized Structure
    c) Unitary Structure
    d) Federal Structure

51. _____ is the first development financial institution in India.
    a) IDBI
    b) ICICI
    c) IFCI
    d) RBI

52. Which among the following is not an initiative of SIDBI?
    a) SIDBI Venture Capital Limited
    b) MUDRA
    c) Rural Infrastructure Development Fund
    d) Trade Receivables and Discounting Systems (TReDS)

53. ICICI bank launched internet banking operations in:
    a) 1998
    b) 1999
    c) 2000
    d) None of These

54. Finance for exporting companies as part of major programs of the Exim Bank of India does not include
    a) Working capital
    b) Post-shipment credit
    c) Overseas investment finance
    d) Term loans

55. Which of the following governs Non-Banking Financial Companies (NBFC)?
    a) Central government
    b) Reserve Bank of India
    c) Small Industries Development Bank of India
    d) Industrial Finance Corporation of India

56. NBFCs in India are companies that are registered under which of the following Act?
    a) Companies Act 2013
    b) RBI Act 1934
    c) SEBI Act 2002
    d) Government of India Act 1935

57. With reference to the financial institutions in India, which of the following is the Development Financial Institutions in India?
    a) National Bank for Agriculture and Rural Development
    b) National Housing Bank
    c) SIDBI
    d) All of the above

58. The head office of the National Bank for Agricultural and Rural Development is located in _____.
    a) Pune
    b) Mumbai
    c) Chennai
    d) Kolkata

59. Which among the following is considered a Priority Sector for financing by banks?
    a) Industries
    b) Services
    c) Agriculture
    d) Big trade

60. What does IDBI in IDBI Bank stand for?
    a) Investment Development Board of India
    b) Industrial Divestment Board of India
    c) Infrastructure and Development Board of India
    d) Industrial Development Bank of India

Paper Code: 4102

Programme	Exam code	Course Code
Bachelor of Arts	103204	BARL-4031
Bachelor of Science (Non-Medical)	103304	BSNL-4031
Bachelor of Science (Medical)		BSML-4031
Bachelor of Science (Economics)		BECL-4031
Bachelor of Science (Computer Science)		BCSL-4031
Bachelor of Commerce	108504	BCRL-4031
Bachelor of Business Administration	105404	BBRL-4031

Semester-IV
Course Title: Basic Punjabi
(50)

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

ਨੋਟ:- ਪ੍ਰਸ਼ਨ- ਪੱਤਰ ਦੇ ਚਾਰ ਭਾਗ ਹਨ। ਵਿਦਿਆਰਥੀਆਂ ਨੇ ਹਰ ਭਾਗ ਵਿਚੋਂ ਇੱਕ ਪ੍ਰਸ਼ਨ ਲਾਜ਼ਮੀ ਕਰਨਾ ਹੈ, ਪੰਜਵਾਂ ਪ੍ਰਸ਼ਨ ਕਿਸੇ ਵੀ ਭਾਗ ਵਿਚੋਂ ਕੀਤਾ ਜਾ ਸਕਦਾ ਹੈ। ਹਰ ਪ੍ਰਸ਼ਨ ਦੇ ਬਰਾਬਰ (8) ਅੰਕ ਹਨ।

ਭਾਗ ਪਹਿਲਾ

1.   ਹੇਠ ਲਿਖਿਆਂ ਕਾਵਿ-ਸਤਰਾਂ ਦੀ ਪ੍ਰਸੰਗ ਸਹਿਤ ਵਿਆਖਿਆ ਕਰੋ।
ਸੁੰਨੇ ਸੁੰਨੇ ਰਾਹਾਂ ਵਿਚ ਕੋਈ ਕੋਈ ਪੈੜ ਏ
ਦਿਲ ਹੀ ਉਦਾਸ ਏ ਜੀ ਬਾਕੀ ਸਭ ਖੈਰ ਏ
ਦੂਰ ਇਕ ਪਿੰਡ ਵਿਚ ਛੋਟਾ ਜਿਹਾ ਘਰ ਸੀ

ਕੱਚੀਆਂ ਦੀ ਕੰਧਾਂ ਉਹਦਾ ਬੋੜਾ ਜਿਹਾ ਦਰ ਸੀ
ਅੰਮੀ ਮੇਰੀ ਚਿੰਤਾ ਸੀ ਬਾਪੂ ਮੇਰਾ ਡਰ ਸੀ
ਓਦੋਂ ਮੇਰੀ ਅਉਧ ਯਾਰੋ ਐਵੇਂ ਫੁੱਲ ਭਰ ਸੀ
ਜਦੋਂ ਦਾ ਅਸਾਡੇ ਨਾਲ ਖੁਸ਼ੀਆਂ ਨੂੰ ਵੈਰ ਏ

2. ਹੇਠ ਲਿਖਿਆਂ ਕਾਵਿ-ਸਤਰਾਂ ਦੀ ਪ੍ਰਸੰਗ ਸਹਿਤ ਵਿਆਖਿਆ ਕਰੋ।
   ਮੇਰੇ ਤੋਂ ਆਸ ਨ ਕਰਿਓ ਕਿ ਮੈਂ ਖੇਤਾਂ ਦਾ ਪੁੱਤ ਹੋ ਕੇ
   ਤੁਹਾਡੇ ਚਰਗਲੇ ਹੋਏ ਸਵਾਦਾਂ ਦੀ ਗੱਲ ਕਰਾਂਗਾ
   ਜਿੰਨ੍ਹਾਂ ਦੇ ਹੱਤੂ 'ਚ ਰੁੱਤੂ ਜਾਂਦੀ ਹੈ
   ਸਾਡੇ ਬੱਚਿਆਂ ਦੀ ਤੋਤਲੀ ਕਵਿਤਾ
   ਤੇ ਸਾਡੀਆਂ ਧੀਆਂ ਦਾ ਕੰਜਕ ਜਿਹਾ ਹਾਸਾ

ਭਾਗ ਦੂਸਰਾ

3. ਸੁਰਜੀਤ ਪਾਤਰ ਦੀ ਕਵਿਤਾ ਹੁਣ ਘਰਾਂ ਨੂੰ ਪਰਤਣਾ' ਦਾ ਸਾਰ ਆਪਣੇ
   ਸ਼ਬਦਾਂ ਵਿਚ ਲਿਖੋ।

4. ਮੋਹਨ ਸਿੰਘ ਦੀ ਕਵਿਤਾ ਖਨਗਾਹੀਂ ਦੀਵਾ ਬਾਲਦੀਏ' ਦਾ ਸਾਰ ਆਪਣੇ
   ਸ਼ਬਦਾਂ ਵਿਚ ਲਿਖੋ।

ਭਾਗ ਤੀਸਰਾ

5. ਕਵੀ ਜਗਤਾਰ ਦੇ ਜੀਵਨ ਅਤੇ ਰਚਨਾਵਾਂ ਬਾਰੇ ਵਿਸਤ੍ਰਿਤ ਨੋਟ ਲਿਖੋ।

6. ਕਵੀ ਪਾਸ਼ ਦੇ ਜੀਵਨ ਅਤੇ ਰਚਨਾਵਾਂ ਬਾਰੇ ਜਾਣਕਾਰੀ ਦਿਓ।

ਭਾਗ ਚੌਥਾ

7. ਹੇਠ ਲਿਖੇ ਅਸ਼ੁੱਧ ਸ਼ਬਦਾਂ ਨੂੰ ਸ਼ੁੱਧ ਕਰਕੇ ਲਿਖੋ।
   ਕ੍ਰਿਆ, ਜਾਝ, ਬਾਜ– ਔਰਤ, ਨਿਪੁਨਸਕ ਬੰਦਾ, ਕਿੱਕਰਾ ਦੇ ਫੁੱਲ,
   ਨੋਕਰੀ, ਸੈਕਰੇਟਰੀ, ਗੁਰੂ ਅਰਗੰਦ ਦੇਵ ਜੀ, ਆਮਾਨਤ, ਗੋਰਵ।

8. ਹੇਠ ਲਿਖੇ ਅਸ਼ੁੱਧ ਸ਼ਬਦਾਂ ਨੂੰ ਸ਼ੁੱਧ ਕਰਕੇ ਲਿਖੋ।
   ਅਸਕੂਲ, ਪੋਜੀ, ਕੋਲੀ, ਚੋਲ, ਗੋਲੀ, ਚਪਣ ਕੱਦੂ, ਕਾਲਿਜ, ਬੱਸਾ
   ਚੱਲੀਆਂ, ਹਰਮੰਦਰ ਸਾਹਿਬ, ਸੀਸ ਮਹਿਲ।

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MOR- 17-05-2024

Paper Code: 4110

Programme	Exam Code	Course Code
Bachelor of Arts	103204	BARL-4175
Bachelor of Science (Economics)	103304	BECL-4175

Semester-IV

Course Title: Economics (International Economics and Public Finance)

(40)

Time Allowed: 3 Hours   Max Marks: 80

Note: 1) Question paper comprises of four sections.
2) Each section contains two questions
3) Candidates are required to attempt five questions, selecting atleast one question from each section. The fifth question may be attempted from any section. Each question carries 16 marks

Section A

1. Critically examine the comparative cost theory of international trade.
2. What are the basic functions of WTO? Critically examine the relevance of World Trade Organisation (WTO) for Indian economy.

Section B

3. What are the main causes of adverse balance of payments. How it can be corrected?
4. Give arguments in favour and against fixed and flexible exchange rate.

Section C

5. What is Public Finance? Explain its Scope and importance.
6. Define Public expenditure. Discuss the role of public expenditure in developing economy.

Section D

7. What are various kinds of public debt? What are the various methods of public debt redemption?
8. Distinguish between direct and indirect Taxes. Give their merits and demerits.

Exam Code: 103204   Paper Code: 4130
    (50)

Programme: Bachelor of Arts
Semester-IV

Course Title: English (Elective)

Course Code: BARL-4198

Time Allowed: 3 Hours   **Max Marks: 80**

Section A

**Attempt any three literary terms of the following: (100
Words)   (3x4=12)**

Plot, Character, Climax, Fable, Round Character

Section B

Transcribe any 12 of the following words:
                                             (12x1=12)

Accommodation	Nationality	Civilization	Invalid
Capability	University	Balloon	Exact
Examination	Terminology	Comb	Inhabit
Utility	Parachute	Investment	Finish

Section C

(i) Attempt any one of the following Reference to the Context (approximately 300 words)   (1x8=8)

a) For what it will need most is the negative virtues; not being huffy, touchy, irritable revengeful. I have lost all faith in positive militant ideals; they can so seldom be carried out without Phrases like 'I will plunge this nation'. 'I will clean up this city', terrify and disgust me. They might not have mattered when the world was emptier; they are horrifying now, when one nation is mixed up with another, when one city cannot be organically separated from its neighbours.

b) The conflict between Hindu society and the outer world is not something new. As soon as the Aryans entered India, they became involved in a bitter struggle with the aboriginal inhabitants. In this conflict the Aryans were the victors, but the aborigines were not exterminated, like those in Australia or America. They were not banished from the Aryan colonies; in spite of vast differences in custom and culture, they were assigned a definite place in the social hierarchy. Aryan society became richly variegated on their account.

(ii) Attempt any two of the following questions (approximately 500 words)   (2x10=20)

    a) Summarize the role played by sports in the modern World.

    b) Write a note on the future of English in India as visualized by S. Gopal.

    c) What was the religious and cultural milieu in which Sekhon grew up as a child?

Section D

(i) Attempt any one of the following Reference to the Context (approximately 300 words)   (1X8=8)

    a) The sun poured down a flood of fire on the earth, and it seemed as if the desolate fields covered with dense brown thickets and stalks of grass and cacti were crackling like cinders and would soon be reduced to ashes

    b) When he came back, with a big book-H Mammie returned the form and asked for one for the West Indies; and he said it didn't matter-West Indies was the same as Bangladesh. It was the first time in her life she'd ever heard anyone say that the West Indies, where she was born and grew up and where all her family came from and where her mother and

the rest of her relations died. and were buried was the same as Bangladesh which was somewhere near India where she'd never set her foot in her life.

(ii) Attempt any two of the following questions (approximately 500 words)   (2x10=20)

a) Draw a portrait of Mangal Singh (Duty)
b) 'The Drover's Wife' is an Australian story in content, language, and perspective. Discuss.
c) What kind of feelings towards Mammie are we left with, at the end of the story? (Mammie's Form at the Post Office)

For Reappear Candidates (Old Syllabus (2021-22))

Paper Code: 103204   Exam Code: 9406

Programme: Bachelor of Arts (Semester- IV)
Course Title: English (Elective)
Course Code: BARL-4198

Time Allowed: 3 Hours   Max Marks: 80

Section- A

1. Attempt any three literary terms (each to be answered in about 100 words approximately) out of the given five.
    a) Plot
    b) Fable
    c) Fiction
    d) Flat Character
    e) Character

                                                      (3x4=12)

2. Write phonetic transcription of any 12 words out of the given 16 words
    a) Testimonial
    b) Utility
    c) Singularity
    d) Terminology
    e) University
    f) Civilization
    g) Examination
    h) Consultation
    i) Lotion
    j) Weeding
    k) Ring
    l) Sister
    m) Reader
    n) Play
    o) Fraud
    p) Alone

                                                      (12x1=12)

Section-B

3. Attempt any one reference to context in about 300 words approximately.
    a) What though is the proper spirit? We agree that the basic problem is psychological, that the Lord must build if the work is to stand, that there must be a sound state of mind before diplomacy or economics or trade-conferences can function. But what state of mind is sound? Here we may differ. Most people, when asked what spiritual quality is needed to rebuild civilization, will reply Love. Men must love one another, they say: nations must do likewise, and then the series of cataclysms which is threatening to destroy us will be checked.

2054   20

b) Even Indian English is not, and can never be, the first language in India; no one expects that at any time in the future all the millions of Indian people will speak and write it. English will remain the pan-Indian language of the elite; it cannot function as a vehicle of mass culture. This in itself restricts the scope for growth, for English cannot develop in the ordinary circumstances of the day-to day life of the common people.

(1x8=8)

4. **Attempt any two questions (each to be answered in about 500 words approximately) out of the given three.**
   a) How has George Orwell characterized international level sport?
   b) What kind of change occurred after independence in the field of art and films?
   c) What was the religious and cultural environment in which Sekhon grew up as a child?

(2x10=20)

Section- C

5. **Attempt any one reference to context in about 300 words approximately.**
   a) Julius did not go straight home. He went to the bank of the river and just walked up and down it. He must have been there a long time, because he was still there when the ekwe, or wooden gong, of the night spirit sounded. He immediately set out for home, half walking and half running. He had about half an hour to get home before the spirit ran its race through the town.

   b) 'Once upon a time there was a king.'
   When we were children there was no need to know who the king in the fairy story was. It didn't matter whether he was called Shiladitya or Shaliban, whether he lived at Kashi or Kanauj. The thing that made a seven-year-old boy's heart go thump, thump with delight was this one sovereign truth, this reality of all realities: 'Once there was a king.'

(1x8=8)

6. **Attempt any two questions (each to be answered in about 500 words approximately) out of the given three.**
   a) Who is Mangal Singh? What was his 'duty'?
   b) How does the drover's wife keep herself occupied and provided for while her husband is away?
   c) Do you think the title 'The Bath' is appropriate for this story?

(2x10=20)

KMOR- 7-06-24   LIBRARY -KMV-II[N·S·B]

Exomcode: 103204   Paper Code: 9407

Bachelor of Arts (Semester IV)
Course Title: Punjabi (Elective)
Course Code: BARL-4208

Time allowed: 3hrs   Maximum Marks :80

ਨੋਟ -ਵਿਦਿਆਰਥੀਆਂ ਨੇ ਕੁੱਲ ਪੰਜ ਪ੍ਰਸ਼ਨ ਕਰਨੇ ਹਨ। ਹਰ ਸੈਕਸ਼ਨ ਵਿੱਚੋਂ ਇੱਕ ਪ੍ਰਸ਼ਨ ਕਰਨਾ ਲਾਜ਼ਮੀ

ਹੈ। ਪੰਜਵਾਂ ਪ੍ਰਸ਼ਨ ਕਿਸੇ ਵੀ ਸੈਕਸ਼ਨ ਵਿੱਚੋਂ ਕੀਤਾ ਜਾ ਸਕਦਾ ਹੈ,ਹਰ ਪ੍ਰਸ਼ਨ ਦੇ 16 ਅੰਕ ਹਨ।

ਸੈਕਸ਼ਨ - A

1. 1701 ਈ : ਤੋਂ 1900 ਈ : ਤੱਕ ਦੀ ਸੂਫ਼ੀ ਕਾਵਿ ਧਾਰਾ ਤੇ ਨੋਟ ਲਿਖੋ।

2. 1701 ਈ : ਤੋਂ 1900 ਈ : ਤੱਕ ਦੀ ਵੀਰ ਕਾਵਿ ਧਾਰਾ ਤੇ ਨੋਟ ਲਿਖੋ।

ਸੈਕਸ਼ਨ – B

3. 'ਪੰਜਾਬ ਦੇ ਜੰਮਿਆ ਨੂੰ ਨਿੱਤ ਮੁਹਿੰਮਾ' ਨਿਬੰਧ ਦਾ ਸਾਰ ਲਿਖੋ।

4. 'ਸਿਆਲਾਂ ਦੀਆਂ ਧੁਣੀਆਂ' ਨਿਬੰਧ ਦਾ ਵਿਸ਼ਾ ਵਸਤੂ ਲਿਖੋ।

ਸੈਕਸ਼ਨ – C

5. 'ਬਿੰਬ' ਅਤੇ 'ਪ੍ਰਤੀਕ' ਆਲੋਚਨਾ ਪ੍ਰਣਾਲੀ ਤੇ ਨੋਟ ਲਿਖੋ।

6. 'ਪਾਤਰ ਉਸਾਰੀ' ਅਤੇ 'ਬੁਣਤੀ ਤੇ ਬਣਤਰ' ਆਲੋਚਨਾ ਪ੍ਰਣਾਲੀ ਤੇ ਨੋਟ ਲਿਖੋ।

ਸੈਕਸ਼ਨ – D

7. ਵਾਰ ਦੀ ਪਰਿਭਾਸ਼ਾ ਅਤੇ ਤੱਤਾਂ ਤੇ ਨੋਟ ਲਿਖੋ।

8. ਕਿੱਸਾ ਦੀ ਪਰਿਭਾਸ਼ਾ ਅਤੇ ਤੱਤਾਂ ਤੇ ਨੋਟ ਲਿਖੋ।

2054   20

Bachelor of Arts Semester-IV
Punjabi (Elective)
Course Code: BARL-4208

ਸੈਕਸ਼ਨ-II

3. 'ਪੰਜਾਬ ਦੇ ਜੰਮਿਆਂ ਨੂੰ ਨਿੱਤ ਮੁਹਿੰਮਾ' ਲੇਖ ਦਾ ਸਾਰ ਲਿਖੋ?

4. 'ਪੁੱਤਲੀਆਂ ਦਾ ਤਮਾਸ਼ਾ' ਲੇਖ ਦਾ ਵਿਸ਼ਾ ਸਪੱਸ਼ਟ ਕਰੋ।

Course Code: BARL-4208

Time Allowed: 3 Hours   **Max Marks: 80**

ਪ੍ਰਸ਼ਨ ਪੱਤਰ ਦੇ ਚਾਰ ਸੈਕਸ਼ਨ ਹਨ। ਵਿਦਿਆਰਥੀ ਨੇ ਕੁੱਲ ਪੰਜ ਪ੍ਰਸ਼ਨ ਕਰਨੇ ਹਨ, ਹਰ ਸੈਕਸ਼ਨ ਵਿਚੋਂ ਇਕ ਪ੍ਰਸ਼ਨ ਕਰਨਾ ਜ਼ਰੂਰੀ ਹੈ। ਪੰਜਵਾਂ ਪ੍ਰਸ਼ਨ ਕਿਸੇ ਵੀ ਸੈਕਸ਼ਨ ਵਿਚੋਂ ਕੀਤਾ ਜਾ ਸਕਦਾ ਹੈ ਹਰ ਪ੍ਰਸ਼ਨ ਦੇ 16 ਅੰਕ ਹਨ।

ਸੈਕਸ਼ਨ-I

1. 1701 ਤੋਂ 1800 ਈ. ਤੱਕ ਦੀਆਂ ਪ੍ਰਮੁੱਖ ਸਾਹਿਤਕ ਪ੍ਰਵਿਰਤੀਆਂ ਬਾਰੇ ਜਾਣਕਾਰੀ ਦਿਉ।
2. 1801 ਤੋਂ 1850 ਈ. ਤੱਕ ਦੀ ਕਿੱਸਾ ਕਾਵਿ ਧਾਰਾ ਉੱਤੇ ਨੋਟ ਲਿਖੋ।

ਸੈਕਸ਼ਨ-II

3. 1851 ਤੋਂ 1900 ਈ. ਤੱਕ ਦੀ ਕਵੀਸ਼ਰੀ ਪਰੰਪਰਾ ਉੱਤੇ ਚਾਨਣਾ ਪਾਉ।
4. 1851 ਤੋਂ 1900 ਈ. ਤੱਕ ਦੀ ਪੰਜਾਬੀ ਪੱਤਰਕਾਰੀ ਦੇ ਨਿਕਾਸ ਤੇ ਵਿਕਾਸ ਬਾਰੇ ਚਰਚਾ ਕਰੋ।

ਸੈਕਸ਼ਨ-III

5. ਆਲੋਚਨਾ ਪ੍ਰਣਾਲੀ ਨਾਲ ਸੰਬਧਿਤ ਮੂਲ ਸੰਕਲਪ 'ਬਿੰਬ' ਤੇ 'ਪ੍ਰਤੀਕ' ਉੱਤੇ ਨੋਟ ਲਿਖੋ।
6. 'ਅਨੁਕਰਣ' ਤੇ 'ਵਿਰੇਚਨ' ਸਿਧਾਂਤ ਬਾਰੇ ਜਾਣਕਾਰੀ ਦਿਉ।

ਸੈਕਸ਼ਨ-IV

7. ਸਾਹਿਤ ਰੂਪ 'ਵਾਰ' ਦੀ ਪ੍ਰਕਿਰਤੀ ਤੇ ਤੱਤ ਬਿਆਨ ਕਰੋ।

8. 'ਜੰਗਨਾਮੇ' ਦੀ ਪ੍ਰਕਿਰਤੀ ਉੱਤੇ ਨੋਟ ਲਿਖੋ।

Paper Code: 4104

Programme Name	Exam Code	Course Code
Bachelor of Arts	103204	BARL-4212
Bachelor of Science (Non-Medical)	103304	BSNL-4212
Bachelor of Science (Medical)	103304	BSML-4212
Bachelor of Science (Economics)	103304	BECL-4212
Bachelor of Science (Computer Science)	103304	BCSL-4212
Bachelor of Commerce	108504	BCRL-4212
Bachelor of Business Administration	105404	BBRL-4212

Semester- IV

Course Title: English (Compulsory)

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

Note: All questions are compulsory.

Section-A

Q1. Attempt any ten out of fifteen: (10 x 1=10)

Complete these sentences with **by, in, on, or with**:

i.   Who is that man standing _____ the window?
ii.   We managed to put the fire out _____ a fire extinguisher.
iii.   We missed the bus, so we had to come _____ foot.

Complete the sentences with the correct preposition:

iv.   It was nice _____ you to come and see me when I was ill.
v.   Tanya doesn't look very well. I'm worried _____ her.
vi.   I can't understand people who are cruel _____ animals.

Complete the sentences with **in, into, out, or out of**:

vii.   Thieves broke _____ the house while we were away.
viii. The car stopped and the driver got_____.
ix.   We checked _____ the hotel as soon as we arrived.

Complete the sentences using the following **verbs (in the correct from) + up**:

Take, turn, give, use

x.   I do a lot of gardening. It _____ most of my free time.
xi.   We invited Tom to the party, but he didn't _____
xii.   I'm feeling very tired now. I've _____ all my energy.

Complete the sentences using a verb in the correct form:

xiii. Here's the money you need. _____ me back when you can.
xiv.   I'm going out now. I'll _____ back in about an hour.
xv.   The woman got into her car, started the engine and _____ away.

Section-B

Q2. Write an essay in about 300 words: (6 x 1=6)
     Science and Human Happiness
               Or
     The Evil of Corruption

Q3. Write single word for the following (Do any Four):   (4 x 1=4)
   i.   That which cannot be imitated
   ii.   Facts and figures
   iii. A hater of marriage
   iv.   A woman whose husband is dead

v.   Love of one's country
vi.   Government by the nobility

Section-C

Q4. In the following sentences, highlight the main verb and underline the entire nominalized subject
(Do any Five)   (5 x 1=5)

i.   The government's decision to raise income taxes has angered a lot of people.
ii.   The student's slow and painful adjustment to life overseas was to be expected.
iii. The retention of immigrant families of parts of their native culture has added variety to U.S. society.
iv.   The researcher's claim that he had discovered a cure for the common cold was received with disbelief by the scientific community.
v.   The allegation by some people that immigrants take more out of the U.S. economy than they contribute to it is rejected by most economists.
vi.   The public's lack of appreciation of the ecological and scientific value of rain forest species is an obstacle to solving the problem of biodiversity loss.
vii. The accumulation of carbon dioxide in the atmosphere over the last century has convinced most scientists that climate change is a major threat.

Q5. Complete the sentences with words from the list below (Do any Five):   (5 x 1=5)

| Disrupt, roots, harvests, crop, flourished, arid, withstand, intensified |

i.   Mayan Society developed and _____ for a number of centuries before it went into a decline
ii.   Irrigation can change _____ land into productive farmland.
iii. Mayan history shows how the pressure of human populations can _____ the natural ecology of a region and make it unlivable.
iv.   The _____ of this plant do not reach deep into the soil. That's why it will not grow in regions with little rainfall.
v.   Because the fertile soil of the Mayan hillside fields was eroded by wind and rain, the _____ declined disastrously.
vi.   A number of ancient civilizations collapsed when their environment could not _____ the strain of supporting their growing population.

Section-D

Q6. Do two questions out of three in about 100 words: (2 x 3=6)
a.   How is the poem 'Because I could not Stop for Death' different from the general view of death?
b.   What does the contrast between the past and the present tell you about the poet and the swans in 'The Wild Swans at Coole'?
c.   Why do you think the speaker stops near the woods in the poem' Stopping by Woods on a Snowy Evening'?

Q7. Reference to the context in about 200 words: (4 x 1=4)
a.   "We passed the School, where Children strove
At Recess – in the Ring –
We passed the Fields of Gazing Grain –
We passed the Setting Sun –"

Or

b.   "In one long yellow string I wound
Three times her little throat around,
And strangled her. No pain felt she;
I am quite sure she felt no pain."

2054   200

Exam Code: 103204   Paper Code: 4113
        (80)

Programme: Bachelor of Arts
Semester-IV

Course Title: History (History of the Punjab (AD 1469-
1799)
Course Code: BARL-4273

Time Allowed: 3 Hours   Max Marks: 80

Note:- Attempt three questions, selecting one question from first three Units in about 1200 words. Attempt both questions from Unit IV. Each question will carry 16 marks.

Unit-I

1. Discuss the Literary sources of history of Punjab.

2. Discuss the teachings of Guru Nanak Dev ji.

Unit-II

3. Guru Amar Dass was a social reformer. Discuss.

4. Describe the new policy of Guru Hargobind ji.

Unit-III

5. Discuss the causes leading to the formation of Khalsa.

---

6. Discuss the administration of the Misls.

$3 \times 16 = 48$

Unit-IV

(COMPULSORY UNIT/

ATTEMPT BOTH QUESTION)

7. Answer any Eight questions in 25-30 words. Each question will carry 2 marks.

   (i) Write two contribution of Guru Angad Dev ji?

   (ii) Who laid the foundation of Harminder Sahib and When?

   (iii) Write a short note on Masand System.

   (iv) What is Anand Rag which Guru composed it?

   (v) What do you understand by Miri and Piri?

   (vi) Write a short note on Akal Takhat?

   (vii) Write a short note on Adi Granth?

   (viii) Mention any two causes of the martyrdom of Guru Tegh Bahadur?

   (ix) When and where was Guru Ram Dass ji born?

   (x) Name two difficulties faced by Guru Arjun Dev ji?

   (xi) Write a note on Chandu Shah?

   (xii) Which Guru was closed to Dara Shikoh the eldest son of Shah Jahan.　　　　　$8 \times 2 = 16$

8. On the map of Punjab mark any four places and add explanatory note of the same. 16

   Chamkaur, Srihind, Emnabad, Paonta Sahib, Nankana Sahib, Anandpur Sahib, Dera Baba Nanak, Dam Dama Sahib, Muktsar, Kahnuwan.

Hindi Version

लगभग 1200 शब्दों में पहली तीन इकाइयों में से एक प्रश्न का चयन करते हुए तीन प्रश्नों का उत्तर लिखो। इकाई 4 से दोनों प्रश्नों को हल करें। प्रत्येक प्रश्न 16 अंक का होगा।

यूनिट–I

1. पंजाब के इतिहास के साहित्यिक स्रोतों की चर्चा कीजिए।
2. गुरु नानक देव जी की शिक्षाओं की चर्चा कीजिए।

यूनिट–II

3. गुरु अमर दास समाज सुधारक थे। चर्चा करना।
4. गुरु हरगोबिंद जी की नई नीति का वर्णन कीजिए।

यूनिट–III

5. खालसा के गठन के कारणों की विवेचना कीजिए।
6. मिसलों के प्रशासन की चर्चा कीजिए।   3x16=48

यूनिट–IV

अनिवार्य इकाई/दोनों प्रश्नों के उत्तर दें।

7. किन्हीं आठ प्रश्नों के उत्तार 25 से 30 शब्दों में दीजिए। प्रत्येक प्रश्न 2 अंक का होगा।
   1. गुरु अंगद देव जी की दो देन लिखिए?
   2. हरमंदिर साहिब की नींव किसने और कब रखी?
   3. मसंद पद्धति पर एक संक्षिप्त टिप्पणी लिखिए।
   4. आनंद राग क्या है जिसकी रचना गुरु ने की थी?

5. मीरी और पीरी से आप क्या समझते हैं?
6. अकाल तख्त पर संक्षिप्त टिप्पणी लिखिए?
7. आदि ग्रंथ पर एक संक्षिप्त टिप्पणी लिखिए?
8. गुरु तेग बहादुर की शहादत के किन्हीं दो कारणों का उल्लेख कीजिए।
9. गुरु राम दास जी का जन्म कब और कहां हुआ था?
10. गुरु अर्जुन देव जी को किन दो कठिनाइयों का सामना करना पड़ा?
11. चंदू शाह पर एक नोट लिखें?
12. कौन सा गुरु शाहजहां के सबसे बड़े पुत्र दारा शिकोह का करीबी था। 8x2=16

8. पंजाब के मानचित्र पर किन्हीं चार स्थानों को चिन्हित कीजिए और उसका व्याख्यात्मक नोट जोड़िए।

चमकौर, सरहिंद, एमनाबाद, पांवटा साहिब, ननकाना साहिब, आन्नदपुर साहिब, डेरा बाबा नानक, दाम दामा साहिब, मुक्तसर, काहनूवान। 16

Punjabi version

ਪਹਿਲੇ ਤਿੰਨ ਯੂਨਿਟਾਂ ਵਿੱਚੋਂ ਇੱਕ ਪ੍ਰਸ਼ਨ ਦੀ ਚੋਣ ਕਰਦੇ ਹੋਏ ਲਗਭਗ 1200 ਸ਼ਬਦਾਂ ਵਿੱਚ ਤਿੰਨ ਪ੍ਰਸ਼ਨਾਂ ਦੇ ਉੱਤਰ ਦਿਓ। ਯੂਨਿਟ 4 ਤੋਂ ਦੋਵਾਂ ਪ੍ਰਸ਼ਨ ਲਾਜ਼ਮੀ ਹਨ। ਹਰ ਪ੍ਰਸ਼ਨ 16 ਅੰਕਾਂ ਦਾ ਹੋਵੇਗਾ।

ਯੂਨਿਟ-।

1. ਪੰਜਾਬ ਦੇ ਇਤਿਹਾਸ ਦੇ ਸਾਹਿਤਕ ਸਰੋਤਾਂ ਦੀ ਚਰਚਾ ਕਰੋ।

2. ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਜੀ ਦੀਆਂ ਸਿੱਖਿਆਵਾਂ ਦੀ ਚਰਚਾ ਕਰੋ।

ਯੂਨਿਟ-॥

3. ਗੁਰੂ ਅਮਰਦਾਸ ਜੀ ਇੱਕ ਸਮਾਜ ਸੁਧਾਰਕ ਸਨ। ਚਰਚਾ ਕਰੋ।

4. ਗੁਰੂ ਹਰਗੋਬਿੰਦ ਸਾਹਿਬ ਜੀ ਦੀ ਨਵੀਂ ਨੀਤੀ ਦਾ ਵਰਣਨ ਕਰੋ।

ਯੂਨਿਟ-॥।

5. ਖਾਲਸੇ ਦੀ ਸਿਰਜਣਾ ਦੇ ਕਾਰਨਾਂ ਦੀ ਚਰਚਾ ਕਰੋ।

6. ਮਿਸਲਾਂ ਦੇ ਪ੍ਰਬੰਧ ਬਾਰੇ ਚਰਚਾ ਕਰੋ।   3x16=48

ਯੂਨਿਟ-IV

(ਲਾਜ਼ਮੀ ਯੂਨਿਟ/ ਦੋਵੇਂ ਸਵਾਲਾਂ ਦੀ ਕੋਸ਼ਿਸ਼)

7. ਕਿਸੇ ਵੀ 8 ਸਵਾਲਾਂ ਦੇ ਜਵਾਬ 25 ਤੋਂ 30 ਸ਼ਬਦਾਂ ਵਿੱਚ ਦਿਓ ਹਰ ਸਵਾਲ ਦੇ ਦੋ ਅੰਕ ਹਨ।

1. ਗੁਰੂ ਅੰਗਦ ਦੇਵ ਜੀ ਦੇ ਦੋ ਯੋਗਦਾਨ ਲਿਖੋ?

2. ਹਰਮੰਦਰ ਸਾਹਿਬ ਦੀ ਨੀਂਹ ਕਿਸਨੇ ਅਤੇ ਕਦੋਂ ਰੱਖੀਂ?

3. ਮਸੰਦ ਪ੍ਰਣਾਲੀ, ਤੇ ਇੱਕ ਛੋਟਾ ਨੋਟ ਲਿਖੋ?

4. ਆਨੰਦ ਰਾਗ ਕਿਹੜਾ ਹੈ ਜਿਸ ਦੀ ਰਚਨਾ ਗੁਰੂ ਨੇ ਕੀਤੀ?

5. ਤੁਸੀਂ ਮੀਰੀ ਅਤੇ ਪੀਰੀ ਨੂੰ ਕੀ ਸਮਝਦੇ ਹੋ?

6. ਅਕਾਲ ਤਖਤ ਉੱਤੇ ਇੱਕ ਛੋਟਾ ਨੋਟ ਲਿਖੋ?

7. ਆਦਿ ਗ੍ਰੰਥ ਉੱਤੇ ਇੱਕ ਛੋਟਾ ਨੋਟ ਲਿਖੋ?

8. ਗੁਰੂ ਤੇਗ ਬਹਾਦੁਰ ਜੀ ਦੀ ਸ਼ਹਾਦਤ ਦੇ ਕਿਸੇ ਦੋ ਕਾਰਨਾਂ ਦਾ ਜ਼ਿਕਰ ਕਰੋ?

9. ਗੁਰੂ ਰਾਮਦਾਸ ਜੀ ਦਾ ਜਨਮ ਕਦੋਂ ਅਤੇ ਕਿੱਥੇ ਹੋਇਆ ਸੀ?

10. ਗੁਰੂ ਅਰਜਨ ਦੇਵ ਜੀ ਨੂੰ ਦਰਪੇਸ਼ ਦੋ ਮੁਸ਼ਕਲਾਂ ਦੇ ਨਾਮ ਦੱਸੋ?

11. ਚੰਦੂ ਸ਼ਾਹ ਬਾਰੇ ਇੱਕ ਨੋਟ ਲਿਖੋ?

12. ਸ਼ਾਹਜਹਾਂ ਦੇ ਵੱਡੇ ਪੁੱਤਰ ਦਾਰਾ ਸ਼ਿਕੋਹ ਨੂੰ ਕਿਹੜਾ ਗੁਰੂ ਬੰਦ ਕੀਤਾ ਗਿਆ ਸੀ?   8x2=16

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8. ਪੰਜਾਬ ਦੇ ਨਕਸ਼ੇ, ਤੇ ਕਿਸੇ ਵੀ ਚਾਰ ਸਥਾਨਾਂ ਦੀ ਨਿਸ਼ਾਨਦੇਹੀ ਕਰੋ ਅਤੇ ਉਹਨਾਂ ਦਾ ਵਿਆਖਿਆਤਮਕ ਨੋਟ ਸ਼ਾਮਲ ਕਰੋ।

ਚਮਕੌਰ, ਸਰਹਿੰਦ, ਏਮਨਾਬਾਦ, ਪਾਉਂਟਾ ਸਾਹਿਬ, ਨਨਕਾਣਾ ਸਾਹਿਬ, ਅਨੰਦਪੁਰ ਸਾਹਿਬ, ਡੇਰਾ ਬਾਬਾ ਨਾਨਕ, ਦਮਦਮਾ ਸਾਹਿਬ, ਮੁਕਤਸਰ, ਕਾਹਨੂਵਾਨ।   16

Exam Code: 103204   Paper Code: 4122
(50)

Programme: Bachelor of Arts
Semester-IV

Course Title: Political Science (Indian Political System)

Course Code: BARL-4406

Time Allowed: 3 Hours   Max Marks: 80

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 will carry sixteen marks.

Section A

1. Discuss the nature of state politics in India after 1947.
2. "Indian Constitution is federal in form, unitary in spirit." Discuss.

Section B

3. Examine the nature of Party System in India along with its problems and defeats.
4. Analyze the policies, programmes and electoral performance of DMK in Tamil Nadu.

Section C

5. Write down the interaction between Caste and Politics in India.
6. What is the problem of regionalism in India? Discuss certain methods to solve this problem.

Section D

7. What are the determinants of Voting Behaviour in India?
8. What do you mean by Political Participation? Write down the factors of responsible for low level of political participation in India.

Hindi version

नोटः– उम्मीदवारों को प्रत्येक खण्ड से कम से कम एक प्रश्न चयन करते हुए पांच प्रश्न करने है। पांचवें प्रश्न किसी भी खण्ड से किया जा सकता है। प्रत्येक प्रश्न सोलह अंकों का होता है।

एक खंड

1. 1947 के बाद भारत में राज्यीय राजनीति की प्रकृति की चर्चा कीजिए।

2. भारतीय संविधान स्वरूप में संघात्मक, आत्मा में एकात्मक है। चर्चा करना।

खंड बी

3. भारत में दलीय प्रणाली की प्रकृति के साथ–साथ इसकी समस्याओं और पराजयों का परीक्षण कीजिए।

4. तमिलनाडु में डीएमके की नीतियों, कार्यक्रमों और चुनावी प्रदर्शन का विश्लेषण करें।

खंड सी

5. भारत में जाति और राजनीति के बीच अंतः किया लिखिए।

6. भारत में क्षेत्रवाद की समस्या क्याा है? इस समस्या को हल करने के कुछ तरीकों पर चर्चा करें।

खंड डी

7. भारत में मतदान व्यवहार के निर्धारक क्या हैं?

8. राजनीतिक भागीदारी से आप क्या समझते हैं? भारत में राजनीतिक भागीदारी के निम्न स्तर के लिए जिम्मेदार कारकों को लिखिए।

Exam Code: 103204

(20)

Paper Code: 4116

Programme: Bachelor of Arts
Semester-IV

Course Title: Public Administration (Financial Administration)

Course Code: BARL-4414

Time Allowed: 3 Hours   **Max Marks: 80**

Note: Candidates are required to attempt five questions, selecting at least one question from Section A, B, C, D. Fifth question may be attempted from any section. Each question carries 16 marks.

Section- A

1. Define Financial Administration. Discuss the principles of financial administration.
2. In Financial Relations, the centre holds greater authority than the states, Justify

Section- B

3. Discuss budgetary system of India.
4. Budgeting, as a control tool, provides an action plan to ensure that the organization's actual activities are least deviated from the planned activities. Comment

Section- C

5. Discuss legislative control over financial administration.
6. Discuss the role and significance of Estimate Committee in India.

Section- D

7. Write a note on State Finance Ministry.
8. Discuss the role of Comptroller and Auditor General in India. 16X 5= 80

Hindi Version

उम्मीदवारों को खंड क, ख, ग, घ से कम से कम एक प्रश्न चयन करते हुए पांच प्रश्नों का प्रयास करना आवश्यक है। पांचवें प्रश्न का प्रयास किसी भी खंड से किया जा सकता है। प्रत्येक प्रश्न 16 अंकों का होता है।

अनुभाग—क

1. वित्तीय प्रशासन को परिभाषित कीजिए। वित्तीय प्रशासन के सिद्धांतों की चर्चा कीजिए।
2. वित्तीय संबंधों में, राज्यों की तुलना में केंद्र के पास अधिक अधिकार होते हैं, न्यायोचित ठहराइए।

अनुभाग—ख

3. भारत की बजट प्रणाली की चर्चा कीजिए।
4. बजट, एक नियंत्रण उपकरण के रूप में, यह सुनिश्चित करने के लिए एक कार्य योजना प्रदान करता है कि संगठन की वास्तविक गतिविधँया नियोजित गतिविधियों से कम से कम विचलित हों। टिप्पणी करें।

अनुभाग—ग

5. वित्तीय प्रशासन पर विधायी नियंत्रण की चर्चा कीजिए।
6. भारत में प्राक्कलन समिति की भूमिका और महत्व की चर्चा कीजिए।

अनुभाग—घ

7. राज्य के वित मंत्रालय पर एक टिप्पणी लिखिए।

8. भारत में नियंत्रक एवं महालेखा परीक्षका की भूमिका की विवेचना कीजिए।

Paper Code: 4101

Programme Name	Exam Code	Course Code
Bachelor of Arts	103204	BARL-4421
Bachelor of Science (Medical)	103304	BSML-4421
Bachelor of Science (Non Medical)	103304	BSNL-4421
Bachelor of Science (Computer Science)	103304	BCSL-4421
Bachelor of Science (Economics)	103304	BECL-4421
Bachelor of Commerce	108504	BCRL-4421
~~Bachelor of Commerce~~ BBA	105404	BBRL-4421

Semester: IV

Course Title: Punjabi (Compulsory)

ਸਮਾਂ: 3 ਘੰਟੇ   ਕੁੱਲ ਅੰਕ: 40

ਨੋਟ: ਕੁੱਲ ਪੰਜ ਪ੍ਰਸ਼ਨ ਕਰਨੇ ਜ਼ਰੂਰੀ ਹਨ। ਹਰੇਕ ਭਾਗ ਵਿਚੋਂ ਇਕ ਪ੍ਰਸ਼ਨ ਕਰਨਾ ਲਾਜ਼ਮੀ ਹੈ। ਪੰਜਵਾਂ ਪ੍ਰਸ਼ਨ ਕਿਸੇ ਵੀ ਭਾਗ ਵਿਚੋਂ ਕੀਤਾ ਜਾ ਸਕਦਾ ਹੈ। ਹਰੇਕ ਪ੍ਰਸ਼ਨ ਦੇ 8 ਅੰਕ ਹਨ।

ਭਾਗ (ੳ)

1) ਪਗਡੰਡੀਆਂ ਸਵੈਜੀਵਨੀ ਦੀ ਨਾਇਕਾ ਦੇ ਆਤਮ ਬਿੰਬ ਨੂੰ ਆਪਣੇ ਸ਼ਬਦਾਂ ਵਿੱਚ ਲਿਖੋ।

2) ਪਗਡੰਡੀਆਂ ਸਵੈਜੀਵਨੀ ਦਾ ਸਾਰ ਸੰਖੇਪ ਵਿੱਚ ਆਪਣੇ ਸ਼ਬਦਾਂ ਵਿੱਚ ਲਿਖੋ।

ਭਾਗ (ਅ)

3) 'ਫ਼ਾਸਲੇ' ਨਾਟਕ ਦਾ ਵਿਸ਼ਾ ਵਸਤੂ ਸਪੱਸ਼ਟ ਕਰੋ।

4) 'ਫ਼ਾਸਲੇ' ਨਾਟਕ ਦਾ ਸਾਰ ਸੰਖੇਪ ਵਿੱਚ ਆਪਣੇ ਸ਼ਬਦਾਂ ਵਿੱਚ ਲਿਖੋ।

ਭਾਗ (ੲ)

5) ਆਪਣੇ ਜ਼ਿਲ੍ਹੇ ਦੇ ਪੁਲਸ ਕਪਤਾਨ ਨੂੰ ਇਲਾਕੇ ਵਿੱਚ ਵੱਧ ਰਹੀ ਗੁੰਡਾਗਰਦੀ ਵੱਲ ਧਿਆਨ ਦਿਵਾਉਣ ਲਈ ਇਕ ਪੱਤਰ ਲਿਖੋ।

6) 'ਵਰ ਦੀ ਲੋੜ' ਸੰਬੰਧੀ ਅਖ਼ਬਾਰ ਵਿੱਚ ਦੇਣ ਲਈ ਇਸ਼ਤਿਹਾਰ ਲਿਖੋ।

ਭਾਗ (ਸ)

7) ਸ਼ਬਦ-ਜੋੜਾਂ ਦੇ ਪ੍ਰਮੁੱਖ ਨਿਯਮਾਂ ਬਾਰੇ ਚਰਚਾ ਕਰੋ।

8) ਗੁਰਮੁਖੀ ਲਿਪੀ ਦੀਆਂ ਵਿਸ਼ੇਸ਼ਤਾਵਾਂ ਸਪੱਸ਼ਟ ਕਰੋ।

For Reappear Candidates (Old Syllabus (2022-23))

Paper Code: 9405

Programme	Exam Code	Course Code
Bachelor of Arts (Sem-IV)	103204	BARL- 4421
Bachelor of Science (Medical) (Sem-IV)	103304	BSML- 4421
Bachelor of Science (Non-Medical) (Sem-IV)		BSNL- 4421
Bachelor of Science (Computer Science) (Sem-IV)		BCSL- 4421
Bachelor of Science (Economics) (Sem-IV)		BECL- 4421

Course Title : Punjabi (Compulsory)

Time Allowed : 3 Hours   Max- Marks- 40

Note : ਹੇਠ ਲਿਖਿਆਂ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚੋਂ ਪੰਜ ਪ੍ਰਸ਼ਨ ਕਰੋ। ਹਰ ਸੈਕਸ਼ਨ ਵਿਚੋਂ ਇੱਕ ਪ੍ਰਸ਼ਨ ਕਰਨਾ
ਲਾਜ਼ਮੀ ਹੈ । ਪੰਜਵਾਂ ਪ੍ਰਸ਼ਨ ਕਿਸੇ ਵੀ ਸੈਕਸ਼ਨ ਵਿਚੋਂ ਕੀਤਾ ਜਾ ਸਕਦਾ ਹੈ। ਹਰੇਕ ਪ੍ਰਸ਼ਨ ਦੇ
8 ਅੰਕ ਹਨ।

ਸੈਕਸ਼ਨ- I

1. 'ਪਗਡੰਡੀਆਂ' ਸਵੈਜੀਵਨੀ ਦਾ ਸਾਰ ਲਿਖੋ ।
2. ਪਗਡੰਡੀਆਂ ਸਵੈਜੀਵਨੀ ਦਾ ਵਿਸ਼ਾ ਵਸਤੂ ਲਿਖੋ ।

ਸੈਕਸ਼ਨ- II

3. 'ਫਾਸਲੇ' ਨਾਟਕ ਦਾ ਸਾਰ ਲਿਖੋ ।
4. 'ਫਾਸਲੇ' ਨਾਟਕ ਦਾ ਵਿਸ਼ਾ ਵਸਤੂ ਲਿਖੋ ।

ਸੈਕਸ਼ਨ- III

5. ਆਪਣੇ ਸ਼ਹਿਰ ਦੇ ਮਿਉਂਸੀਪਲ ਕਾਰਪੋਰੇਸ਼ਨ ਦੇ ਪ੍ਰਧਾਨ ਨੂੰ ਇੱਕ ਪੱਤਰ ਲਿਖੋ, ਜਿਸ ਵਿਚ ਗਲੀਆਂ
ਤੇ ਨਾਲੀਆਂ ਦੀ ਭੈੜੀ ਹਾਲਤ ਦੱਸਦੇ ਹੋਏ ਉਨ੍ਹਾਂ ਦੀ ਮੁਰੰਮਤ ਕਰਾਉਣ ਦੀ ਬੇਨਤੀ ਕਰੋ ।
6. ਤੁਹਾਡੇ ਇਲਾਕੇ ਦਾ ਏ. ਟੀ ਐਮ ਖਰਾਬ ਹੈ। ਬੈਂਕ ਦੇ ਮੈਨੇਜਰ ਨੂੰ ਇਸ ਸੰਬੰਧੀ ਸ਼ਿਕਾਇਤ ਦਰਜ ਕਰਵਾਓ ।

ਸੈਕਸ਼ਨ -IV

7. ਪੰਜਾਬੀ ਸ਼ਬਦ ਜੋੜਾਂ ਦੇ ਨਿਯਮ ਵਿਸਤਾਰ ਵਿਚ ਲਿਖੋ ।
8. ਗੁਰਮੁਖੀ ਲਿਪੀ ਦੀ ਪਰਿਭਾਸ਼ਾ ਦਿੰਦੇ ਹੋਏ ਇਸਦੀਆਂ ਵਿਸ਼ੇਸ਼ਤਾਵਾਂ ਬਾਰੇ ਦੱਸੋ।

Paper Code: 4103

Programme	Exam Code	Course Code
Bachelor of Arts	103204	BARL-4431
Bachelor of Science (Non-Medical)	103304	BSNL-4431
Bachelor of Science (Medical)		BSML-4431
Bachelor of Science (Economics)		BECL-4431
Bachelor of Science (Computer Science)		BCSL-4431
Bachelor of Commerce	108504	BCRL-4431
Bachelor of Business Administration	105404	BBRL-4431

Semester-IV
Course Title: Punjab History and Culture
(50)

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

Note: Attempt five questions, selecting at least one question from each section in 600 words and fifth question may be attempted from any section. Each question carries 8 marks.

Section-I

1. Write the main features of the New policy of Guru Har Gobind Ji.
2. Examine the circumstances leading to the martyrdom of Guru Teg Bahadur ji.

Section-II

3. Discuss the circumstances which led to the creation of Khalsa in 1699.
4. Discuss the main features of Khalsa Panth and its importance.

Section-III

5. Write a detailed note on two Misls.
6. Elaborate military campaigns of Banda Bahadur.

Section-IV

7. Write a note on main festivals of Punjab.
8. Discuss the Civil Administration under Maharaja Ranjit Singh.

Hindi Version

यूनिट—1

1. गुरु हर गोबिंद जी की नई नीति की प्रमुख विशेषताएं लिखिए।
2. गुरु तेग बहादुर जी की शहादत की परिस्थितियों का परीक्षण कीजिए।

यूनिट—2

3. उन परिस्थितियों की चर्चा कीजिए जिनके कारण 1699 में खालसा का निर्माण हुआ।
4. खालसा पंथ की प्रमुख विशेषताओं और इसके महत्व की चर्चा कीजिए।

यूनिट—3

5. दो मिसलों पर विस्तृत टिप्पणी लिखिए।
6. बन्दा बहादुर के सैन्य अभियानों का विस्तृत वर्णन कीजिए।

यूनिट—4

7. पंजाब के प्रमुख त्योहारों पर टिप्पणी लिखिए।
8. महाराजा रणजीत सिंह के अधीन नागरिक प्रशासन की चर्चा कीजिए।

Exam Code: 103204   Paper Code: 4119

Programme: Bachelor of Arts
Semester-IV
Course Title: Sociology (Social Change in India)
Course Code: BARL- 4475

Time Allowed: 3 Hours   Max Marks: 80

Note: Attempt five questions in all, selecting one question from each section and fifth question can be attempted from any section. Each question carries 16 marks.

Section A

Q1. Elaborate the concept of Social Change. Give its Characteristics in detail.

ਸਮਾਜਿਕ ਪਰਿਵਰਤਨ ਦੀ ਧਾਰਨਾ ਨੂੰ ਵਿਸਤ੍ਰਿਤ ਕਰੋ। ਇਸ ਦੀਆਂ ਵਿਸ਼ੇਸ਼ਤਾਵਾਂ ਨੂੰ ਵਿਸਥਾਰ ਵਿੱਚ ਦੱਸੋ।

Q2. Discuss Progress and Development as forms of social change.

ਸਮਾਜਿਕ ਤਬਦੀਲੀ ਦੇ ਰੂਪਾਂ ਵਜੋਂ ਪ੍ਰਗਤੀ ਅਤੇ ਵਿਕਾਸ ਬਾਰੇ ਚਰਚਾ ਕਰੋ।

Section B

Q3. Explain how demography and education are responsible for social change.

ਦੱਸੋ ਕਿ ਜਨਸੰਖਿਆ ਅਤੇ ਸਿੱਖਿਆ ਸਮਾਜਿਕ ਤਬਦੀਲੀ ਲਈ ਕਿਵੇਂ ਜ਼ਿੰਮੇਵਾਰ ਹਨ।

Q4. How is Media, Technology and Legislation effect the process of social change?

ਮੀਡੀਆ, ਤਕਨਾਲੋਜੀ ਅਤੇ ਵਿਧਾਨ ਸਮਾਜਿਕ ਤਬਦੀਲੀ ਦੀ ਪ੍ਰਕਿਰਿਆ ਨੂੰ ਕਿਵੇਂ ਪ੍ਰਭਾਵਤ ਕਰਦੇ ਹਨ?

Section C

Q5. Briefly explain the Cyclical theory of change.

ਪਰਿਵਰਤਨ ਦੇ ਚੱਕਰਵਾਦੀ ਸਿਧਾਂਤ ਦੀ ਸੰਖੇਪ ਵਿਆਖਿਆ ਕਰੋ।

Q6. Write a note on Conflict theory of change.

ਪਰਿਵਰਤਨ ਦੇ ਟਕਰਾਅ ਦੇ ਸਿਧਾਂਤ 'ਤੇ ਇੱਕ ਨੋਟ ਲਿਖੋ।

Section D

Q7. Elucidate the processes of Westernization and Modernization.

ਪੱਛਮੀਕਰਨ ਅਤੇ ਆਧੁਨਿਕੀਕਰਨ ਦੀਆਂ ਪ੍ਰਕਿਰਿਆਵਾਂ ਦੀ ਵਿਆਖਿਆ ਕਰੋ।

Q8 Discuss Sanskritization and Globalization as processes of change.

ਤਬਦੀਲੀ ਦੀਆਂ ਪ੍ਰਕਿਰਿਆਵਾਂ ਵਜੋਂ ਸੰਸਕ੍ਰਿਤੀਕਰਨ ਅਤੇ ਵਿਸ਼ਵੀਕਰਨ ਬਾਰੇ ਚਰਚਾ ਕਰੋ।

2054   40

Exam Code: 103204   Paper Code: 4133
(20)

Programme: Bachelor of Arts
Semester-IV

Course Title: English (Honours): English Poetry

Course Code: BARL-4559

Time Allowed: 3 Hours   Max Marks: 80

Note: Attempt five questions in all, selecting at least one question from each section and fifth question can be attempted from any section. Each question carries 16 marks.

Section - A

1. How has John Milton reposed his faith in God? Write in detail with reference to his poems prescribed to you.
2. Write an essay on John Donne as a metaphysical poet. Give illustration from the poem "A Valediction: Forbidding Mourning".

Section - B

3. "She Walks in Beauty" is the male vision of an ideal female self. Discuss and bring out the central idea of the poem.

2054   Page 1

4. Critically summarize and analyse "Frost at Midnight" by S.T. Coleridge.

Section - C

5. Describe the treatment of melancholy in two poems: "Crossing the Bar" and "Break, Break, Break".

6. Summarize and critically analyse the poem "The Lost Mistress" by Robert Browning.

Section - D

7. Why does Yeats feel beauty will affect his daughter's nature and outlook? What does he pray for her? Also critically analyse the poem "A Prayer for My Daughter".

8. The poem "Lay Your Sleeping Head" by W. H. Auden is based on modern frustration, depression and infidelity. Elaborate.

Exam Code: 103204   Paper Code: 4134
(20)

Programme: Bachelor of Arts
Semester-IV

Course Title: Hindi (Honours): Gdhya Sahitya: Nibhandh, Sansmaran Tatha Anuwad

Course Code: BARL-4569

Time Allowed: 3 Hours   Max Marks: 80

नोटः यह प्रश्न पत्र चार भागों में विभाजित है। पहला भाग अनिवार्य है। शेष भागों कमशः दो, तीन और चार में से एक – एक प्रश्न करना अनिवार्य है पांचवां प्रश्न किसी भी भाग में से कर सकते हैं। कुल पांच प्रश्नों का उत्तर दें।

भाग—एक

प्रश्न 1. निम्नलिखित गद्यांशों में से किन्हीं चार की सप्रसंग व्याख्या करें।

1) आओ यदि हो सके तो टोकरी उठाकर कुदाली हाथ में लें, मिटटी खोदें और अपने हाथ से उसके प्याले बनावें। फिर एक–एक प्याला घर–घर में, कुटिया–कुटिया में रख आवें और सब लोग उसी मजदूरी का प्रेमामृत पान करें।

2) मनुष्य का जीवन इतना विशाल है कि उसमें आचरण को रूप देने के लिए नाना प्रकार के ऊँच–नीच और भले–बुरे विचार, अमीरी और गरीबी, उन्नति और अवनति इत्यादि सहायता पहुंचाते हैं।

3) बस उस गुलाम ने दुनिया के बादशाहों के बल और अपनी वीरता की हद दिखला दी. बस इतने ही ज़ोर, इतनी ही शेखी पर ये झूठे राजा शरीर को दुःख देते और मारपीट कर अनजान लोगों को डराते हैं. भोले लोग उनसे डरते रहते हैं, क्योंकि वे शरीर को अपने जीवन का केंद्र समझते हैं. इसीलिए जहां किसी ने उनके शरीर पर ज़रा ज़ोर से हाथ लगाया वहीं वे डर के मारे अधमरे हो जाते हैं.'

4) प्रेमचंद जी से मेरा प्रथम परिचय पत्र के द्वारा हुआ। तब मैं आठवीं कक्षा की विद्यार्थिनी थी!। मेरी 'दीपक' शीर्षक एक कविता सम्भवत: 'चांद' में प्रकाशित हुई। प्रेमचंद जी ने तुरन्त ही मुझे कुछ पंक्तियों में अपना आशीर्वाद भेजा। तब मुझे यह ज्ञात नहीं था कि कहानी और उपन्यास लिखने वाले कविता भी पढ़ते हैं। मेरे लिए ऐसे ख्यातनामा कथाकार का पत्र जो मेरी कविता की विशेषता व्यक्त करता था, मुझे आशीर्वाद देता था, बधाई देता था, बहुत दिनों तक मेरे कौतूहल मिश्रित गर्व का कारण बना रहा।

5) पर उसकी सचेत आंखों में न जाने कौन–सी जिज्ञासा भरी थी। वे निरन्तर घड़ी की तरह खुली मेरे मुख पर टिकी ही रहती थीं। मानो मेरी सारी विद्या–बुद्धि को सीख लेना ही उनका ध्येय था।

6) पर जैसे मेरे नाम की विशालता मेरे लिए दुर्वह है, वैसे ही लक्ष्मी की समृद्धि भक्तिन के कपाल की कुंचित रेखाओं में नहीं बँध सकी। वैसे तो जीवन में प्राय: सभी को अपने–अपने नाम का विरोधाभास लेकर जीना

पड़ता है; पर भक्तिन बहुत समझदार है, क्योंकि वह अपना समृद्धि
सूचक नाम किसी को बताती नहीं।   4×4=16

भाग–दो

प्रश्न 2. सरदार पूरण सिंह का साहित्यिक परिचय दें।

प्रश्न 3. महादेवी वर्मा का साहित्यिक परिचय दें।

भाग–तीन

प्रश्न 4. निबंध विधा की परिभाषा देते हुए उसके तत्वों को निर्धारित
करें।

प्रश्न 5. संस्मरण विधा की परिभाषा देते हुए उसके तत्वों को निर्धारित
करें।

भाग – चार

प्रश्न 6. कन्या दान निबंध की विशेषताएं बताएं।

प्रश्न 7. घीसा संस्मरण की विशेषताएं बताएं।

                                               16×4=64

Exam Code: 103204   Paper Code: 4135
(20)

Programme: Bachelor of Arts Semester-IV

Course Title: Punjabi (Honours)

Course Code: BARL-4579

Time Allowed: 3 Hours   Max Marks: 80

ਨੋਟ:- ਵਿਦਿਆਰਥੀਆਂ ਨੇ ਕੁੱਲ ਪੰਜ ਪ੍ਰਸ਼ਨ ਕਰਨੇ ਹਨ। ਹਰ ਸੈਕਸ਼ਨ ਵਿਚੋਂ ਇਕ ਪ੍ਰਸ਼ਨ ਕਰਨਾ ਲਾਜ਼ਮੀ ਹੈ। ਪੰਜਵਾਂ ਪ੍ਰਸ਼ਨ ਕਿਸੇ ਵੀ ਸੈਕਸ਼ਨ ਵਿੱਚੋਂ ਕੀਤਾ ਜਾ ਸਕਦਾ ਹੈ। ਹਰ ਪ੍ਰਸ਼ਨ ਦੇ ਅੰਕ 16 ਹਨ।

ਸੈਕਸ਼ਨ-1

1. ਦੋ ਪ੍ਰਮੁੱਖ ਸੂਫ਼ੀ ਕਵੀਆਂ ਬਾਰੇ ਜਾਣਕਾਰੀ ਦਿਓ।
2. ਸੂਫ਼ੀ ਕਵੀ ਸ਼ਾਹ ਹੁਸੈਨ ਦੀ ਕਾਵਿ ਕਲਾ ਤੇ ਚਰਚਾ ਕਰੋ।   16

ਸੈਕਸ਼ਨ-2

3. ਕਿੱਸਾ ਕਾਵਿ ਦੀ ਪ੍ਰਕਿਰਤੀ ਬਾਰੇ ਚਰਚਾ ਕਰੋ।
4. ਪੀਲੂ ਦੀ ਕਾਵਿ ਕਲਾ ਤੇ ਨੋਟ ਲਿਖੋ।   16

ਸੈਕਸ਼ਨ-3

5. ਮੱਧਕਾਲ ਦੀ ਪੰਜਾਬੀ ਵਾਰਤਕ ਬਾਰੇ ਚਰਚਾ ਕਰੋ।
6. ਵਾਰਤਕ ਦੀ ਪਰਿਭਾਸ਼ਾ, ਤੱਤ ਤੇ ਰੂਪ ਬਿਆਨ ਕਰੋ।   16

ਸੈਕਸ਼ਨ-4

7. ਪੁਰਾਤਨ ਜਨਮ ਸਾਖੀ ਕਰਤਾ ਸੰਤ ਸੇਵਾ ਦਾਸ ਦੁਆਰਾ ਰਚਿਤ ਸਾਖੀਆਂ ਮਾਂ ਦੀ ਮਮਤਾ ਅਤੇ ਪੱਟੀ ਪਾਂਧਾ ਦਾ ਸਾਰ ਲਿਖੋ।

8. ਪੁਸਤਕ ਵਾਰਤਕੀ ਵਿਚ ਦਰਜ ਲੇਖ 'ਗੁਰੂ ਨਾਨਕ' ਜਾਂ 'ਹੋਣਹਾਰ ਮਾਂ ਮਹਿੰਟਰ' ਲਿਖੋ। 16

Exam Code: 103204   Paper Code: 4136

Bachelor of Arts
Semester-IV
Course Title: History (Honours): The National Movement
Course Code - BARL-4589 (Opt-II)

Examination Time: 3 Hours   Theory: 80

Note: Attempt any five questions, by at least selecting one question from each section and fifth question can be attempted from any section. Each question carries 16 marks.

Section A

1. Discuss the method and achievements of the Moderates.

उदारवादीकीपद्धतिऔरउपलब्धियोंकीचर्चाकीजिए।

ਸੰਚਾਲਕਾਂ ਦੀ ਵਿਧੀ ਅਤੇ ਪ੍ਰਾਪਤੀਆਂ ਦੀ ਚਰਚਾ ਕਰੋ।

2. Discuss the Causes results of the Swadeshi Movement (1905).

स्वदेशीआंदोलन (1905) केकारणपरिणामोंकीचर्चाकीजिए।

ਸਵਦੇਸ਼ੀ ਅੰਦੋਲਨ (1905) ਦੇ ਕਾਰਨਾਂ ਦੇ ਨਤੀਜਿਆਂ ਦੀ ਚਰਚਾ ਕਰੋ।

Section B

3. Describe the formation and contribution of the Gadhar party.

गदरदलकीस्थापनाएवंयोगदानकावर्णनकीजिए।

ਗਦਰ ਪਾਰਟੀ ਦੇ ਗਠਨ ਅਤੇ ਯੋਗਦਾਨ ਦਾ ਵਰਣਨ ਕਰੋ।

4. Discuss the causes of Non- Cooperation Movement.

असहयोगआंदोलनकेकारणोंकीविवेचनाकीजिए।

ਅਸਹਿਯੋਗ ਅੰਦੋਲਨ ਦੇ ਕਾਰਨਾਂ ਬਾਰੇ ਚਰਚਾ ਕਰੋ।

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Section C

5. Describe the aims and methods of Revolutionaries.

क्रांतिकारियों के उद्देश्य एवं तरीकों का वर्णन करें।

ਇਨਕਲਾਬੀਆਂ ਦੇ ਉਦੇਸ਼ਾਂ ਅਤੇ ਤਰੀਕਿਆਂ ਦਾ ਵਰਣਨ ਕਰੋ।

6. Discuss the growth of Socialist ideas in India.

भारतमेंसमाजवादीविचारोंकेविकासकीचर्चाकीजिए।

ਭਾਰਤ ਵਿੱਚ ਸਮਾਜਵਾਦੀ ਵਿਚਾਰਾਂ ਦੇ ਵਾਧੇ ਬਾਰੇ ਚਰਚਾ ਕਰੋ।

Section D

7. Discuss the causes and results of Civil Disobedience Movement.

सविनयअवज्ञाआंदोलनकेकारणोंऔरपरिणामोंकीचर्चाकीजिए।

ਸਿਵਲ ਨਾਫ਼ਰਮਾਨੀ ਅੰਦੋਲਨ ਦੇ ਕਾਰਨਾਂ ਅਤੇ ਨਤੀਜਿਆਂ ਬਾਰੇ ਚਰਚਾ ਕਰੋ।

8. Trace the causes of Partition of India?

भारतकेविभाजनकेकारणोंकापतालगाएँ?

ਭਾਰਤ ਦੀ ਵੰਡ ਦੇ ਕਾਰਨਾਂ ਦਾ ਪਤਾ ਲਗਾਓ?

Exam Code: 103204   Paper Code: 4137
Programme: Bachelor of Arts
Semester-IV
Course Title: Political Science Honours: Indian Foreign Policy
Course Code: BARL-4599 (Opt-I)
Time Allowed: 3 Hours   Max Marks: 80
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 will carry 16 marks.

Section A
1. Elucidate the evolution on Indian Foreign Policy.
2. Discuss major determinants and principles of Indian Foreign Policy.

Section B
3. Analyze new developments, trends and challenges between India-Bangladesh relations.
4. Discuss the Geo-political significance of Sri Lanka and its implications on India along with areas of cooperation.

Section C
5. Describe Indo-US relations since 2004.
6. Examine the major challenges and prospects between the relationship of India and China in present scenario.

Section D
7. What are the implications of India's Nuclear Doctrine? Is it really working as a deterrent to tackle the external threat?
8. Discuss in detail India's claim for the permanent membership in the Security Council of United Nations.

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Hindi Version

नोट: उम्मीदवारों को प्रत्येक खण्ड से कम से कम एक प्रश्न का चयन करते हुए पाँच प्रश्न करने हैं। पांचवां प्रश्न किसी भी खण्ड से किया जा सकता है। प्रत्येक प्रश्न सोलह अंकों का होगा।

एक खंड

1. भारतीय विदेश नीति के विकास को स्पष्ट कीजिए।

2. भारतीय विदेश नीति के प्रमुख निर्धारकों और सिद्धांतों की चर्चा कीजिए।

खंड बी

3. भारत-बांग्लादेश संबंधों के बीच नए विकास, प्रवृत्तियों और चुनौतियों का विश्लेषण करें।

4. सहयोग के क्षेत्रों के साथ श्रीलंका के भू-राजनीतिक महत्व और भारत पर इसके प्रभावों पर चर्चा करें।

खंड सी

5. 2004 से भारत-अमेरिका संबंधों का वर्णन कीजिए।

6. वर्तमान परिदृश्य में भारत और चीन के संबंधों के बीच प्रमुख चुनौतियों और संभावनाओं की जांच करें।

खंड डी

7. भारत के परमाणु सिद्धांत के निहितार्थ क्या हैं? क्या यह वास्तव में बाहरी खतरे से निपटने के लिए एक निवारक के रूप में कार्य कर रहा है?

8. संयुक्त राष्ट्र सुरक्षा परिषद में भारत की स्थायी सदस्यता के दावे की विस्तार से चर्चा कीजिए।

Exam Code: 103204
(20)

Paper Code: 4138

Programme: Bachelor of Arts
Semester-IV

Course Title: Economics (Honours)/
International Economics

Course Code: BARL-4609 /BECL-4607 (Opt-IV)

Time Allowed: 3 Hours   Max Marks: 80

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 16 marks.

Section A

1. Critically examine the modern theory of international trade. How this theory is superior to classical theory.
2. Define gains from trade. How is it measured? Also discuss static and dynamic effects of gains from trade.

Section B

3. Define tariff. Explain the partial equilibrium analysis of tariff in case of small country and large country.

4. What are different forms of economic integration? Discuss, in detail, the effects of custom union in international trade.

Section C

5. Explain the expenditure switching and expenditure changing policies to correct BOP disequilibrium.
6. Give arguments in favour and against fixed and flexible rate of exchange.

Section D

7. What are the problems of international liquidity? Discuss the role of IMF in improving international liquidity.
8. Explain the role of multinational corporations in developing countries.

Exam Code: 103204   Paper Code: 4139
(20)

Programme: Bachelor of Arts
Semester-IV

Course Title: Psychology (Honours): Social Psychology

Course Code: BARL-4619

Time Allowed: 3 Hours   Max Marks: 80

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

SECTION - A

1. Discuss scientific nature and evolution of social psychology as science. (16)

2. a) Discuss factors that contribute to the attitude formation. (8)

   b) Explain Cognitive Dissonance theory of attitude formation. (8)

SECTION -B

3. a) Write in detail about the role of similarity and mutual liking in interpersonal attraction (8)

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b) Write a detailed note on close relationship.   (8)

4. Define Pro-social behaviour. What are the different views that explain helping behaviour?   (16)

SECTION- C

5. Write a short note:-
    a) Conformity and group size   (8)
    b) Destructive obedience   (8)
6. Describe some useful techniques for prevention and control of violence (aggression).   (16)

SECTION- D

7. Define leadership. Explain the functions and traits of a good leader.   (16)
8. Write a detailed note on impact of corruption on society and various steps to fight against it.   (16)

		Paper Code: 4109
Programme	Bachelor of Arts	Bachelor of Science
Exam Code	103204	103304
Course Code	BARM-4124	BECM-4124

(Semester-IV)

Course Title: Computer Applications (Vocational) (Relational Database Management Systems)

Time Allowed: 3 Hours   Max Marks: 50

Attempt five questions in all, selecting atleast one question from each section. The fifth question may be attempted from any section. Each question carries 10 marks.

Section A

1. What do you mean by DBMS? Why we need this? Explain data independence and mapping used in databases.
2. Explain CODD's rules in details. Also Explain 2nd and 3rd normal forms of Normalization.

Section B

3. What do you mean by DDL? Explain the importance of constraints in database design. Describe different types of constraints and demonstrate how they are applied using the CREATE TABLE command.
4. a) Explain the purpose and syntax of the INSERT INTO statement in SQL.
   b) Explain the SELECT FROM WHERE clause in SQL. How does it filter rows based on specified conditions? Provide examples.

Section C

5. Compare and contrast the UNION, INTERSECT, and MINUS set operators in SQL. How do they combine or subtract data from multiple queries? Explain.
6. Explain Aggregate and Character functions used in SQL with the help of suitable examples

Section D

7. Define PL/SQL and explain its significance in database management systems. Explain various control statements used in PL/SQL with suitable examples.
8. Explain a) Constants and variables in PL/SQL
   b) Declaration using Variable attributes

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For Reappear Candidates (Old Syllabus (2022-23)) 2021-22.

Paper Code: 9403

Programme	Bachelor of Arts (Sem: IV)	Bachelor of Science (Sem: IV)
Exam Code	103204	103304
Course Code	BARM-4124	BECM-4124

Computer Applications (Vocational)
(Relational Data Base Management Systems)

Time Allowed—3 Hours   Maximum Marks—50

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

Section-A

Q1: - (a) Explain Relational Database Management Systems (RDBMS) in detail.

(b) Discuss Twelve Codd's Rule for RDBMS.   (5X2)

Q2: - Explain in detail the three levels architecture of DBMS.   (10)

Section-B

Q3: - (a) What is Structured Query Language? Explain various features of SQL.

(b) Explain various data types used in SQL.   (5X2)

Q4: - Explain Data Manipulation Language with example.   (5X2)

Section-C

Q5: - What are aggregate functions and Character functions? Explain any four with the help of suitable examples.   (10)

Q6: - Explain the following:

(a) Joins

(b) Views   (5X2)

Section-D

Q7: (a) What is the relationship between SQL and PL/SQL? What are the advantages of using PL/SQL?

(b) Explain the block structure of PL/SQL.   (5X2)

Q8: - (a) Explain "%type attribute".

(b) What is decision-making? How it is performed in PL/SQL? Explain.   (5X2)

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Paper Code: 4108

Programme	Exam Code	Course Code
Bachelor of Arts	103204	BARM-4134
Bachelor of Science (Computer Science)	103304	BCSM-4134
Bachelor of Science (Economics)		BECM-4134

Semester-IV

Course Title: Computer Science (Data Structures)

(20)

Time Allowed: 3 Hours   Max Marks: 50

Note: There are eight questions of equal marks (10 marks each). Candidates are required to attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any section. The students can use Non—programmable/ scientific & Non—storage type calculator.

Section A

1. Explain the term Data Structure. How Big O notation helps to calculate the complexity of an algorithm?

(10)

2. What is array? Explain various operations on array.

(10)

Section B

3. a) Explain the following: (10)
    a) Linear linked list
    b) Doubly linked list
    c) Circular linked list

4. Convert the following expression from infix to postfix:
    2+(4-1)*2+4/2
    Also evaluate the postfix expression. (10)

Section C

5. What is priority queue? How it is represented in the memory? (10)

6. Using Bubble sort, arrange the following elements in the ascending order: (10)
    99, 88, 77, 66, 55, 44, 33, 22, 11

Section D

7. Explain the Heapsort algorithm with the help of example. (10)

8. Write a note on the following (4*2.5 = 10
    a) DFS
    b) BFS
    c) Path matrix
    d) Binary tree

Exam Code: 103204   Paper Code: 4129
(20)

Programme: Bachelor of Arts
Semester-IV

Course Title: Cosmetology (Vocational)

Course Code: BARM-4147

Time Allowed: 3 Hours   Max Marks: 40

Note: Attempt five questions in all, selecting one question from each section and fifth question can be attempted from any section. Each question carry 8 marks.

Section —A

1. Explain chemical structure of hair .
2. Define following:-
   a) Hydrogen bond
   b) Salt Bond
   c) Disulfide bond

Section —B

3. What do you mean by acids & alkalis ?
4. Explain the procedure of Rebonding and how do we determine porosity level?

Section-C

5. Explain the procedure of Hair Analysis.
6. Explain the types of color.

Section —D

7. What are the different products use for different hair texture.
8. What are the colour key programme and its relation to skin , eye , and hair.

Exam Code: 103204   Paper Code: 4123

Programme: Bachelor of Arts (Semester: IV)

Course Title: Indian Classical Dance (Kathak)

Course Code: BARM-4156

Time Allowed: 3Hours   Max Marks: 40

Note: Attempt five questions in all, selecting atleast one question from each section. Fifth question can be attempted from any section. Each question carries 8 marks.

Section-A

1. What is the gharanas in kathak dance. Explain all Gharanas,
2. Explain all about Odissi dance.

Section-B

3. Write about Pt. Birju Maharaj ji and contribution in Kathak Dance.
4. What is folk dances. Write about folk dance of himachal Pradesh.

Section-C

5. Explain: (1) Dhamar Taal with its ekgun, dugun, and chaugun layakaries.
           (2) Write the notation of Chakradar Paran and Tehai in teen taal.
6. (A) Write about Teen Taal with its ekgun, dugun, and chaugun layakaries.
   (B) Notation of Tora and Amad in Basant Taal.

Section-D

7. Comparison between Dhamar taal and Basant Taal.
8. Write the Nagma of Teen taal and Dhamar Taal

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Exam Code: 103204   Paper Code: 4128
        (20)

Programme: Bachelor of Arts
Semester-IV

Course Title: Fashion Designing and Garment Construction
(Vocational) (Fundamentals of Textile-II)

Course Code: BARM-4237

Time Allowed: 3 Hours   Max Marks: 30

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

SECTION-A

1. Discuss in detail the basic weaving operations?
2. Define weaving? Write about different types of basic weaves?

SECTION—B

3. What is knitting? What do you know about different types of warp knitting?
4. Write in detail the various steps involved in Felting process?

SECTION-C

5. What is finishing? What is the role of finishes to improve appearance and performance of fabrics?

6. Write in detail about different chemical finishes?

SECTION —D

7. What is resist dyeing? Explain any one of its techniques?

8. Discuss
   a) Roller printing
   b) Block printing

Exam Code: 103204   Paper Code: 4120

Bachelor of Arts
Semester-IV
Course Title: Fine Arts (Drawing and Painting)
Course Code: BARM-4245

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

Ques 1. Explain the development of Miniature in Pala Empire?
पाल साम्राज्य में लघुचित्र के विकास की व्याख्या करें?
ਪਾਲਾ ਸਾਮਰਾਜ ਵਿੱਚ ਲਘੁ ਚਿੱਤਰ ਦੇ ਵਿਕਾਸ ਦੀ ਵਿਆਖਿਆ ਕਰੋ?

Ques 2. Describe jain school of Miniature Art with Paintings?
चित्रों के साथ लघु कला के जैन स्कूल का वर्णन करें?
ਪੇਂਟਿੰਗਾਂ ਦੇ ਨਾਲ ਜੈਨ ਸਕੂਲ ਆਫ਼ ਮਿਨੀਏਚਰ ਆਰਟ ਦਾ ਵਰਣਨ ਕਰੋ?

Section-B

Qus 3. Write a short note on the role of Akbar in the development of Mughal School of Art?
मुगल स्कूल ऑफ आर्ट के विकास में अकबर की भूमिका पर एक संक्षिप्त टिप्पणी लिखें?
ਮੁਗਲ ਸਕੂਲ ਆਫ਼ ਆਰਟ ਦੇ ਵਿਕਾਸ ਵਿੱਚ ਅਕਬਰ ਦੀ ਭੁਮਿਕਾ ਬਾਰੇ ਇੱਕ ਛੋਟਾ ਨੋਟ ਲਿਖੋ?

Ques 4. Explain Mughal School of Art?
मुगल स्कूल ऑफ आर्ट के बारे में बताएं?
ਮੁਗਲ ਸਕੂਲ ਆਫ਼ ਆਰਟ ਬਾਰੇ ਦੱਸੋ?

Section-C

Qus 5. What is the difference between Mughal and Rajasthani school of Art ?

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मुगल और राजस्थानी कला शैली में क्या अंतर है?
ਮੁਗਲ ਅਤੇ ਰਾਜਸਥਾਨੀ ਕਲਾ ਦੇ ਸਕੂਲ ਵਿੱਚ ਕੀ ਅੰਤਰ ਹੈ?

Ques 6. Explain the key points of Rajasthani School of Art?
राजस्थानी कला विद्यालय के प्रमुख बिन्दु बताइये?
ਰਾਜਸਥਾਨੀ ਸਕੂਲ ਆਫ਼ ਆਰਟ ਦੇ ਮੁੱਖ ਨੁਕਤਿਆਂ ਬਾਰੇ ਦੱਸੋ?

Section-D

Qus 7. How Pahadi school of Art Formed?
पहाड़ी कला विद्यालय की स्थापना कैसे हुई?
ਪਹਾੜੀ ਕਲਾ ਦਾ ਸਕੂਲ ਕਿਵੇਂ ਬਣਿਆ?

Ques 8. Explain two main school of Pahadi Art?
पहाड़ी कला की दो प्रमुख विधाओं के बारे में बताएं?
ਪਹਾੜੀ ਕਲਾ ਦੇ ਦੋ ਮੁੱਖ ਪਾਠ ਦੱਸੋ?

Exam Code: 103204
(30)

Paper Code: 4132

Programme: Bachelor of Arts
Semester-IV

Course Title: Hindi (Elective) (Aadhunik Hindi Katha Sahitya)

Course Code: BARM-4268

Time Allowed: 3 Hours

Max Marks: 60

सभी प्रश्नों के अंक समान है। प्रथम इकाई अनिवार्य है जिसमें पाठयक्रम में निर्धारित उपन्यास और कहानियों में से व्याख्या हेतु 4—4 अंकों के छ: गद्यांश पूछे गए है जिनमें से विद्यार्थी को कोई तीन व्याख्याएं करनी है। प्रश्न पत्र की इकाई दो, तीन, चार और पांच में दिये गए प्रश्नों में दो—दो प्रश्न पूछे गए है। प्रत्येक इकाई में से एक—एक प्रश्न करना होगा। पांचवा प्रश्न विद्यार्थी व्याख्या भाग के अतिरिक्त किसी भी भाग से कर सकता है। सभी प्रश्न 12—12 अंकों के हैं।

इकाई—एक

I निम्नलिखित में से तीन गद्यांश करने अनिवार्य हैं। प्रत्येक 4 अंकों का है।

1. "सरकार को उन्होंने सलाह दी थी कि साधु और संन्यासियों को जबरदस्ती काम में लगाया जाए और मंदिरों की जायदादें जब्त कर ली जाएं लेकिन सुबह घंटे भर तक पूजा जरूर करते थे पूजा—पाठ, खानपान, जात पात के पक्के हामी लेकिन

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व्यक्तिगत जीवन में कभी यह नहीं जाना कि उनका कौन शिष्य ब्राहमण है, कौन बनिया, कौन खत्री, कौन कायस्थ।

2. मेरे मन में उस समय तरह–तरह के सिद्धांत आए, मैंने स्थिर किया कि अपराध के प्रति करुणा ही होनी चाहिए, रोष का अधिकार नहीं है, प्रेम से ही अपराध–वृति का जीता जा सकता है, आतंक से उसे दबाना ठीक नहीं है बालक का स्वभाव कोमल होता है और सदा ही उससे स्नेह से व्यवहार करना चाहिए इत्यादि।

3. उन्हें लगा कि वह लावण्यमयी युवती जीवन की राह में कहीं खो गई है और उसकी जगह आज जो स्त्री है, वह उनकी मन और प्राणों के लिए नितांत अपरिचित है। गाढ़ी नींद में डूबी उनकी पत्नी का भारी–सा शरीर बहुत बेडौल और कुरूप लग रहा था, चेहरा श्रीहीन और रूखा था। गजाधर बाबू देर तक निस्संग दृष्टि से पत्नी को देखते रहे और फिर लेटकर छत की ओर ताकने लगे।

4. सरकार वक्त ले रही है। लो, मैं आ गया हूं आज यहीं पर अपना सारा घर–बार लेकर ले लो जितना वक्त तुम्हें लेना है। सात साल की भुखमरी के बाद सालों ने ज़मीन दी है मुझे सौ मरले का गड्ढा। उसमें क्या मैं बाप दादों की अस्थियां गाड़ूंगा? अर्ज़ी दी थी कि मुझे सौ मरले की जगह पचास मरले दे दी–लेकिन ज़मीन तो दो

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5. हमारे विद्वान पाठकों में से कोई होता तो उन मूर्खों को समझता कि यह संसार क्षणभंगुर है। इसमें दुख क्या और सुख क्या। जो जिसमें बनाया गया है उसी में लय हो जाता है। इसमें शोक और उद्वेग की क्या बात है। यह संसार जल का है और किसी रोज जल में ही मिल जाने को बुदबुदा फूट जाएगा। फूटना बुदबुदे की सार्थकता है। जो यह नहीं समझते वह दया के पात्र हैं।

6. हृदय मसोस रहा था कि और पूड़ियाँ कैसे पाऊँ। संतोष–सेतु जब टूट जाता है तब इच्छा का बहाव अपरिमित हो जाता है। मतवालों को मद का स्मरण करना उन्हें मदांध बनाता है। काकी का अधीर मन इच्छाओं के प्रबल प्रवाह में बह गया। उचित और अनुचित का विचार जाता रहा। वे कुछ देर तक उस इच्छा को रोकती रहीं। सहसा लाडली से बोलीं–मेरा हाथ पकड़कर वहाँ ले चलो, जहाँ मेहमानों ने बैठकर भोजन किया है। 12

इकाई–दो

II क. उपन्यास को परिभाषित करते हुए उसके तत्वों की समीक्षा कीजिए। 12

ख. उपन्यासकार के रूप में धर्मवीर भारती का हिंदी उपन्यास साहित्य को देन/अवदान स्पष्ट कीजिए। 12

इकाई–तीन

III क. हिन्दी कहानी का उद्भव और विकास स्पष्ट कीजिए।

12

ख. प्रेमचन्द अथवा जैनेन्द्र कुमार का साहित्यिक परिचय दें।

12

इकाई—चार

IV क. 'जिन्दगी और गुलाब के फूल' कहानी में उषा प्रियम्वदा ने बेरोज़गारी की समस्या को संवेदना से परिपूरित मार्मिक स्वर प्रदान किया है। स्पष्ट कीजिए। 12

ख. 'परमात्मा का कुत्ता' कहानी का सार एवं केन्द्रीय भाव स्पष्ट कीजिए। 12

Exam Code: 103204   Paper Code: 4117
Programme: Bachelor of Arts
Semester: IV
Course Title: Home Science (Clothing Textiles –II)
Course Code: BARM- 4284

Time: 3 Hours   Max. Marks: 60

Note: Students 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 is of 12 marks.

Section A

Q1 Explain the principles of Harmony and Balance in design. How are they used in design, explain with examples? ·

Q2 Explain the elements of design- Colour, Line and Form with diagrams.

Section B

Q3 Explain the points to be kept in mind while selecting clothing for infants and preschoolers.

Q4 Explain the care and storage of cotton, wool and silk fabrics.

Section C

Q5 What are bleaches. Explain their types, uses and precautions?

Q6 Explain the finishing processes - mercerisation, sizing and calendaring.

Section D

Q7 What are yarns and their types. Explain in detail simple yarns with diagram.

Q8 Explain plain weave and its types. Explain difference between satin and sateen weave.

Hindi Translation
एक खंड

प्रश्न 1 डिजाइन में सामंजस्य और संतुलन के सिद्धांतों की व्याख्या करें। डिजाइन में इनका उपयोग किस प्रकार किया जाता है, उदाहरण सहित समझाइए

प्रश्न 2 डिजाइन के तत्वों- रंग, रेखा और रूप को रेखाचित्रों के साथ समझाइए

खंड बी

प्रश्न 3 शिशुओं और पूर्वस्कूली बच्चों के लिए कपड़ों का चयन करते समय ध्यान में रखी जाने वाली बातों की व्याख्या करें

प्रश्न 4 सूती, ऊनी और रेशमी कपड़ों की देखभाल और भंडारण की व्याख्या करें

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खंड सी

प्रश्न 5 विरंजक क्या होते हैं? इनके प्रकार, उपयोग एवं सावधानियों को समझाइए

प्रश्न 6 परिष्करण प्रक्रियाओं की व्याख्या करें - मर्सराइजेशन, साइजिंग और कैलेंडरिंग

खंड डी

प्रश्न 7 सूत क्या हैं और उनके प्रकार क्या हैं? सरल सूत को चित्र सहित विस्तार से समझाइए

प्रश्न 8 सादी बुनाई और उसके प्रकारों को समझाइए। साटन और साटिन की बुनाई में अंतर स्पष्ट कीजिए

Punjabi Translation
Section A

Q1 ਡਿਜ਼ਾਈਨ ਵਿਚ ਇਕਸੁਰਤਾ ਅਤੇ ਸੰਤੁਲਨ ਦੇ ਸਿਧਾਂਤਾਂ ਦੀ ਵਿਆਖਿਆ ਕਰੋ। ਇਹਨਾਂ ਦੀ ਵਰਤੋਂ ਡਿਜ਼ਾਇਨ ਵਿੱਚ ਕਿਵੇਂ ਕੀਤੀ ਜਾਂਦੀ ਹੈ, ਉਦਾਹਰਣਾਂ ਦੇ ਨਾਲ ਸਮਝਾਓ

Q2 ਡਿਜ਼ਾਈਨ ਦੇ ਤੱਤਾਂ ਦੀ ਵਿਆਖਿਆ ਕਰੋ- ਰੰਗ, ਰੇਖਾ ਅਤੇ ਰੂਪ ਚਿੱਤਰਾਂ ਦੇ ਨਾਲ

Section B

Q3 ਨਿਆਣਿਆਂ ਅਤੇ ਪ੍ਰੀਸਕੂਲ ਦੇ ਬੱਚਿਆਂ ਲਈ ਕੱਪੜੇ ਚੁਣਦੇ ਸਮੇਂ ਧਿਆਨ ਵਿੱਚ ਰੱਖਣ ਵਾਲੇ ਨੁਕਤਿਆਂ ਬਾਰੇ ਦੱਸੋ

Q4 ਸੂਤੀ, ਉੱਨ ਅਤੇ ਰੇਸ਼ਮ ਦੇ ਕੱਪੜਿਆਂ ਦੀ ਦੇਖਭਾਲ ਅਤੇ ਸਟੋਰੇਜ ਬਾਰੇ ਦੱਸੋ

Section C

Q5 ਬਲੀਚ ਕੀ ਹਨ। ਉਹਨਾਂ ਦੀਆਂ ਕਿਸਮਾਂ, ਵਰਤੋਂ ਅਤੇ ਸਾਵਧਾਨੀਆਂ ਬਾਰੇ ਦੱਸੋ।

Q6 ਫਿਨਿਸ਼ਿੰਗ ਪ੍ਰਕਿਰਿਆਵਾਂ ਦੀ ਵਿਆਖਿਆ ਕਰੋ - ਮਰਸਰਾਈਜ਼ੇਸ਼ਨ, ਸਾਈਜ਼ਿੰਗ ਅਤੇ ਕੈਲੰਡਰਿੰਗ

Section D

Q7 ਧਾਗੇ ਕੀ ਹਨ ਅਤੇ ਉਹਨਾਂ ਦੀਆਂ ਕਿਸਮਾਂ ਡਾਇਗ੍ਰਾਮ ਦੇ ਨਾਲ ਸਧਾਰਨ ਧਾਗੇ ਦੀ ਵਿਸਥਾਰ ਵਿੱਚ ਵਿਆਖਿਆ ਕਰੋ

Q8 ਸਾਦੀ ਬੁਣਾਈ ਅਤੇ ਇਸ ਦੀਆਂ ਕਿਸਮਾਂ ਬਾਰੇ ਦੱਸੋ। ਸਾਟਿਨ ਅਤੇ ਸਾਟਿਨ ਬੁਣਾਈ ਵਿੱਚ ਅੰਤਰ ਸਮਝਾਓ

Programme	Exam Code	Course Code
Bachelor of Arts	103204	BARM-4333 (I)
Bachelor of Science (Non-Medical)	103304	BSNM-4333 (I)
Bachelor of Science (Economics)		BECM-4333 (I)
Bachelor of Science (Computer Science)		BCSM-4333 (I)

Semester-IV
Course Title: Mathematics (Statics and Vector Calculus)
(30)

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 equal marks.(i.e. 8 marks for each question)

Section -A

Q 1.(a)   State Triangle Law of forces.

ABC is a triangle and G its centroid.   Prove that forces represented completely by GA, GB, GC are in equilibrium.

Q 1.(b)   Forces of magnitude P, 2P, -3P, 4P, 5P and -9P act respectively along the sides taken in order of a regular hexagon. Prove that they reduce to a resultant acting through the centre of the hexagon. Find the magnitude and direction of their resultant.

Q 2.(a)   A ladder of weight W rests with one end against a smooth vertical wall and with the other resting on a smooth floor. If the inclination of the ladder to the horizon be 60 °, find the horizontal force that must be applied to the lower end to prevent the ladder from sliding down

Q 2.(b) Forces of magnitude 5 kg, 10 kg, Q kg and R kg act along the sides AB, BC, DC and DA of a square ABCD and forces each of magnitude $5\sqrt{2}$ kg act along the sides BD, CA. If these forces are equivalent to a couple, find Q and R.

Section -B

Q 3.(a) If the force which is acting parallel to a rough plane of inclination α to the horizon is just sufficient to draw a weight up be n times the force which will just be on the point of sliding down, show that

$$\tan \alpha = \mu \frac{n+1}{n-1}$$

Q 3.(b) A uniform ladder rests at an angle of 45° with the horizontal with its upper extremity against a rough wall and its lower extremity on the rough ground with coefficient of friction μ and μ' respectively. Show that the least horizontal force which would move the lower extremity towards wall is $\frac{1}{2}W \frac{1+2\mu-\mu\mu'}{1-\mu''}$.

Q 4.(a) AB and AC are two uniform rods of lengths 2a and 2b respectively, If $\angle BAC = \theta$, prove that distance from A of the C.G. of two rods is $\frac{\sqrt{a^4+2a^2b^2 \cos \theta + b^4}}{a+b}$.

Q 4.(b) Find the C.G. of a hollow hemisphere.

Section –C

Q 5.(a) For the function $f = \dfrac{y}{x^2 + y^2}$ find the value of the directional derivative making an angle of $30°$ with the positive x-axis at the point $(0,1)$.

Q 5.(b) Differentiate w.r.t t

$$\vec{r}^{\,2} + \dfrac{1}{\vec{r}^{\,2}}$$

Show that the vector field given by

$$\vec{A} = 3x^2 y\,\hat{i} + \left(x^3 - 2z^2 y\right)\hat{j} + \left(3z^2 - 2y^2 z\right)\hat{k}$$

Q 6.(a) *is* irrotational but not solenoidal.

If $\vec{r} = 2t\,\hat{i} + 3t^2\,\hat{j} - t^3\,\hat{k}$,

calculate $\displaystyle\int_{1}^{2}\left(\dfrac{d\,\vec{r}}{dt} \times \dfrac{d^2\,\vec{r}}{dt^2}\right)dt$

Q 6.(b)

Section –D

State Gauss's Divergence Theorem and use it to evaluate $\displaystyle\iint_{S} \vec{f}.\hat{n}\,dS$

Q 7. where $\vec{f} = 4xy\,\hat{i} + yz\,\hat{j} - xz\,\hat{k}$ and S is the surface of the cube bounded by the planes $x = 0$, $x = 2$, $y = 0$, $y = 2$, $z = 0$, $z = 2$.

Q 8.(a)   State Green's theorem in a plane
           and verify it for

           $$\oint_C \left(\left(x^2 - xy^3 \right) dx + \left(y^2 - 2xy \right) dy \right)$$

           where C is the square with vertices
           $(0,0),(2,0),(2,2),(0,2)$.

Q8.(b)   Verify Stoke's Theorem for
           $$\vec{F} = y\hat{i} + z\hat{j} + x\hat{k}$$
           where S is the upper half surface of the
           sphere $x^2 + y^2 + z^2 = 1$ and C is boundary.

Programme	Exam Code	Course Code
Bachelor of Arts	103204	BARM -4333 (II)
Bachelor of Science (Non-Medical)		BSNM-4333 (II)
Bachelor of Science (Economics)	103304	BECM -4333 (II)
Bachelor of Science (Computer Science)		BCSM-4333 (II)

Course Title: Mathematics (Solid Geometry)

Semester-IV

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

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 8 marks.

Section-A

1 (a). Find the equation of the enveloping cylinder of the conicoid $ax^2 + by^2 + cz^2 = 1$ whose generators are parallel to the line $\frac{x}{1} = \frac{y}{m} = \frac{z}{n}$. [4]

(b). Find the equation of the right circular cylinder of radius 2 whose axis is the line

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

2 (a). Find the equation of the enveloping cylinder of the sphere $x^2 + y^2 + z^2 + 2x + 2y + 2z + 2 = 0$ and whose generators are parallel to the line $\frac{x}{1} = \frac{y}{-1} = \frac{z}{1}$. [4]

(b). Find the equation of the quadric cylinder with generators parallel to x-axis and passing through the curve $ax^2 + by^2 + cz^2 = 1, lx + my + nz = p$. [4]

Section-B

3 (a). Check whether the plane $ax + by + cz = 0$ meets the cone $yz + zx + xy = 0$ in perpendicular lines if $\frac{1}{a} + \frac{1}{b} + \frac{1}{c} = 0$. [4]

(b). Check that the equation of the right circular cone whose vertex is the origin, axis the z-axis and semi vertical angle α is $x^2 + y^2 = z^2\tan^2\alpha$ or not. [4]

4(a). Find the equation of the cone formed by rotating the line z=0, y=2x about the x-axis. [4]

(b). Prove or disprove: The general equation of the cone which touches the three co-ordinate planes is $\sqrt{fx} \pm \sqrt{gy} \pm \sqrt{hz} = 0$. [4]

Section-C

5 (a). Find the equation of the surface generated by the revolution of the circle

$x^2 + y^2 - 10y + 25 - r^2 = 0$, z = 0 about the x-axis (r < 5). [4]

(b). Justify that the sum of the squares of the reciprocals of any three mutually perpendicular diameters of an ellipsoid is constant. [4]

6 (a). Identify the surface represented by $4x^2 + 9y^2 + 16z^2 = 144$. Trace it roughly. Also find the area of the plane curve in which y = 2 cuts it. [4]

(b). A tangent plane to the ellipsoid $\frac{x^2}{a^2} + \frac{y^2}{b^2} + \frac{z^2}{c^2} = 1$ meets the co-ordinates axes in L, M, N. Check whether the centroid of the triangle LMN lies on $\frac{a^2}{x^2} + \frac{b^2}{y^2} + \frac{c^2}{z^2} = 9$ or not. [4]

Section-D

7 (a). Reduce the equation

$2x^2 - 7y^2 + 2z^2 - 10yz - 8zx - 10xy + 6x + 12y - 6z + 5 = 0$ to the standard form and give the nature of the surface. [4]

(b). Check whether the surface whose equation is

$16x^2 + 4y^2 + 4z^2 + 4yz - 8zx + 8xy + 4x + 4y - 16z - 24 = 0$ represents an elliptic paraboloid or not. [4]

8 (a). Reduce the equation into standard conic $9x^2 + 4y^2 + 4z^2 + 8yz + 12zx + 12xy + 4x + y + 10z + 1 = 0$. [4]

(b). Determine the centre of the conicoid F(x,y,z) = 0 [4]

Exam Code: 103204   Paper Code: 4127

Bachelor of Arts
Semester-IV
Music (Instrumental)
BARM-4357

Time: 3 Hours   Max. Marks: 40

Note: Attempt five questions in all selecting at least one question from each section. Fifth question maybe attempted from any section. Each question carries 8 marks.

Section- A

1. Discuss the historical journey of Indian music from 11th century AD to 17 century AD.

11ਵੀਂ ਸਦੀ ਈਸਵੀ ਤੋਂ 17ਵੀਂ ਸਦੀ ਈਸਵੀ ਤੱਕ ਭਾਰਤੀ ਸੰਗੀਤ ਦੀ ਇਤਿਹਾਸਕ ਯਾਤਰਾ

ਦੀ ਚਰਚਾ ਕਰੋ।   (8)

2. Draw a life sketch of Ustaad Ali Akbar Khan, elaborating his contribution to Indian Music.

ਉਸਤਾਦ ਅਲੀ ਅਕਬਰ ਖਾਨ ਦਾ ਇੱਕ ਜੀਵਨ ਸਕੈਚ ਬਣਾਓ, ਭਾਰਤੀ ਸੰਗੀਤ ਵਿੱਚ

ਉਸਦੇ ਯੋਗਦਾਨ ਨੂੰ ਵਿਸਤ੍ਰਿਤ ਕਰਦੇ ਹੋਏ।   (8)

Section- B

3. Discuss in detail *Ashrya Raga* and *Janya Raga*.

ਆਸ਼ਰੀਆ ਰਾਗ ਅਤੇ ਜਨਯ ਰਾਗ ਦੀ ਵਿਸਥਾਰ ਨਾਲ ਚਰਚਾ ਕਰੋ।   (8)

4. What do you understand by *Gharanas* in Indian Music tradition? Discuss the contribution of Imdad Khan Gharana to Indian Music.

ਤੁਸੀਂ ਭਾਰਤੀ ਸੰਗੀਤ ਪਰੰਪਰਾ ਵਿੱਚ ਘਰਾਣਿਆਂ ਨੂੰ ਕੀ ਸਮਝਦੇ ਹੋ? ਭਾਰਤੀ ਸੰਗੀਤ ਵਿੱਚ

ਇਮਦਾਦ ਖਾਨ ਘਰਾਣੇ ਦੇ ਯੋਗਦਾਨ ਦੀ ਚਰਚਾ ਕਰੋ।   (8)

Section- C

5. Discuss the following:

a) *Gamak*   b) *Khatka*   c) *Zamzama*   d) *Murki*

ਹੇਠ ਲਿਖੀਆਂ ਗੱਲਾਂ 'ਤੇ ਚਰਚਾ ਕਰੋ:

a) ਗਾਮਕ b) ਖਟਕਾ c) ਜ਼ਮਜ਼ਮਾ d) ਮੁਰਕੀ   (2 X 4 = 8)

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6. What do you understand by *Laya* and *Layakari ?*

ਤੁਸੀਂ ਲਯਾ ਅਤੇ ਲਯਕਾਰੀ ਨੂੰ ਕੀ ਸਮਝਦੇ ਹੋ? (8)

Section- D

7. Give description along with notation of *Raga Malkauns* along with four *taals*.

ਚਾਰ ਤਾਲਾਂ ਸਮੇਤ ਰਾਗ ਮਲਕੌਸ ਦੇ ਨੋਟੇਸ਼ਨ ਸਮੇਤ ਵਰਣਨ ਦਿਓ। (8)

8. Write down the comparison between *Raga Chandrakauns* and *Raga Malkauns.*

ਰਾਗ ਚੰਦਰਕੌਸ ਅਤੇ ਰਾਗ ਮਲਕੌਸ ਦੀ ਤੁਲਨਾ ਲਿਖੋ। (8)

Exam Code: 103204   Paper Code: 4124

Bachelor of Arts
Semester-IV
Music (Vocal)
BARM-4366

Time: 3 Hours   Max. Marks: 40

Note: Students 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 is of 8 marks.

Section-A

1. Define and explain the following musical terms: Vaadi, Samvaadi, Alaptav and Bahutav.

निम्नलिखित संगीत शब्दों को परिभाषित करें और समझाएं: वादी, संवादी, अलाप्तव और बहुताव।

ਨਿਮਨਲਿਖਤ ਸੰਗੀਤਕ ਸ਼ਬਦਾਂ ਦੀ ਪਰਿਭਾਸ਼ਾ ਅਤੇ ਵਿਆਖਿਆ ਕਰੋ: ਵਾਦੀ, ਸੰਵਾਦ, ਅਲਪਤਵ ਅਤੇ ਬਹੁਤਵ।

2. Write a biography of Ustad Amir Khan and his contribution towards Indian classical music.

उस्ताद अमीर खान की जीवनी और भारतीय शास्त्रीय संगीत में उनके योगदान को लिखें।

ਉਸਤਾਦ ਆਮਿਰ ਖਾਨ ਦੀ ਜੀਵਨੀ ਅਤੇ ਭਾਰਤੀ ਸ਼ਾਸਤਰੀ ਸੰਗੀਤ ਵਿੱਚ ਉਨ੍ਹਾਂ ਦੇ ਯੋਗਦਾਨ ਬਾਰੇ ਲਿਖੋ।

Section-B

3. According to Pandit Viankatmukhi, explain the origin of the 484 ragas from one Thaat.

पण्डित व्यंकटमुखी के अनुसार एक थाट से 484 रागों की उत्पत्ति बताइये।

ਪੰਡਿਤ ਵਿਅੰਕਤਮੁਖੀ ਦੇ ਅਨੁਸਾਰ, 484 ਰਾਗਾਂ ਦੀ ਉਤਪੱਤੀ ਇੱਕ ਠਾਟ ਤੋਂ ਵਿਆਖਿਆ ਕਰੋ।

4. Explain the classification of ragas.

रागों का वर्गीकरण समझाइये।

ਰਾਗਾਂ ਦੇ ਵਰਗੀਕਰਨ ਦੀ ਵਿਆਖਿਆ ਕਰੋ।

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Section-C

5. Describe the folk singing style used in Gurmat Sangeet.

गुरमत संगीत में प्रयुक्त लोक गायन शैली का वर्णन करें।

ਗੁਰਮਤਿ ਸੰਗੀਤ ਵਿੱਚ ਵਰਤੀ ਜਾਂਦੀ ਲੋਕ ਗਾਇਨ ਸ਼ੈਲੀ ਦਾ ਵਰਣਨ ਕਰੋ।

6. What is Devotional Music? Explain it.

भक्ति संगीत क्या है? इसे समझाओ।

ਭਗਤੀ ਸੰਗੀਤ ਕੀ ਹੈ? ਇਸ ਨੂੰ ਸਮਝਾਓ.

Section-D

7. Write down the introduction and notation of drut khayal of raga malkauns along with two alaap and four tans

राग मालकौंस के द्रुत ख्याल का परिचय एवं संकेतन दो आलाप एवं चार तान सहित लिखिए।

ਰਾਗ ਮਲਕਾਉਂ ਦੇ ਦ੍ਰੁਤ ਖਿਆਲ ਦੀ ਜਾਣ-ਪਛਾਣ ਅਤੇ ਸੰਕੇਤ ਦੇ ਅਲਾਪ ਅਤੇ ਚਾਰ ਤਾਨਾਂ ਸਮੇਤ ਲਿਖੋ।

8. Write down Taal Dhamaar upto dugan layakari along with its introduction.

ताल धमार से लेकर दुगन लयकारी तक को परिचय सहित लिखिए।

ਤਾਲ ਧਮਾਰ ਨੂੰ ਦੁਗਨ ਲਾਇਕਰੀ ਤੱਕ ਇਸਦੀ ਜਾਣ-ਪਛਾਣ ਦੇ ਨਾਲ ਲਿਖੋ।

Exam Code: 103204 **Paper Code: 4126**
(20)

Programme: Bachelor of Arts
Semester-IV

Course Title: Philosophy (Inductive Logic and Environmental Ethics)

Course Code: BARM-4377

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

Note: Attempt five questions in all by selecting one question from each section. Fifth question can be attempted from any section. All question carry equal marks (12 marks).

Section-I

1. Discuss any of the three concepts (3x4=12)
    *   Difference between Induction and Deduction
    *   Explain Analogy and its method
    *   Explain Simple Enumeration
    *   Explain Scientific Induction

2. What do you understand by the concept of Hypothesis? Explain conditions of a valid Hypothesis. 12

Section -II

3. The knowledge generated of Anumana is different from that of Pratyaksha. Explain the fundamental

distinguishing features of Anumana and its kinds

12

4. Write notes on any two of the following
   a. Concept of Vyapti
   b. Nyaya Syllogism
   c. Difference between Nyaya and Aristotelian Syllogism.

   (6x2=12)

Section -III

5. Discuss the current issues in the field of Environmental Ethics. What are the possible human interventions that can prevent hazardous effects in nature.   12

6. What do you understand by the concept of Rta? How humans can help the cosmic order to sustain itself.

   12

Section -IV

7. Write an extensive note on the concept of Pollution and its forms that humans have created on the planet earth.

   12

8. Nuclear weapons are a creation of man. How does a power created for ones protection become a threat to others? Comment.   12

Exam Code: 103204　　　　　　　Paper Code: 4118

Programme: Bachelor of Arts (Semester – IV)

Course Title: Physical Education

Course Code: BARM-4384

Time Allowed: 3 Hours　　　　　　Max Marks: 50

NOTE: The Candidates are required to attempt five questions in all, selecting at least one question from each section. Fifth question may be attempted from any section. Each question carries 10 marks.

Section – A

1. "Yoga is the mean of uniting soul with God." How?

   "ਯੋਗ ਆਤਮਾ ਨੂੰ ਪਰਮਾਤਮਾ ਨਾਲ ਜੋੜਨ ਦਾ ਸਾਧਨ ਹੈ।" ਕਿਵੇਂ?

   "योग आत्मा को ईश्वर से मिलाने का माध्यम है।" कैसे

2. What are the techniques and effects of Sarvangasana, Bhujangasana and Halasana. What are precautions while doing these asanas.

   ਸਰਵਾਂਗਾਸਨ, ਭੁਜੰਗਾਸਨ ਅਤੇ ਹਲਾਸਾਨ ਦੀਆਂ ਤਕਨੀਕਾਂ ਅਤੇ ਪ੍ਰਭਾਵ ਕੀ ਹਨ?

   ਇਹਨਾਂ ਆਸਣਾਂ ਨੂੰ ਕਰਦੇ ਸਮੇਂ ਕੀ ਸਾਵਧਾਨੀਆਂ ਹਨ?

   सर्वांगासन, भुजंगासन और हलासन की तकनीक और प्रभाव क्या हैं। इन आसनों को करते समय क्या सावधानियां रखें?

Section – B

3. Define the Pranayama. Discuss the types of and benefits of Pranayama.

   ਪ੍ਰਾਣਾਯਾਮ ਨੂੰ ਪਰਿਭਾਸ਼ਿਤ ਕਰੋ। ਪ੍ਰਾਣਾਯਾਮ ਦੀਆਂ ਕਿਸਮਾਂ ਅਤੇ ਲਾਭਾਂ ਬਾਰੇ ਚਰਚਾ ਕਰੋ।

   प्राणायाम को परिभाषित करें। प्राणायाम के प्रकार और लाभों पर चर्चा करें।

4. Describe the effects of Yoga on Muscular System and Respiratory System.

ਮਾਸਪੇਸ਼ੀ ਪ੍ਰਣਾਲੀ ਅਤੇ ਸਾਹ ਪ੍ਰਣਾਲੀ 'ਤੇ ਯੋਗਾ ਦੇ ਪ੍ਰਭਾਵਾਂ ਦਾ ਵਰਣਨ ਕਰੋ।

मांसपेशीय तंत्र एवं श्वसन तंत्र पर योग के प्रभावों का वर्णन करें।

Section – C

5. Write about the Excretory organs and their function.

ਮਲ ਤਿਆਗ ਵਾਲੇ ਅੰਗਾਂ ਅਤੇ ਉਹਨਾਂ ਦੇ ਕਾਰਜਾਂ ਬਾਰੇ ਲਿਖੋ।

मल तियाग के अंगों और उनके कार्यों के बारे में लिखिए।

6. What is Respiratory System? Write about its organs in detail.

ਸਾਹ ਪ੍ਰਣਾਲੀ ਕੀ ਹੈ? ਇਸ ਦੇ ਅੰਗਾਂ ਬਾਰੇ ਵਿਸਥਾਰ ਨਾਲ ਲਿਖੋ।

श्वसन तंत्र क्या है? इसके अंगों के बारे में विस्तार से लिखिए।

Section – D

7. Explain the Mechanism of Digestive System.

ਪਾਚਨ ਪ੍ਰਣਾਲੀ ਦੀ ਵਿਧੀ ਦੀ ਵਿਆਖਿਆ ਕਰੋ।

पाचन तंत्र की क्रियाविधि समझाइये।

8. Draw a diagram of human heart and explain its function

ਮਨੁੱਖੀ ਦਿਲ ਦਾ ਇੱਕ ਚਿੱਤਰ ਬਣਾਓ ਅਤੇ ਇਸਦੇ ਕਾਰਜ ਦੀ ਵਿਆਖਿਆ ਕਰੋ

मानव हृदय का चित्र बनाइये तथा उसके कार्य समझाइये

Exam Code: 103204   Paper Code: 4125

Programme: Bachelor of Arts (Semester – IV)

Course Title: Sanskrit (Elective) (Neetikatha Evam Vyakaran)

Course Code: BARM-4466

Time Allowed: 3 Hours   Maximum Marks: 60

प्रश्न पत्र में कुल 4 सैक्शन हैं तथा प्रत्येक सैक्शन में 2–2 प्रश्न हैं। किसी एक सैक्शन में से दोनों प्रश्न करें तथा शेष 3 सैक्शन में से केवल एक–एक प्रश्न करें।

Section – A

प्रश्न 1. लोभाविष्टचक्रधर कथा का सार लिखकर इसका जीवन में महत्त्व अभिव्यक्त करो।

अथवा

ब्राह्मणी–नकुल कथा का सार लिखकर इसका जीवन में महत्त्व अभिव्यक्त करो।

12 अंक

प्रश्न 2 . किन्हीं दो श्लोकों की सप्रसंग व्याख्या करें –   12 अंक

(क) कुदृष्टं कुपरिज्ञातं कुश्रुतं कुपरीक्षितम्।
तन्नरेण न कर्तव्यं नापितेनऽत्र यत्कृतम्।।

(ख) सौहृदस्य न वाञ्छन्ति जनकस्य हितस्य च।
लोकाः प्रपालकस्यापि यथा पुत्रस्य बन्धनम्।

(ग) व्याधितेन सशोकेन चिन्ताग्रस्तेन जन्तुना।
कामार्तोनाऽथ मत्तेन दृष्टः स्वप्नो निरर्थकः।।

(घ) मानो वा दर्पो वा विज्ञानं विभ्रमः सुबुद्धिर्वा।
सर्वं प्रणश्यति समं वित्तविहीनो यदा पुरुषः।।

Section – B

प्रश्न 3. सिंहकारक मूर्खब्राह्मण कथा का सार लिखकर इस कथा का महत्त्व बताओ।

अथवा

मत्स्य–मण्डूक कथा का सार लिखकर इससे प्राप्त होनी वाली शिक्षा बताओ। 12 अंक

प्रश्न 4 . किन्हीं दो श्लोकों की सप्रसंग व्याख्या करें –   12 अंक

(क) अयं निजः परो वेति गणना लघुचेतसाम्।
उदारचरितानान्तु वसुधैव कुटुम्बकम्।।

(ख) उत्सवे व्यसने प्राप्ते दुर्भिक्षे शत्रुसङ्कटे।
राजद्वारे श्मशाने च यस्तिष्ठति स बान्धवः।।

(ग) दुरधिगमः परभागो यावत्पुरुषेण साहसं न कृतम्।
जयति तुलामधिरूढो भास्वानिह जलदपटलानि।।

Section – C

प्रश्न 5. निम्नलिखित में से किन्हीं 4 के शब्दरूप लिखो –   12 अंक

स्त्री , जगत् , युष्मद् , मुनि , किम् (नपुंसकलिंग में) , इदम् (स्त्रीलिंग में)।

प्रश्न 6. निम्नलिखित में से किन्हीं 12 शब्दों में निर्दिष्ट स्त्रीप्रत्यय लगाकर रूप
बनाओं –   12 अंक

कारक + टाप् , मूषक + टाप् , वत्स + टाप् , सुत + टाप् , निपुण + टाप् ,
रजक + ङीप् , गौर + ङीप् , सूर + ङीप् , हंस + ङीप् , तापस + ङीप् ,
मृड + ङीष् , यव + ङीष् , हिम + ङीष् , अरण्य + ङीष् , शिव + ङीष्

Section – D

प्रश्न 7. (क) निम्नलिखित में से किन्हीं 3 समस्त पदों का विग्रह करें –   06 अंक
नखभिन्नः , गोहितम् , रामाश्रितः , यूपदारु , धान्यार्थः , अनीश्वरः।

(ख) निम्नलिखित में से किन्हीं 3 का समास करें –   06 अंक
हरिणा + त्रातः ,   दुःखम् + अतीतः,   भूतेभ्यः + बलिः ,
रामम् + आश्रितः ,   मात्रा + सदृशः,   न + मूर्खः

प्रश्न 8. निम्नलिखित में से किन्हीं 12 वाक्यों का संस्कृत में अनुवाद करें –   12 अंक
(क) मोहन अध्ययन से हार मानता है।
(ख) वह रात्रि में जागता है।
(ग) गंगा हिमालय से निकलती है।
(घ) रवि सोहन का भाई है।
(ङ) घर में बालक थे।
(च) विद्यालय में बालक और बालिकायें हैं।
(छ) हमारे धर्म में अभिलाषा है।
(ज) यह पुस्तक किसकी है ?
(झ) इस वृक्ष के ये फूल हैं।
(ञ) वह पाप से घृणा करता है।
(ट) ईश्वर से यह लोक उत्पन्न होता है।
(ठ) सीता गुरु से विद्या पढ़ती है।
(ड) यह मोहन की पुस्तक थी।
(ढ) नृप प्रजा का पालन करता है।
(ण) धन का दान करो।

Exam Code: 103204   Paper Code: 4114
      (30)

Programme: Bachelor of Arts
Semester-IV

Course Title: Psychology (Experimental Psychology)

Course Code: BARM-4443

Time Allowed: 3 Hours   Max Marks: 60

Note: It is compulsory to attempt Five Questions out of
eight, selecting at least one question from each section. The
fifth question may be attempted from any Section. Each
question carries 12 marks.

Use of Non-programmable calculator and statistical table is
allowed.

SECTION-A

1. Write a detailed note on the nature of sensation.   12
2. Write a note on the following:
   a. Gustatory Sensation
   b. Perception of Form   6,6

SECTION-B

3. Elaborate the following:
   a. Mnemonics

---

b. Methods of retention   6,6
4.   Write a note on the following:
     a. Eyewitness memory
     b. Constructive Memory   6,6

SECTION-C

5.   Give an elaborative description of thinking, its types and
     characteristics.   12
6.   Explain how concept is formed using real life instances.
                                                                  12

SECTION-D

7.   Define correlation. What are its types? Explain giving
     relevant examples of each.   12
8.   Marks obtained by 5 students in algebra and
     trigonometry are as given below:

Algebra	16	15	12	10	08
Trigonometry	11	18	10	20	17

Are the marks of Algebra and Trigonometry correlated?
Show its correlation using the Pearson Product method
of correlation.   12

Exam Code: 105404   Paper Code: 4243
(50)

Programme: Bachelor of Business Administration
Semester-IV

Course Title: Financial Management

Course Code: BBRL-4323

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. What do you mean by capitalization? Explain various theories of capitalization along with its various types.
2. What do you mean by capital structure? Explain various theories of capital structure in detail.

Section- B

3. Define the concept of 'cost of capital'. Show how you would determine the cost of various sources of capital.

4. What are the main sources of finance available to company for meeting short term as well as long term financial requirements? Discuss.

Section- C

5. The financial manager of company has to advice the Board of directors on choosing between the two project proposals which require an equal investment of Rs. 1,00,000 and are expected to generate cash flows as under:

Years	Project I	Project II
1	48,000	20,000
2	32,000	24,000
3	20,000	36,000
4	NIL	48,000
5	24,000	16,000
6	12,000	8,000

Which project should be recommended and why? Assume the cost of capital to be 10 %

p.a.

Present values:

Year	1	2	3	4	5	6
Factor	0.909	0.826	0.751	0.683	0.621	0.564

6. What are the factors that should be considered while deciding about dividend policy? Also explain various forms of dividend.

Section- D

7. What is financial leverage? Illustrate various formulas of financial leverage and explain in detail.
8. Define the term working capital. Explain various approaches of working capital in detail.

Exam Code: 105404   Paper Code: 4244
(50)

Programme: Bachelor of Business Administration
Semester-IV

Course Title: Production and Operations Management

Course Code: BBRL-4324

Time Allowed: 3 Hours   Max Marks: 40

Important Note: Attempt 5 questions each carry 8 marks. Attempt one question from each section. The fifth question may be attempted from any section.

Section-A

1. Discuss the concept of production and operations management in detail. (8)

2. Discuss the concepts:
   a) Network Analysis. (4)
   b) Scheduling for manufacturing systems (4)

Section- B

3. Discuss various methods to improve productivity of a firm in detail. (8)

4. Explain various methods of measuring work study along with their pros and cons. (8)

Section -C

5. What do you mean by inventory management? How cost of inventory is calculated. Illustrate with imaginary figures. (8)

6. Explain the concepts:
   a) Lead time (2)
   b) Inventory control models (6)

Section-D

7. Explain concept and activities of supply chain management in detail. (8)

8. Explain the concepts:
   a) Statistical Quality Control (4)
   b) Logistics Management (4)

Exam Code: 105404   Paper Code: 4245
(50)

Programme Bachelor of Business Administration
Semester-IV

Course Title: Business Environment

Course Code: BBRL-4325

Time Allowed: 3 Hours   Max Marks: 40

Attempt Five questions in all, selecting at least One question from each Section. The Fifth question may be attempted from any Section. All questions carry equal marks.

SECTION - A

1. What is Business Environment? Explain the different factors of business environment.   (8 Marks)
2. Discuss techniques of environmental analysis. Explain the role of business manager in analysis and diagnosis of environment.   (8 Marks)

SECTION - B

3. Write short notes on:
   a. SWOT Analysis
   b. Environmental Scanning   (2 X 4 = 8 Marks)

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4. Explain Privatisation and Globalisation and its implications for India. (8 Marks)

SECTION - C

5. What are the main objectives of Economic Planning in India? Discuss the failures of planning in India.
(8 Marks)

6. What do you mean by Business Ethics and Corporate Governance? Explain. (8 Marks)

SECTION - D

7. Write a short notes on:
   a. Fiscal Policy of India
   b. Salient features of F EMA (4 X 2 = 8 Marks)

8. What is Deficit Financing? Explain the role and limitations of deficit financing for promoting economic development of developing economy like India.
(8 Marks)

Exam Code: 105404   Paper Code: 4246
    (50)

Programme: Bachelor of Business Administration
Semester-IV

Course Title: Operations Research

Course Code: BBRL-4326

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

I. What is Operations Research? Briefly explain the Significance and Methodology of Operations Research.
(2,3,3)

II. Solve the following LPP :
Minimise $Z = 60 X_1 + 80 X_2$
Subject to:
$X_1 + X_2 = 500$
$X_1 \leq 400$
$X_2 \geq 200$
Where $x_1, X_2 \geq 0$ (8)

SECTION- B

III. Solve the following transportation problem and test its optimality. (8)

To / From	Project A	Project B	Project C	Plant Capacity
Plant W	4	8	8	56
Plant X	16	24	16	82
Plant Y	8	16	24	77
Project Requirements	72	102	41	215 / 215

IV. Solve the following travelling salesman problem so as to minimise the cost per cycle .(8)

From	A	B	C	D	E
A	-	3	6	2	3
B	3	-	5	2	3
C	6	5	-	6	4
D	2	2	6	-	6
E	3	3	4	6	-

SECTION- C

V. Write Short notes on:
a) Meaning and Significance of Network Analysis
b) Probability of completing the Project by Scheduled Date (4,4)

VI.   Characteristics of a Project Schedule are given below:

Acitivity		Activity times		
Tail event	Head event	Optimistic time (to)	Pessimistic time (tp)	Most Likely time (tm)
1	2	1	3	2
2	3	1	7	4
2	7	2	4	3
3	4	1	5	3
3	5	0	0	0
4	6	0	0	0
5	6	3	13	5
7	8	4	12	8
6	9	4	14	6
8	9	1	3	2

Determine:

a) Earliest expected and latest times of each event.
b) Draw a network and indicate the critical path on it.
c) Compute various slacks and floats.
d) What is the probability that the project will be completed
i.   At least 4 weeks earlier than expected time.
ii. No more than 4 weeks later than expected time.

(2,2,2,2)

SECTION- D

VII. Explain the Dominance Principle using the following example:

Firm B

		P	Q	R	S
Firm A	A	35	65	25	05
	B	30	20	15	00
	C	40	50	00	10
	D	55	60	10	15

VIII. Write Short Notes on:

a) Costs in Inventory Control

b) Assumptions and Limitations of Game Theory

(4,4)

Exam Code: 105404   **Paper Code: 4247**
(50)

Programme: Bachelor of Business Administration
Semester-IV

Course Title: Fundamentals of Insurance

Course Code: BBRL-4327

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. What is Insurance? Discuss the functions of Insurance in detail. Also discuss its importance.
2. "Insurance without insurable interest would be a mere wager and as such unenforceable in the eyes of law". Throw light on the principles of Insurance.

Section- B

3. What is Motor Insurance? Why it is important? Discuss various types of motor insurance policies?

---

4. What do you mean by Life Insurance? Discuss the various types of Life Insurance along with the advantages & disadvantages of Life Insurance?

Section- C

5. Discuss in detail the purpose and process of Underwriting.
6. What is Re-insurance? What is the difference between reinsurance and Double Insurance?

Section- D

7. What do you mean by marketing of Insurance? What are the various factors which affect the demand for insurance?
8. Write notes on:-
   (a) Loss Assessors and Surveyors
   (b) Actuary.
   (c) Third party administrator.

Exam Code: 107404
(30)

Paper Code: 4192

Programme: Bachelor of Science (Bio-Technology)
Semester-IV

Course Title: Industrial Biotechnology-I

Course Code: BBTM-4061

Time Allowed: 3 Hours   Max Marks: 30

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 equal 6 marks.

Section-A

1. What are the different methods of food processing in food industries? (6)
2. What are the basic concept of agriculture and food processing as industry. How they are related to each other. Illustrate with an example (6)

Section-B

3. Elaborate the followings:
   a. Importance and salient features of microbes used in various industries. (3)

b. Isolation of antibiotic producing microbes utilized as IIMs (3)

4. Define IIMs. Illustrates primary IIMs screening methods with examples. Also, compare it with secondary methods. (6)

Section-C

5. What is meant by strain improvement of industrial important microbes? Discuss its strategies with examples. (6)

6. Discuss followings with examples:
   a. Isolation of induce mutants. (3)
   b. Inoculum development in case of IIMs. (3)

Section-D

7. a. Discuss the production of important primary and secondary metabolites by giving suitable examples of each. (2)
   b. Describe the production technology of cheese production. (4)

8. What are the major steps involved in industrial bread production? (6)

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Exam Code: 107404   Paper Code: 4193
      (30)

Programme: Bachelor of Science (Bio-Technology)
Semester-IV

Course Title: Immunology-II

Course Code: BBTM-4062

Time Allowed: 3 Hours   Max 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

Section-A

1. What are Whole organism vaccine? Give examples. Write advantages and disadvantages?   (6)
2. What are the different T-cell subsets and surface markers? Explain in detail?   (6)

Section-B

3. How extracellular bacteria are killed by immune response? Explain in detail?   (6)
4. How ELISA can be used qualitatively and quantitatively for the detection of both antigen and antibody   (6)

Section-C

5. What are Monoclonal antibodies? How Monoclonal antibodies can be produced? Write its applications also?

(6)

6. What are Viral vector vaccine? Explain. Write its three advantages and disadvantages ? (6)

Section-D

7. Write down different Immunoelectrophoretic procedures and their significance? (6)

8. Define immune invasion. What are different immune invasion methods used by viruses for infection. (6)

Exam Code: 107404   Paper Code: 4195

Programme: Bachelor of Science (Bio-Technology)

Semester: IV

Course Title: Skill Development in Biotechnology

Course Code: BBTM-4064

Time Allowed: 3 Hours   Max Marks: 30

Note: Candidates are required to 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. What are Nutraceuticals? Explain the potential role of probiotics and common sources of probiotics in food.
2. What are Natural food coloring agents? Explain giving suitable examples.

Section-B

3. Discuss the major principles of HACCP plan in detail.
4. How the quality of following products is assured:
   i. Milk   ii. Butter   iii. Jam

Section-C

5. Enlist energy requirements in different age groups and special conditions. Explain them in detail.
6. What is Protein Energy Malnutrition? Enlist the disorders related to malnutrition in detail.

Section-D

7. Write a detailed note on Selective and differential media. Explain their role in the identification of specific organism.
8. How do microbes contribute to food spoilage? Enlist the health risks associated with consuming food affected by microbial spoilage?

2054   20

Exam Code: 107404   **Paper Code: 4196**
(30)

Programme: Bachelor of Science (Bio-Technology)
Semester-IV

Course Title: Fundamentals of Bioinformatics

Course Code: BBTM-4065

Time Allowed: 3 Hours   **Max Marks: 30**

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 6 marks.

Section- A

1. Write a short note on:
    i. Input devices   3
    ii. Computer software and hardware   3
2. Discuss different visual output devices. Also, discuss voice response units used for computers.   6

Section-B

3. Discuss Needleman -Wunsch, and Smith-Waterman algorithms for progressive sequence alignment.   6

---

4. Briefly illustrate the followings:
   i. Bioinformatics and its application   3
   ii. Significance of sequence alignment   3

Section-C

5. Define BLAST. Explain its types   6
6. Explain the following:
   (i) Differentiate between pair wise and multiple
   sequence alignment   3
   (ii) PAM Matrix   3

Section-D

7. Write a short note on followings:
   i. EMBL-EBI   3
   ii. NCBI   3
8. What are sequence databases? Discuss and classify
   with suitable examples.   6

Exam Code: 107404   Paper Code: 4194
(30)

Programme: Bachelor of Science (Bio-Technology)
Semester-IV

Course Title: Biochemistry-IV

Course Code: BBTM-4083

Time Allowed: 3 Hours   **Max Marks: 30**

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

Section- A

1. Describe
   a) Biosynthesis of threonine from aspartic acid.   3
   b) Biosynthesis of Valine from pyruvic acid.   3
2. Explain feedback regulation in the biosynthesis of aromatic amino acids.   6

Section- B

3. Discuss
   a) Aspartate transamination reaction.   3
   b) Glutamate deamination reaction.   3
4. Give detail account of urea cycle.   6

Section- C

5. Describe
    a) Structure of purine bases.   3
    b) Nucleotides of biological importance.   3
6. Explain de novo synthesis of Pyrimidines.   6

Section- D

7. Discuss
    a) Pyrimidine salvage and its regulation.   3
    b) Reaction and regulation of HGPRTase enzyme.   3
8. Explain the catabolism of Purines.   6

Exam Code: 107404
            Paper Code: 4197
 (30)

Programme: Bachelor of Science (Bio-Technology)
Semester-IV

Course Title: Zoology-II

Course Code: BBTM-4486

Time Allowed: 3 Hours   Max Marks: 30

Note: Attempt five questions in all, selecting at least one question from each section (A to D) Fifth question can be attempted from any section. Draw diagrams wherever necessary.

Section A

1. Write a note on the following: (2+2+2=6)
   a) Abiogenesis
   b) Theory of special creation
   c) Theory of Extra-terrestrial contact
2. Explain the evolution of Eukaryotic cell   (6)

Section B

3. Write a note on Modern theory of evolution   (6)
4. Write a note on Geological time scale.   (6)

Section C

5. Explain the life cycle, mode of infection and pathogenicity of Giardia diagrammatically.

(6)

6. Explain the life history, pathogenicity of Ascaris. How can disease caused by this be treated?

(6)

Section D

7. Write a detailed note on the distribution and control of vectors of Malaria and Plague. (6)

8. Discuss in detail the distribution and control of vectors of Filariasis and Typhus. (6)

For Reappear Candidates (Old Syllabus (2021-22, 2022-23))

Exam Code: 107204   Paper Code: 9409

Bachelor of Computer Applications, Semester: IV
Course Title: Data Structures
Course Code: BCAL-4111

Time Allowed: 3 Hours   Max Marks: 60

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

Section A

Q1: Define the term data structure. Also mention in detail common operations on data structure.   (12)

Q2: a) What is array? How it is represented in memory?   (6)
    b) Write algorithms to insert and delete element in the linear array.   (6)

Section B

Q3: What do you mean by hashing? Explain hash function along with its types.
                                                                        (12)

Q4: a) Explain types of Linked list.   (8)
    b) Write advantages of linked list over array.   (4)

Section C

Q5 : Write algorithms with examples: (12)
    a) Convert an arithmetic expression from infix notation to postfix notation
    b) Evaluation of postfix expression.

Q6: a) Explain structure of a queue.   (4)
    b) How can you represent priority queue in memory? Explain.   (8)

Section D

Q7: Explain Preorder and Inorder traversals methods of binary tree with examples.   (12)

Q8: Write a note on the following   ($4*3 = 12$)
    a) BFS
    b) Heapsort
    c) Tree Vs Graph
    d) Path matrix

2054   20

Exam Code: 107204   Paper Code: 4258

Programme: Bachelor of Computer Applications

Semester: IV

Course Title: Data Structures

Course Code: BCAL-4111

Time Allowed: 3 Hours   Max Marks: 60

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

Section A

Q1: What do you mean by complexity of an algorithm? How can you measure it? (12)

Q2: a) Write Bubble sort algorithm along with its complexity. (6)

b) Using Binary search, find the location of an element 55.

99, 11, 33, 88, 22, 55, 77 (6)

Section B

Q3: What is Hashing? How can you resolve collisions in it? (12)

Q4:a) Explain types of Linked list. (8)

b) Write advantages of linked list over array. (4)

Section C

Q5 : Explain the procedures with examples

a) Convert an arithmetic expression from infix notation to postfix notation

b) Evaluation of postfix expression. (12)

Q6: a) Explain the structure of queue. (4)

b) How can you represent priority queue in memory? (8)

Section D

Q7: Explain traversals of binary tree with examples. (12)

Q8: Write a note on the following (3*4 = 12)

a) DFS Vs BFS

b) Adjacency matrix

c) Structure of Path matrix.

2054   50

Exam Code: 107204   Paper Code: 4259
(60)

Programme: Bachelor of Computer Applications
Semester-IV

Course Title: Information Systems

Course Code: BCAL-4112

Time Allowed: 3 Hours   Max Marks: 60

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

SECTION A

1. Why is Information important for an organization? Explain characteristics of information. (12)
2. Discuss Online access and Capture of information. (12)

SECTION B

3. Explain Rapid Application Development model of SDLC. (12)
4. What are various types of Systems. Explain with Examples. (12)

SECTION C

5. What are the Characteristics and Components of Decision Support Systems? (12)
6. What are the Objectives of MIS. Explain its Benefits and Limitations also. (12)

SECTION D

7. Compare and Contrast Transaction Processing System and Decision Support System. (12)
8. Discuss the Case Study of Marketing Information System. (12)

For Reappear Candidates (Old Syllabus (2022-23))

Exam Code: 107204   Paper Code: 9410
Programme: Bachelor of Computer Applications, Semester IV
Course Code: BCAL-4113
Course Title: Internet Applications
Time Allowed: 3 Hours   Max. Marks: 60

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 (12) marks.

Section-A

1. a. What is Internet? How does the Internet work?
   b. Compare and Contrast Intranet and Extranet.
2. Explain the structure of an E-mail? What protocols can be used for sending
   and receiving data through an e-mail?

Section-B

3. What do you mean by list in HTML? What are the different types of lists
   available in HTML?
4. Write a note on:
   a. File Transfer Protocol
   b. Telnet
   c. Gopher

Section-C

5. What is CSS? Discuss various parts of CSS rule? Explain various types of
   stylesheet available in CSS?

6. Explain briefly functions in a JavaScript with suitable example.

Section-D

7. What is a Wordpress? How can we manage posts in a wordpress?

8. a. What do you understand by Live chat? How it can be implemented in a

   wordpress?

   b. Write a note on:
      i. Mailchimp
      ii. Widgets

Exam Code: 107204   Paper Code: 4260

Programme: Bachelor of Computer Applications
Semester IV
Course Title: Internet Applications
Course Code: BCAL-4113

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

Note: Attempt five questions in all, selecting at least one question from each section Fifth question may be attempted from any section. Each question carries 12 marks.

Section A

1. What is Internet? How is it different from ordinary network? How does the Internet work?
2. What is Search Engine? Explain the components and working of Search Engine?

Section B

3. What do you mean by list in HTML? What are the different types of lists available in HTML?
4. What is a table? Perform the following:
   a. Create a table with 3 rows and 2 columns and align it to the center.
   b. Now add the background image to this table.
   c. Create a table as shown below:

1		2	3
4	5	6	
6	7		
8		9	

Section C

5. What is CSS? Discuss various parts of CSS rule? Explain various types of stylesheet available in CSS?
6. Write a note on:
   a. Background properties in CSS   b. z-index
   c. float   d. clear

Section D

7. What is a WordPress? How can we manage pages in a WordPress?
8. a. Explain the role of Google analytics in evaluating the performance of a website?
   b. Write a note on Google maps?

2054   50

Exam Code: 107204

Paper Code: 4261

Programme: Bachelor of Computer Applications

Semester IV

Course Title: Computer Architecture

Course Code: BCAL-4114

Time Allowed: 3 Hours

Max. Marks: 60

Note: Attempt five questions in all, selecting at least one question from each section Fifth question may be attempted from any section. Each question carries 12 marks.

SECTION-A

1. What are various types of Timing Signals? Discuss instruction cycle with example. (12)

2. What is register transfer language? Briefly explain role of various registers. (12)

SECTION-B

3. Explain microprogrammed control unit along with advantages and disadvantages. (12)

4. Explain features of General register organization and Stack organization of CPU. (12)

SECTION-C

5. What is virtual memory? Explain role of paging in implementation of virtual memory. (12)

6. Why memory hierarchy organization is required in computer? Draw hierarchy map and discuss various memories used. (12)

SECTION-D

7. Write short notes on:
   a.) I/O interface   b.) Program Interrupt   (2x6=12)

8. Explain concepts of Parallel Processing and Vector Processing. (12)

2054   50

Paper Code: 4266

(20)

Bachelor of Computer Applications Semester-IV
Exam Code: 107204

Bachelor of Science (Information Technology) Semester-IV
Exam Code: 105704

Course Title: Foundation of Statistical Computing

Course Code: BCAM-4117 / BITM-4118

Time Allowed: 3 Hours   Max Marks: 40

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 8 marks.

Section —I

1. Explain applications and features of R.   8
2. What is a Vector in R? Explain common vector operations.   8

Section — II

3. What is a list? Explain the concept of lists in R with examples. 8
4. Explain R operators in detail with programming examples. 8

Section —III

5. Write a program in R to check Armstrong number. 8
6. Explain various looping and control statements in R. 8

Section — IV

7. Explain Graphs with examples to draw various graphs. 8
8. Explain Naive Bayes Model. 8

Exam Code: 109104   Paper Code: 4233
  (100)

Programme: Bachelor of Commerce (Honours)
    Semester-IV

Course Title: Cost Accounting

Course Code: BCOL-4091

Time Allowed: 3 Hours   Max Marks: 80

Note: Attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any section. Each question carries 16 marks.

Section I

1. What is Cost Accounting? Discuss the nature and advantages of cost accounting in detail.
2. Prepare the Cost Sheet for determining Sale Price from the Following :

Depreciation on Plant	4,400	Opening Stock of Raw Material	5,000
Insurance and taxes	3,450	Opening Stock of work in progress	1,500
Lubricants and Coolants	7,000	Closing Stock of work in progress	1,000
Repairs of Plant	7,800	Office Stationery	6,400
Office Salaries	8,300	Rent of office	4,100
Direct Labour	6,000	Carriage Inward	1,550
Electricity bill	4,700	Directors fee	9,800
Material Purchased	8,000	Packing And Distribution	4,800
Heat and Light	3,500	Salesman's Salaries	7,900
Haulage	4,000	Travelling Expenses	3,500
Profit is 15 % on cost of sales			

Section — II

3. What are the techniques of material control?

4. Prime Ltd. has three production and four service departments. The expenses of the departments as per Primary distribution summary are as follows:

Production Departments	Amount (Rs.)	Services Departments	Amount (Rs.)
X	30,000	Purchase Department	8,000
Y	20,000	Time Keeping	6,000
Z	15,000	Power House	4,800
		Labour Welfare	1,200

4. Prepare a Statement apportioning the co of service departments over the producti departments using direct re-distribution method.

The following information is available

Departments	Purchase	Time Keeping	Power House	Labour Welfare	X	Y	Z
Material Value	-	-	5,000	-	20,000	20,000	10,000
No. of Employees	3	3	6	3	18	12	6
Horse Power	-	-	-	-	600	600	400

Section — III

5. What do you mean by Budget? What are different types of budget?

6. The Contract price is Rs. 4,00,000 for Contract number 50. The contractor had made the following expenditure during the year ended 31" March, 2018:

a) Material Purchased = Rs. 40,000

b) Direct Labour= Rs. 25,000

c) Indirect Material = 10,000

d) Material Issued from store = Rs. 15,000

e) Special Plant = Rs. 40,000

From the further information, prepare Contract Account and show Work in progress amount:

Plant value at the end = Rs. 30,000, Cash Received = Rs. 90,000 Stock of Material at the end = Rs. 5,000, Material returned to stores = Rs. 1,000 Value of Work Certified = 1,20,000, Cost of Work uncertified = Rs. 4,000.

Section — IV

7. Form the following data calculate:
    a) Labour Cost Variance
    b) Labour Efficiency Variance
    c) Labour Price Variance
    d) Labour Mix Variance

Workers	Standard		Actual	
	Hours	Wage Rate	Hours	Wage Rate
Skilled	400	8	350	8.80
Unskilled	200	4	250	3.60
Total	600		600	

8. What are the different managerial applications of marginal costing?

Exam Code: 109104   Paper Code: 4234
(100)

Programme: Bachelor of Commerce (Honours)
Semester-IV

Course Title: Fundamentals of Investment Management

Course Code: BCOL-4092

Time Allowed: 3 Hours   **Max Marks: 80**

Note: Candidates are required to attempt five questions, selecting one question from each section (A-D). The fifth question may be attempted from any section. Each question carries 16 marks.

Section- A

1. State the investment decision process. What are the factors to be taken into consideration while taking Investment Decisions?

2. Explain the Characteristics of Investment. Clarify if there will be a trade-off between Risk and Return in Investments.

Section-B

3. Write a note on the followings
   (I) Bond Valuation

(II) Default Risk and Bond Risks

4. What is Credit Rating? Explain the process of Credit Rating.

Section-C

5. Write down the features of efficient Market in detailed.
6. Discuss the discounted cash flow, the cost and comparable approaches of equity valuation.

Section-D

7. Write a note on Portfolio Investment process.
8. Explain the concept of financial Derivatives and also discuss the financial derivative market in India.

Exam Code: 109104   Paper Code: 4235
    (100)

Programme: Bachelor of Commerce (Honours)
Semester-IV

Course Title: Insurance and Risk Management

Course Code: BCOL-4093

Time Allowed: 3 Hours   Max Marks: 80

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 16 marks.

Section- A

1. Define Risk Management. Also discuss the process of risk management.
2. What are the tools/techniques available for identifying the risk?

Section- B

3. Define Insurance. Discuss the importance of Insurance.
4. What is reinsurance? Why reinsurance is needed?

Section- C

5. How claim under motor insurance policy is filed?
6. Discuss the various Health insurance policies available in India.

Section- D

7. What is Premium? What are the factors considered while determining the rate of premium?
8. What are the rights and functions of IRDA?

Exam Code: 109104   Paper Code: 4236

Programme: Bachelor of Commerce (Honours)

Semester: IV

Course Title: Marketing Management

Course Code: BCOL-4094

Time Allowed: 3 Hours   Maximum Marks: 80

Note: Attempt five questions in all, selecting at least one question from each section. Fifth question may be attempted from any section. Each question carries 16 marks.

SECTION-A

1. What is Marketing Environment? Explain in detail how Macro Environment affects the marketing strategies.
2. What do you mean by Consumer Buying Behaviour? Explain the various Factors Influencing Consumer Behaviour.

SECTION –B

3. Highlight the major decisions taken by the marketing manager regarding the product. What are the different categories of product?
4. What is New Product Development? Explain the Process of New Product Development.

SECTION –C

5. Explain the significance of the various Channels of Distribution. What are its main Components?
6. Discuss various sales promotion tools and techniques for consumer sales promotion.

SECTION –D

7. What is Sustainable Marketing? Explain the Need and Importance of Sustainable Marketing. Also discuss briefly Sustainable Marketing Mix.
8. What do you mean by Services Marketing? Explain the Characteristics of Services Marketing. Briefly discuss Challenges of Services Marketing.

Exam Code: 109104   Paper Code: 4237
       (100)

Programme: Bachelor of Commerce (Honours)
                Semester-IV

Course Title: Goods and Services Tax (GST)

Course Code: BCOL-4095

Time Allowed: 3 Hours   Max Marks: 80

Note: Students 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 16 marks.

Section A

1. Discuss various provisions relating to registration of
    taxable person under GST law.
2. Compare different types of GST and discuss in detail
    conditions for their levy?

Section B

3. Explain the concept of supply under GST. What are the
    rules of GST for time and place of supply?

---

4. What do you mean by ITC? Explain the mechanism of ITC in detail.

Section C

5. What are the various provisions of GST for filing the Quarterly, Annually and Final Returns?
6. Discuss reverse charge mechanism in detail.

Section D

7. Write a detailed note on:
   (a) GST Eco-System
   (b) GST Suvidha Provider
8. Discuss the various services available at GST portal.

Exam Code: 108504   Paper Code: 4238
     (50)

Programme: Bachelor of Commerce
Semester-IV

Course Title: Goods and Services Tax

Course Code: BCRL-4093

Time Allowed: 3 Hours   Max Marks: 40

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 (8) marks.

Section A

1. Discuss the various benefits available to Indian economy due to implementation of GST system. State the main features of GST system.

2. "Composition Scheme is framed for the Small Tax Payer". Do you agree? What are the provisions of tax under composition scheme?

Section B

3. "Every person supplying goods or services in India is considered as liable to be registered under GST Act." Do

you agree with this statement? Discuss the various steps for registration.

4. What do you mean by taxable supply? Discuss the principles given in the act to define inter-state and intra-state supply.

Section C

5. Define the concept of electronic payment system of GST. Explain the system of payment of tax through electronic mode.

6. What you mean by ITC? Explain the mechanism of ITC in detail.

Section D

7. What do you mean by GST Suvidha Providers? Also explain the role of GST portal with respect to uploading of tax invoices.

8. What is GSTR? Discuss in brief various types of GSTRs specified under GST regime.

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Exam Code: 108504   **Paper Code: 4239**
(50)

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

Course Title: Industrial Laws

Course Code: BCRL-4094

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

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 8 marks.

Section A

1. Explain the provisions made for the safety of the Workers against the dangerous machines under the Factories Act, 1948.

2. What is meant by Labour Welfare? Describe the provisions of the Factories Act, 1948 regarding the Welfare of labour.

Section B

3. What are the provisions related to strikes and lockouts under the Industrial Disputes Act, 1947?

---

4. What is Trade Unions Act, 1926? What are the duties and liabilities of registered Trade union?

Section C

5. What are the provisions relating to contribution and medical benefits under the Employees State Insurance Act, 1948?

6. What are the functions of the Standing Committee under the Employees State Insurance Act, 1948?

Section D

7. How is the amount of compensation payable to an injured employee calculated under the Workmen Compensation Act, 1923?

8. What are the objectives and features of Workmen Compensation Act, 1923 ? Discuss.

Exam Code: 108504   Paper Code: 4240
         (50)

Programme: Bachelor of Commerce
                Semester-IV

Course Title: Principles and Practices of Banking and
                Insurance

Course Code: BCRL-4095

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 carries 8 marks.

Section A

1. What are the different types of banks? Explain their functions.   8
2. What is the impact of banking reforms on organizational structure of banks with SBI as Model?   8

Section B

3. What are the characteristics and problems of Indian money market?   8

---

4. What is merchant banking? What are the functions of a merchant bank? 8

Section C

5. Define Insurance. What are the functions performed by insurance? 8
6. Discuss the nature and uses of life insurance? 8

Section D

7. Classify the various life insurance policies. Explain any one life insurance policy offered by private life insurance company? 8
8. Write a note on challenges of opening up of insurance sector to private sector in India. 8

Exam Code: 108504   Paper Code: 4241
        (50)

Programme: Bachelor of Commerce
                Semester-IV

Course Title: Cost Accounting

Course Code: BCRL-4096

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. What is Cost Accounting? Explain the scope and advantages of Cost Accounting.
2. Discuss the various material control techniques which can be employed by a manufacturing concern.

SECTION-B

3. Explain the various methods of segregating fixed and variable overhead costs.

4. The three workers A, B and C produced 80, 100, 120 pieces of a product on a particular day in May 2022 in a factory. The time allowed for 10 units of product is 1 hour and their hourly rate is Rs.4. Calculate the following for each of these three workers.
   i) Earnings for the day and
   ii) Effective rate of earnings per hour under
      a) Straight piece rate
      b) Halsey Premium Bonus(50% sharing)
      c) Rowan Premium method of Labour remuneration.

SECTION—C

5. What is reconciliation statement? What are the reasons for the difference in profit as shown in cost accounts and financial accounts.

---

6. Satyam undertook a bridge construction contract from Radhika on 1st April 2022. The contract price was Rs.6,00,000. The following information are available for the year 2022-23.

Purchase of Material	95,000
Material received from stores	25,000
Direct Labour	40,000
Cost of Plant	50,000
Direct Expenses	5,000
Indirect Expenses 25% of Labour paid	-
Cash received from Radhika (80% of work certified)	2,60,000
work Uncertified	30,000
Material in Hand 1-4-2022	5,000
Material in Hand 31-3-2023	10,000
Material returned to stores	6,000
Wages due	10,000
Direct Expenses due	4,000
Depreciation on Plant	20%

Prepare Contract Account and Contractee's Account and show relevant entries in Balance Sheet.

SECTION-D

7. The following information relates to production and sales of an article for January and February:

	January	February
	(Rs.)	(Rs.)
Sales	38,000	65,000
Profit	-	3,000
Loss	2,400	-

Calculate:-

i) Break — even Sales Volume

ii) Profit or Loss at Rs. 46,000 Sales;

iii) Sales to earn a Profit of Rs.5,000

8. Define budgetary control? Explain the process by which the various budgets are prepared.

Paper Code: 4289

(60)

Bachelor of Science (Fashion Designing) Semester-IV
Exam Code-108604
Course Code: BFDM-4231

Bachelor of Vocation (Textile Design and Apparel
Technology) Semester-IV
Exam Code-111204
Course Code: BVTM-4231

Course Title: History of Costumes

Time Allowed: 3 Hours   Max Marks: 50

Note- Attempt five question in all, choosing one question from each section and fifth question from any section. Each question 10 marks.

Section-I

1. Explain the male and female costumes of Mauryan and Sunga period. (10)
2. Explain the female costumes and headdresses of Kushan period. (10)

Section-II

3. Explain the male costumes of British period. (10)

4. Explain the female costumes and headdresses of Mughal period. (10)

Section-III

5. Explain the Male and female costumes of Punjab. (10)

6. Explain the male and female costumes Maharashtra. (10)

Section-IV

7. Explain the Male and female costumes of Egyptian period. (10)

8. Explain the male and female costumes of Assam. (10)

Exam Code: 108604   Paper Code: 4270

Programme: Bachelor of Science (Fashion Designing)

Semester: IV

Course Title: Garment Construction and Draping

Course Code: BFDM-4232

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

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

Section – A

1. What are the various factors that should be considered in the selection of clothing for Infants?
2. Explain the selection of clothing according to social status, occupation, age and season.

Section – B

3. Write the importance of Pattern Alteration.
4. Explain Bodice, Waist, Hip and Sleeve alterations.

Section – C

5. What is Draping? Explain the process of draping.
6. Explain the tools and equipment used in Draping.

Section – D

7. How do we handle special fabrics? Explain.
8. Explain lining and interlining of fabrics.

Exam Code: 108204   Paper Code: 4199
(20)

Programme: Bachelor of Science (Home Science)
Semester-IV

Course Title: Consumer Economics

Course Code: BHSL-4172

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

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

Section-I

1. What is Consumer Education? Explain the need for consumer education.   2,6
2. Discuss salient features of Consumer Protection Act 2019.   8

Section-II

3. What are Consumer Rights? How they can be Practised?   4,4
4. What are Consumer Resposibilities? How consumers can be awared about their responsibilities?   2,6

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Section-III

5. What is Grading? Distinguish between Grading and Standardization.   2,6
6. Define Branding. Also explain advantages of Branding.   2,6

Section-IV

7. What is Advertising? Discuss its objectives and reasons.   2,6
8. What are functions and qualities of an Entrepreneur?   4,4

Exam Code: 108204   Paper Code: 4198
    (20)

Programme: Bachelor of Science (Home Science)
Semester-IV

Course Title: Developmental stages till Old Age

Course Code: BHSL- 4281

Time Allowed: 3 Hours   Max Marks: 40

Note: Students are required to attempt a total of five questions, one question from each section and fifth question can be attempted from any section. Each question carries 8 marks.

Section A

1. Write a note on
   a) Physical changes in puberty   4 marks
   b) Social changes in adolescence   4 marks
2. What is puberty? What are the major problems that teenagers face in puberty?   8 marks

Section B

3. Explain in detail different developmental tasks of adulthood.   8marks

4. Discuss the role of parents in helping their children in the period of adolescence. 8 marks

Section C

5. Explain the role of grandparents in development of Children. 8 marks
6. What are the major physical, psychological and social changes in late adulthood? 8 marks

Section D

7. Write a note on physical and psycho-social aspects of aging. 8 marks
8. What is retirement? Write the advantages and disadvantages of retirement for elderly. 8 marks

Exam Code: 108204   Paper Code: 4204
   (20)

Programme: Bachelor of Science (Home Science)
Semester-IV

Course Title: Applied Chemistry

Course Code: BHSM-4087

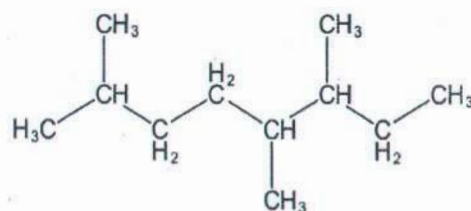**Time Allowed: 3 Hours**   **Max Marks: 30**

Note: Attempt FIVE questions, selecting at least one question from each section A,B,C and D. The fifth question may be attempted from any section. Each question carries 6 marks.

SECTION-I

1. (a) Structures of some hydrocarbons are given below. Explain why the names given in the parenthesis are incorrect and give its correct and IUPAC names? (3)
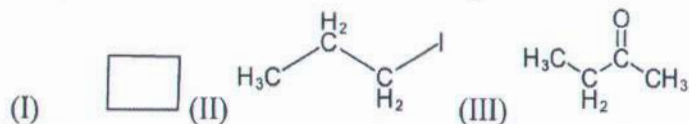

(3,4,7-Trimethyloctane)

(b) Draw the structures of the following compounds: (3)
(I) Cyclopentane
(II) Aniline
(III) Toluene

2. (a) Write IUPAC name of the following: (3)

(I)   (II)   (III)

(b) Draw the structures of the following compounds: (3)
(I) Nitromethane
(II) Styrene
(III) Benzaldehyde

SECTION-II

3. (a) With the help of suitable diagram discuss in detail the cleansing action of soaps. (3)

   (b) Give points of difference between Soap and Detergents? (3)

4. (a) With the help of a suitable reaction explain what is Saponification? (3)
   (b) What are the advantages and disadvantages of detergents over soap? (3)

SECTION-III

5. (a) Write a note on Natural Rubber and Vulcanized Rubber? (3)
   (b) What is Cosmetic chemistry. Give the examples of two most commonly used cosmetics and mention their composition? (3)

6. (a) What is plastics. Give the brief classification of plastics? (3)
   (b) Give a detailed note on essential composition of Cosmetics? (3)

SECTION-IV

7. (a) What are the characteristics of ideal fuel? (3)
   (b) Define Calorific value? (3)

8. (a) Give a short note on "Wood as a fuel for home"? (3)
   (b) Give the composition, properties and uses of LPG? (3)

Exam Code: 108204   Paper Code: 4200
     (20)

Programme: Bachelor of Science (Home Science)
Semester-IV

Course Title: Kitchen Design and its Equipment

Course Code: BHSM-4283

Time Allowed: 3 Hours   Max Marks: 60

Each question carries 12 marks.
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 1

1. Explain types of kitchens with diagram & its principles of planning.
2. Describe work triangle. Explain Kitchen Geometry-work heights and space dimensions for different areas of kitchen.

Section 2

3. a) Explain Equipment & its Classification
   b) Selection, principle, operation, cleaning and care of pressure cooker

4. Selection, principle, operation, cleaning and care of mixer grinder, Juicer & food processor

Section 3

5. a) General characteristics, suitability & care of equipment made of following materials
    1. Iron,
    2. Earthenware
    3. Copper
6. Write suitability and care of kitchen equipment's made of following materials
    1. Stainless Steel
    2. Glass
    3. Nickel and Chromium

Section 4

7. Define finishes. Classify the finishes for Kitchen Equipment.
8. Explain Porcelain Enamel, Synthetic baked Enamel

Exam Code: 108204   Paper Code: 4201
(20)

Programme: Bachelor of Science (Home Science)
Semester-IV

Course Title: Quantity Food Production and Service

Course Code: BHSM-4284

Time Allowed: 3 Hours   Max Marks: 60

Note: The candidates will attempt five questions, selecting at least one question from each section and fifth question may be attempted from any Section. Each question carries equal marks.

Section-A

1. Write down the aims and objectives of institutional/Welfare organizations.   12
2. Discuss the different methods of services in food and beverage outlets.   12

Section-B

3. What is the importance of menu planning? Write down the importance of personal hygiene of food handler in a food service unit.   12

---

4. Write down the process of standardization, portion control and costing of a dish.   12

Section-c

5. What is the importance of sensory and nutritional evaluation in food industry?   12
6. Write down some large quantity cooking techniques with effective use of leftovers.   12

Section-D

7. Elaborate the measures of control for infestation taken by any food industry.   12
8. Write short note on: (2x6=12)
   a) Planning of waste disposal.
   b) Planning of service area

Exam Code: 108204   Paper Code: 4202

Programme: Bachelor of Science (Home Science)
Semester: IV
Course Title: Traditional Embroideries, Textiles and Costumes of India
Course Code: BHSM-4285

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

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

Section A

Q1 Explain
  (a) Why Chikankari is known as the embroidery of nawabs. Explain the fabric, motifs and stitches used in Chikankari.
  (b) Describe the types of stitches used in kasuti. Why is it called cotton embroidery

Q2 Explain
  (a) Why Kantha is known as the poor man's blanket? Explain its socio cultural significance, fabric, motifs and stitches used.
  (b) Explain Phulkari of Punjab.

Section B

Q3 Explain the features of
  (a) Brocades
  (b) Baluchar
  (c) Jamdani

Q4 Explain the unique features and types of Kashmir carpets and Kashmir shawls in detail.

Section C

Q5 Explain the difference between Ikat and Patola. What are different types of Patola?

Q6 Explain
  (a) Why Bandhani is a famous textile?
  (b) Why Pochampalli fabrics have a global appeal?

Section D

Q7 Explain the traditional costumes of Punjab and Bengal

Q8 How are the costumes of Kerala and Rajasthan different from others?

2054   12

Exam Code: 108204   Paper Code: 4203
        (20)

Programme: Bachelor of Science (Home Science)
                    Semester-IV

Course Title: Applied Physics

Course Code: BHSM-4396

Time Allowed: 3 Hours   Max Marks: 30

Note: Attempt FIVE questions, 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. What do you mean by the term 'dispersion of light? Explain with example.   (6)
2. Explain the following:
    (i) Reflection
    (ii) Refraction   (6)

SECTION B

3. Write a detailed note on incandescent lamps.   (6)
4. List down the uses of:
    (i) X-rays
    (ii) Microwaves

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(iii) Radiowaves (6)

SECTION C

5. What are the safety precautions to be obeyed While using electricity? (6)
6. What is a fuse? Why is it considered a safety device? List the types of fuse. (6)

SECTION D

7. Explain in detail the heating effect of current and its uses in household devices. (6)
8. Explain in detail the magnetic effect of current and its uses in an- electric motor. (6)

KMV III (m)
8/5/24

Exam Code: 105704   Paper Code: 4262
     (20)

Programme: Bachelor of Science (Information Technology)
                 Semester-IV

Course Title: Database Management System

Course Code: BITL-4111

Time Allowed: 3 Hours   Max Marks: 60

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 contains equal marks.

Section A

1. What do you mean by Database Management System? Explain three-level architecture of database system and Why we need mapping between the levels?   (12)

2. (a) Explain Relational Model. How Relational Model is different from Hierarchical Model and Network Model.
                                                                    (08)

    (b) Explain the different keys used in a relational system.   (04)

Section B

3. Discuss in detail the Entity Relationship model with the help of suitable example. (12)

4. Write the short note on:
   a) Codd's Rules
   b) Relational Algebra (6X2)

Section C

5. What is Normalization? Explain 3NF with example. How are the anomalies of the 2NF removed in 3NF? (12)

6. Explain in brief
   (a) ACID properties
   (b) Recovery of database (6X2)

Section D

7. (a)What are Joins? Explain various types of joins with the suitable example.
   (b) Explain different Built-in Functions. (6X2)

8. Discuss
   (a) Views and Sequence
   (b) NoSQL (6X2)

Exam Code: 105704　　　　　　**Paper Code: 4263**

Programme: Bachelor of Science

(Information Technology) Semester: IV

Course Title: Data Structures

Course Code: BITL-4112

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

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

Section A

Q1: Define the term Data Structure. Explain its various types.　(12)
Q2: Using Linear search and Binary search methods, find the·location of an element 55. Also write complexities of these two algorithms.　99, 11, 33, 88, 22, 55, 77　　　　(12)

Section B

Q3: Explain types of hash function with examples.　(12)
Q4: a) Compare one way linked list with two way linked list.　(6)
　　b) Write advantages of linked list over array.　(6)

Section C

Q5: Write Quicksort algorithm and apply it to sort the following elements in ascending order.
　　　　　100, 90, 80, 70, 60, 50, 40, 30, 20, 10　　(12)
Q6: a) Write differences between Stack and Queue.　(4)
　　b) What are various ways to represent priority queue in memory?　(8)

Section D

Q7: Explain Inorder traversal of binary tree with the help of example.　(12)
Q8: Write a note on the following　　　　(3*4 = 12)
　　a)　　DFS Vs BFS
　　b)　　Adjacency list
　　c)　　Graph Vs Tree

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Exam Code: 105704   Paper Code: 4264
(20)

**Programme: Bachelor of Science (Information Technology)
Semester-IV**

Course Title: Object Oriented Programming-II

Course Code: BITL-4113

Time Allowed: 3 Hours   Max Marks: 60

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 of equal marks (12 Mark).

Section A

1. (a) Java is secure, platform-dependent and robust. Explain the features of java that make it support this statement. (6)
   (b) What are Class and Objects? How to create class and object with example? (6)
2. How to declare string? How to compare and Concatenate the strings and also explain string tokenizer. (12)

Section B

3. What are Packages? What are the advantages of using packages and also Explain the process of importing packages in a class. (12)

4. (a) What is Inheritance? Explain different types of Inheritance. (6)

   (b) What is Polymorphism? Explain Runtime polymorphism with example. (6)

Section C

5. How Exception Handling is done in Java? Explain Exception Handling with try-catch block. (12)

6. What is thread? How to creating a thread, sleeping a thread and thread priority done in Java? (12)

Section D

7. Explain Buffered input & output stream and JDBC in detail. (12)

8. Explain JDBC drivers, steps to connect to the database, connectivity with MYSQL. (12)

Exam Code: 105704   Paper Code: 4265
        (20)

Programme: Bachelor of Science (Information Technology)
                        Semester-IV

                    Course Title: E-Business

                    Course Code: BITL-4114

Time Allowed: 3 Hours   Max Marks: 60

Note-Attempt five questions in all, selecting one question from each section. Fifth can be attempted from any section. Each question carries equal (12) marks.

SECTION- A

1. What do you mean by E-commerce? What are its types? What is it's importance for customer and business?
2. (a) Explain the importance and benefits of E-commerce?
    (b) Explain e-commerce business model with example?

SECTION- B

3. Compare the EDI With traditional system? Discuss the implementation issues of EDI?
4. What is VANs and internet as promoters of E-commerce?

SECTION- C

5. What are the security issues in online transactions? What are the steps/ precautions For secure online transaction?

6. What is electronic cash? How it is different from paper cash? What are the risk and legal issues in electronic cash?

SECTION- D

7. What is BPR? Discuss the methodology and planning methods for change to EC/EDI?

8. Discuss the case studies of E-commerce in E-Governance?

Exam Code: 108704   Paper Code: 4140
        (20)

Programme: Bachelor of Arts (Journalism & Mass Communication)
Semester-IV

Course Title: Media: Business Communication

Course Code: BJML-4311

Time Allowed: 3 Hours   Max Marks: 60

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

Section-I

1. What do you mean by Communication? Explain its functions in a Business Organisation.
2. Explain Process of Business Communication with suitable diagram.

Section-II

3. Discuss the term Mass Communication in detail.
4. What do you know about verbal and non-verbal communication? Explain its significance in any business house.

Section-III

5. What is Letter writing? Discuss various important Principles of Letter writing.
6. Which are the various things should be kept in mind while preparing a good resume?

Section-IV

7. Why manners and Etiquettes are required in any profession?
8. How Communication can help in crisis management of any organisation?

Exam Code: 108704   Paper Code: 4141
         (20)

**Programme: Bachelor of Arts (Journalism and Mass
              Communication) Semester-IV**

Course Title: Programme Formats: Radio and TV

Course Code: BJML-4312

Time Allowed: 3 Hours   Max Marks: 60

Candidates are required to attempt five questions,
selecting at least 1 question from each section. The fifth
question may be attempted from any section. Each
question is of 12 marks.

Section -I

1. What are the basic fundamentals of writing for Radio?
2. Discuss the following in detail:
   (a) Radio News
   (b) Phone in Programme

Section - II

3. What are the basic concepts of good radio
   presentation?
4. Discuss the following in detail:
   (a) Pronunciation
   (b)Voice Culture

Section - III

5. Discuss the role of radio in information and education?
6. What is the importance of knowing and understanding the listeners while presenting radio programmes?

Section -IV

7. What are the basic fundamentals of writing for Television?
8. Discuss Television Programme Production process in detail.

Exam Code: 108704   Paper Code: 4142
        (20)

Programme: Bachelor of Arts (Journalism & Mass Communication)
Semester-IV

Course Title: Video Production: Idea to Screen

Course Code: BJML-4313

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

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 will carry twelve marks.

Section A

1. Discuss in detail the various types of video' cameras?
2. Discuss in detail the various types of lenses and their applications.

Section B

3. What is the importance of research in the preproduction stage of video production'?
4. Describe in detail the concept and role of storyboard in video production.

Section C

5. Discuss in detail the meaning and rules of video editing?
6. Director is the captain of the ship. Comment.

Section D

7. What is the role of field testing during the initial stage of production?
8. Discuss the role of preview and analysis of the programme.

Exam Code: 108704
(20)

Paper Code: 4143

Programme: Bachelor of Arts
(Journalism and Mass Communication) Semester-IV

Course Title: Folk Media

Course Code: BJML-4314

Time Allowed: 3 Hours

Max Marks: 60

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 is of 12 marks.

Section A

1. What are the important folk media forms in india?
2. What is folk media and how is it relevant in the age of modern media?

Section B

3. Write short notes on the importance of the following:
   a) Ramlila
   b) Story telling
   c) Ballad
4. Discuss the role of nautanki and street theatre as folk media in communication.

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Section C

5. Discuss the areas of conflict and compromise while using folk media in delivering modern messages.
6. How the folk and mass media can be integrated together effectively?

Section D

7. Write in detail about various forms of Punjabi Folk.
8. Discuss the role of various units of Ministry of I & B. in integrating folk and modern media.

Exam Code: 108704
(20)

Paper Code: 4144

Programme: Bachelor of Arts (Journalism and Mass Communication) Semester-IV

Course Title: Advertising: Concepts and Principles

Course Code: BJML-4315

Time Allowed: 3 Hours

Max Marks: 60

Note: Attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any Section. Each question carries 12 marks

Section-I

1. What do you mean by the concept of Advertising? Explain its growth in India

2. Discuss Advertising as an act of Commerce and a Hidden Persuader.

Section-II

3. Discuss the relationship between Advertising and Marketing.

4. Which are the various Functions of Advertising? Discuss with suitable examples.

Section-III

5. Explain any 7 types of ads with suitable examples?
6. Discuss the scenario of advertising at Regional and National levels.

Section-IV

7. Explain Advertising as a tool of Communication. also highlight the AIDA Model.
8. Comment upon the role of advertising in society and economy.

Exam Code: 107504
(30)

Paper Code: 4145

**Programme: Bachelor of Arts (Honours) English
Semester-IV**

Course Title: Elements of Novel-II

Course Code: BOEL-4211

Time Allowed: 3 Hours

Max Marks: 40

Section-A

I. **Attempt any 4 questions in about 100 words each
Each question carries 4 marks   (4*4=16)**

1. a) Who is Di Maggio?
    Or
    b) Who is Manolin?
2. a) What were the last words of Captain Vere?
    Or
    b) Who warns Billy against Claggart?
3. a) Who is Hugo?
    Or
    b) Who rescues and protects Edward whenever he is in trouble?

---

4. a) Explain Onomatopoeia. "

   Or

   b) Explain Narrative Technique.

Section-B

II.   Attempt any 1 question in about 600 words

(1*8=8)

5. Write a character sketch of Santiago.
6. Discuss Santiago- Manolin relationship.

Section C

III.   Attempt any 1 question in about 600 words

(1*8=8)

7. Write a character sketch of Captain Vere.
8. Why is Billy Budd hanged to death?

Section D

IV.   Attempt any 1 question in about 600 words

(1*8=8)

9. Write a character sketch of Edward.
10. Write a character sketch of Tom Canty.

Exam Code: 107504   Paper Code: 4146
(30)

**Programme: Bachelor of Arts (Honours) English
Semester-IV**

**Course Title: English Drama: Jacobean Period to 19th
Century**

Course Code: BOEL-4212

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

Section-A

1. **Note: Attempt the following questions in about 100 words
   each. Each question carries 4 marks**

   (A) Discuss the significance of the opening of The Duchess
   of Malfi.

   Or

   Comment on the role of Ferdinand in The Duchess of Malfi.

   (B) Discuss the title of She Stoops to Conquer

   Or

   Discuss the role of Constance in She Stoops to Conquer

   (C) Discuss the significance of' the title of The Rivals

   Or

   Comment on the role of Mrs. Malaprop in The Rivals

   (D) Write a note on: Comedy of Manners

   Or

Three Classical Unities   (4x4=16 Marks)

Section-B

Note: Attempt the following question in about 600 words.

(1x8=8 Marks)

2. Discuss The Duchess of Malfi as a Tragedy.

    Or

    Discuss the character of The Duchess of Malfi.

Section-C

Note: Attempt the following question in about 600 words.

(1x8=8 Marks)

3. Discuss the theme of Goldsmith's She Stoops to conquer?

    Or

    Is She Stoops to Conquer a comedy of Manners?

Note : Attempt the following question in about 600 words.

(1x8=8 Marks)

4. Write about the relationship between Faulkland and Julai in The Rivals.

    or

5. Discuss the character of Captain Jack Absolute in The Rivals.

Exam Code: 107504   Paper Code: 4147
(30)

**Programme: Bachelor of Arts (Honours) English
Semester-IV**

Course Title: Victorian Poetry

Course Code: BOEL-4213

Time Allowed: 3 Hours   Max Marks: 40

Section-A

**Note: Attempt the following questions in about 100 words
each. Each question carries 4 marks.**

(4x4=16 Marks)

1. How does the theme of Isolation appear in "The Lady of
   Shallot" ?
   or
   Explain the phrase "For always roaming with a hungry
   heart" from Tennyson's "Ulysses".
2. What is the theme of Browning's "Porphyria's Lover" ?
   or
   What does the poem "My Last Duchess " suggest about
   the Duke's attitude towards women?

---

3. What is the significance of the allusion of Sophocles in the poem "Dover Beach".

or

Briefly summarise the poem " Growing Old" by Matthew Arnold.

4. Define the term Imagery.

Or

Define the term Dramatic Monologue.

Section-B

II. Attempt any one of the following in 600 words.

(1x8=8Marks)

5. Critically analyse Ternnyson's poem "Tithonus". Also comment on its theme.

or

6. Critically analyse Tennyson's poem "Crossing the Bar". Also throw light on symbolism used in the poem.

Section-C

III. Attempt any one of the following in 600 words

(1x8=8Marks)

7. Discuss Robert Browning as a Love poet with special reference to his poem "Meeting at Night.

or

8. Critically analyse the poem "Pippa's Song" by Robert Browning.

Section-D

IV. Attempt any one of the following in 600 words

(1x8=8Marks)

9. How does Matthew Arnold's poem "Growing Old portray old age? Give a brief critical appreciation of the poem.

or

10. Write a critical appreciation of the poem "My Last Word" by Matthew Arnold.

Exam Code: 107504   Paper Code: 4148
      (30)

Programme: Bachelor of Arts (Honours) English
                Semester-IV

Course Title: Indian Poetry and Drama

Course Code: BOEL-4214

Time Allowed: 3 Hours   Max Marks: 40

Section-A

Answer in 100 words.

1. Write a note on the introduction of copper currency?
    Or
    What is the Irony in the play Tughlaq?
2. Explain the term Melodrama and why is it so called?
    Or
    What do you mean by Catharsis?
3. Write the Central idea of "Leave the Chanting & Signing"
    Or
    Write the critical appreciation of" Prisoner, tell me, who was it.
4. Write about the character of Uma in Seven steps around the fire?
    Or

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Write a note on how the police are puppets in the hands of powerful?

Attempt one question each from B,C,D in 600 Words

Section-B

5. Discuss Tagore as a mystic poet in reference to the poems prescribed in Gitanjali

   Or

6. Discuss Tagore's communion with nature.

Section-C

7. Discuss the symbolism in the play Tughlaq.

   Or

8. Karnard projects humanism and idealism of Tughlaq. Do you agree?

Section —D

9. Seven steps around the fire is a social realism of India. Do you agree?

   Or

10. Write a detailed note on the character portrayal in Mahesh Dattanis " Seven steps around the fire"

Exam Code: 107504   Paper Code: 4149
    (30)

Programme: Bachelor of Arts (Honours) English
Semester-IV

Course Title: American Poetry and Drama

Course Code: BOEL-4215

Time Allowed: 3 Hours   Max Marks: 40

Section- A

Note: - Answer the questions in 100 words each. Each question carries four marks.

1. a) Do you think, the horse was supporting the idea of his master of staying in woods in the poem 'Stopping by Woods on a Snowy Evening'?

    OR

    b) What is the significance of the title of poem 'The Gift Outright'?

2. a) Give a brief character sketch of Seth from the play Mourning Becomes Electra?

    OR

    b) Discuss Mourning Becomes Electra as a modern tragedy.

3. a) Whose horoscope was Frank Lubey making in the beginning of the play All my Sons.

OR

b) Discuss in brief character of George from the play All my Sons.

4.   a) Elaborate the term Imagery.

OR

b) Elaborate the term Psychological Drama.

Section- B

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

5.   a) Give a critique of the poem "Home Burial".

OR

b) Discuss in detail themes of the poem, 'The Gift Outright'.   (1x8=8)

Section- C

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

6.   a) So I was born of your disgus!
In the light of above said quote, discuss the character of Lavinia.

OR

b) What are major themes of the play Mourning Becomes Electra?   (1x8=8)

Section- D

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

7.   a) Give character analysis of Chris Keller from the play All my Sons

OR

b) Is the play All my Sons a criticism of American Society? (1x8=8)

Exam Code: 107504   Paper Code: 4150
        (30)

Programme: Bachelor of Arts (Honours) English
                Semester-IV

Course Title: History of England (1853-1914)

Course Code: BOEL-4276

Time Allowed: 3 Hours   Max Marks: 40

Section A comprised 6 questions. Each question shall carry 4 marks and will have to be answered in 100 Words approximately (4*4=16).
Sections B, C and D comprised of 2 questions each. The candidates will have to attempt 1 question from each section. Each question shall carry 8 marks and will have to be answered in 600 words approximately (3*8=24).

Section A

1. a) Lord Ripon was considered as best Viceroy of Colonial India during the Gladstone period. Discuss.
    b) What were the views expressed by Christian Socialist thinkers?
    c) What were the important features of Disraeli's Reform Act of 1867?
    e) In the wake of the 1857 revolt, what changes had been brought by the Palmerstone government to control India?

---

e. What were the different reasons for Britain's splendid isolation between 1898-1902?

f. Describe the various social reforms undertaken by the liberal government between 1906-1914.   4 Marks

Section B

2. Gladstone's domestic policy was the climax of liberalisation. Discuss reforms of Gladstone in the domestic field.

3. How did foreign and imperial problems between 1895-1905 affect the internal politics in Britain?

                                        8 Marks(Each)

Section C

4. Discuss the importance of the Trade Union Dispute Act of 1906 and the Political Levy Act of 1913.

5. Do you agree that economic and educational reform in the second half of the nineteenth century in the colonies by the British government brought stability?

Section D

6. Describe the constitutional crisis that ensued between 1910-1914 which led to civil unrest in Britain.

7. Was it true to say that British expansion during 1880-1914 was concentrated more in Africa than in any other country?

Exam Code: 107504　　　　　　　　　Paper Code: 4151
　　　　(30)

Programme: Bachelor of Arts (Honours) English
　　　　　　　Semester-IV

Course Title: Social Change in India-B

Course Code: BOEL-4477

Time Allowed: 3 Hours　　　　　　　Max Marks: 40

Note: 1) There are Four Sections — A, B, C and D.
2) In section A attempt Four questions selecting one from
each Unit and fourth can be done from any Unit
3) In section B, C, D Attempt one question from each
section.

Section A

Unit I

1.
(a) What is Social Stratification. How has Caste stratified
the Indian society?

OR

(b) Define Social mobility and give its types ?　　　　4

Unit II

2.
(a) Explain the concept of Female foeticide. How it can be
stopped?

OR

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(b)   What is Domestic Violence. How can it be checked ?

4

Unit III

3.
(a)   What is the meaning of Deviance?

OR

(b)   Explain the various forms of Deviance?   4

Section B

4.   Is the institution of Caste changing in India ?

OR

Explain the concept or Gender as a Social construct?

8

Section C

5.   Discuss the meaning of Domestic violence?

OR

Explain the issues of Dowry and Divorce in detail?   8

Section D

6.   What is Social disorganization. Explain in detail the concept of Deviance?

OR   Elaborate how Deviance is a factor responsible for society being disorganized?   8

LIBRARY -
KMV-II [N.S.B]
MOR- 8/5/24

Exam Code: 112414   Paper Code: 4205
      (30)

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

Course Title: Vector Calculus

Course Code: BOML-4331

Time Allowed: 3 Hours   Max Marks: 80

Note: Attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any section. Each question carry equal marks.(16 marks each)

Section A

Q1. (a) If a, b, c and d are four vectors, show that $[(a \times b) \times (a \times c)].d = (a.d)[a,b,c]$.

(b) Prove that the derivative of a vector of constant magnitude is perpendicular to the vector.

[8 X 2=16]

Q2. (a) Calculate the angle between the surfaces $x^2 + y^2 + z^2 = 9$ and $x^2 + y^2 - 3 = z$ at the point $(2, -1, 2)$.

(b) Find the maximum value of directional derivative of $f = x^2z + xy^2 + yz^2$ in the direction of vector at the point $(1, 3, 2)$. Also find the direction in which it occurs.   [8 X 2=16]

Section B

Q3. (a) Is $\nabla^2 \left(\frac{1}{r}\right) = 0$, where the symbols have the usual meaning. Justify your answer.

(b) Check whether $curl\ curl\ \vec{v} = grad\ div\ \vec{v} - \nabla^2\vec{v}$ or not.   [8X2=16]

Q4. (a) Show that divergence of $\vec{g} \times \vec{r} = 0$ if $\nabla \times \vec{g} = \vec{0}$.

(b) Check whether the vector $3y^2z^2\ \hat{\imath} + 4x^2z^2\hat{\jmath} + 3x^2y^2\ \hat{k}$ is solenoidal or not.   [8X2=16]

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Section C

Q5. (a) If $\vec{g} = 2y\,\hat{\imath} - 2\hat{\jmath} + x\hat{k}$, evaluate $\oint_C \vec{g} \times \overrightarrow{dr}$, along the curve $x = \cos\theta, y = \sin\theta, z = 2\cos\theta\ from\ \theta = 0\ to\ \frac{\pi}{2}$.

(b) Express Laplacian operator of any $\vec{A}$ in orthogonal coordinates. [8 X 2=16]

Q6. (a) Verify Green's theorem in plane for $\oint_C (3x^2 - 8y^2)dx + (4y - 6xy)dy$, around the boundary C of the region enclosed by $x^2 = y\ and\ \sqrt{x} = y$.

(b) Find the circulation of $\vec{f} = y\,\hat{\imath} + z\,\hat{\jmath} + x\,\hat{k}$ along the circle in the xy plane $x^2 + y^2 = 1,\ \ z = 0$.

[8 X 2=16]

Section D

Q7. Verify Stoke's Theorem for a vector field defined by $\vec{F} = (xy)\,\hat{\imath} + xy^2\,\hat{\jmath}$, over the square with vertices $(1,0)\,,(-1,0),(0,1),\ (0,-1)$. [16]

Q8. (a) State and prove Gauss Divergence Theorem.

(b) Verify Gauss Divergence Theorem for the vector $\vec{A} = x\hat{\imath} + y\hat{\jmath} + z\hat{k}$ over the region bounded by $x^2 + y^2 + z^2 = 9$. [8 X 2=16]

Exam Code: 112414   Paper Code: 4206
(30)

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

Course Title: Partial Differential Equations

Course Code: BOML-4332

Time Allowed: 3 Hours   Max Marks: 80

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

Section A

1. (a) Find the partial differential equation of all planes at a distance a 8

   from the origin.

   (b) Find the general solution of the linear partial differential equation   8

   $y^2 p - xyq = x(z - 2y)$.

2 (a) Prove that general solution of lagrange's first order linear partial   8

   differential equation $Pp + Qq = R$ is $F(u, v) = 0$.

(b) Find the general solution of the linear partial differential equation

$(x + 2z)p + (4zx - y)q = 2x^2 + y.$

<div align="center">Section B</div> 8

3. (a) Find the complete integral of the equation

$$p^2x + q^2y = z$$ 8

(b) Find the integral surface of the linear partial differential equation

$$x(y^2 + z)p - y(x^2 + z)q = (x^2 - y^2)z$$ 8

which contains the straight line $x + y = 0, z = 1.$

4. (a) Find the characteristics of the equation $pq = z$, and determine 8

the integral surface which passes through the parabola $x = 0, y^2 = z.$

(b) Solve $(2D^2 - 5DD' + 2D'^2)z = 24(y - x)$ 8

<div align="center">Section C</div>

5. (a) Solve $(D^2 - D'^2 - 3D')z = e^{x+2y}$ 8

(b) Solve $(D - D'^2)z = \cos(x - 3y)$ 8

6. (a) Solve $x^2D^2 - y^2D'^2 + Dx - D'y = \log x$ 8

(b) Solve $p + s - q = xy$ 8

<div align="center">Section D</div>

8

7 (a) Solve $t + s + q = 0$

(b) Show that a surface of revolution satisfying the differential $r =$

$12x^2 + 4y^2$ and touching the plane $z = 0$ is $z = (x^2 + y^2)^2.$ 8

8.(a) Classify

8

$$u_{xx} + 2u_{yy} + u_{zz} = 2u_{xy} + 2u_{yz}$$

8

(b) Solve $rx = (n - 1)p$

Exam Code: 112414   Paper Code: 4207
     (30)

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

Course Title: Group Theory

Course Code: BOML-4333

Time Allowed: 3 Hours   **Max Marks: 80**

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 marks.

Section-A

1. a. Show that $\frac{n(n^2+2)}{3}$ is an integer for all $n \in N$ 5

    b. Use the Euclidean Algorithm to find integers x and y such that g.c.d (1769, 2378)=1769x=2378y   8

    c. Prove that lcm [a,b]=|b| if a|b for non-zero integers a and b   3

2. a. State and prove fundamental theorem of Arithmetic.   8

    b. show that the Relation R in the set A $=\{x \in Z : D \le x \le 12\}_9$ given by R = $\{ (a,b) : |a - b|$ is multiple of 4 $\}$

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is an equivalence relation. Find the set of all elements related to 1   8

Section-B

3. a. Prove that the set Q^+ of positive rationals is a group under ordinary multiplication.   6

    b. If G is a group then every $a \in G$ has unique inverse in G   5

    c. Let $H = \{a + bi : a, b \in R, a^2 + b^2 = 1\}$. Prove or Disprove that H is subgroup of group of non- zero complex numbers C* under multiplication. Describe the elements of H geometrically   5

4. a. A non empty subset H of a group G is a subgroup of G iff $ab^{-1} \in H \forall a, b \in H$.   10

    b. Let x and y belong to group G. if $x\,y \in (G)$, Prove that $xy = yx$.   6

Section-C

5. a. if H and K are two subgroup of a group G, them HK is a subgroup of G iff HK = KH   10

    b. Show that the set $H= \left\{ \begin{bmatrix} a & b \\ c & d \end{bmatrix} : a, b, c, d \in R \text{ stad} - bc = 1 \right\}$ is normal subgroup of the group

    $G = \left\{ \begin{bmatrix} a & b \\ c & d \end{bmatrix} : a, b, c, d \in R \text{ such that } ad - bc \neq 0 \right\}$ 6

---

6. a. Find all generators of Z_6 w.r.t. addition modula 6.

   4

   b. Prove that every subgroup of a cyclic group is cyclic.

   8

   c. Prove that a factor group of an abelian group is abelian.

   4

Section-D

7. a. if $\alpha=$ (1 2) (4 5), and $\beta = (1\,6\,5\,3\,2)$ then compute
   each of the following (a) α^{-1} (b) $\beta\,\alpha$ (c) $\alpha\,\beta$ 8
   b. if the pair of cycles $\alpha =(a_1\,a_2\,\dots\dots\dots a_m)$ and β
   $=(b_1\,b_2\,\dots\dots\dots b_n)$ have no entries in common, then
   $\alpha\,\beta = \beta\,\alpha$.   8

8. a. Prove that every permutation in S_n, n>1, is a product of
   2- cycles   8
   b. Define alternating group A_n Prove that A_n has order $\frac{n}{2}$
   for n>1.   8

Exam Code: 112414   Paper Code: 4208
     (30)

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

Course Title: Statistical Methods

Course Code: BOMM-4334

Time Allowed: 3 Hours   Max Marks: 50

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 equal marks. Students are allowed to use statistical Tables and a simple non programmable and no-storage calculator

Section -A

Q-1 (a) State and prove all the properties of Karl Pearson Coefficient of Correlation

(b) For two random variables X and Y with common mean , the two regression lines are y=ax+b and X= CY +d. Show that b/d =1-a/1-c   (5,5)

Q-2 Obtain the equation of two lines of regression for the following data

X: 65 66 67 67 68 69 70 72

Y: 67 68 65 68 72 72 69 71   10

Section-B

Q-3 (a) If X_1 and X_2 are two independent χ^2 variates with n_1 and n_2 degrees of freedom respectively

Then Prove that $\frac{X_1}{X_2}$ is a β_2 $(\frac{n_1}{2}, \frac{n_2}{2})$ variate

(b) Derive limiting form of t- Distribution for large degrees of freedom   (5,5)

Q-4 (a) if F~F (n_1, n_2) distribution .If $n_2 \to \infty$, then show that $\chi^2 = n_2 F$ follows chi- square distribution *with* n_1 degrees of freedom

(b) State all the properties of t-distribution and prove that m.g.f of t-distribution does not exist (5,5)

Section-C

Q-5 (a) Explain in detail one tailed and two tailed test for Z- test with the help of example and diagram.

(b) A machine put out 20 imperfect articles in a samplr of 600. After the machine is overhauled, it puts out 6 imperfect articles in a batch of 200. Has the machine been improved? (5,5)

Q-6 a) Show how you would use student's t-test to decide whether the two sets of observations:

17   27   18   25   27   29   27   23   17

And 16   16   20   16   20   17   15   21

Indicate that samples drawn from the same universe.

b) A certain drug was given to each of the 10 patients which resulted in a following decrease in blood pressure:

8, 5, 7, 10 ,-1, 0 ,4, 6 ,12, 11

Can we conclude that the drug be used for controlling blood pressures (5,5)

Section-D

Q- 7 A survey of 800 families with four children each revealed the following distribution:

No. of Boys	0	1	2	3	4
No. of Girls	4	3	2	1	0
No. of families	32	178	290	236	64

Test the fitness of Binomial distribution given that male and female births are equally probable.   10

Q-8 a) Show that for a 2×2 contingency table:

a	b
c	d

The value of χ^2 for testing independence of attribute is $\dfrac{(a+b+c+d)(ad-bc)^2}{(a+b)(c+d)(a+c)(b+d)}$

Q -8 (b)Define F-Statistics. Write down its sampling distribution:Two independent samples of 8 and 7 items are given below:

Sample I	39	41	43	41	45	39	42	44
Sample II	40	42	40	44	39	38	40	

Do the population variance differs significantly. Test at 5% level of significance   (5,5)

Exam Code: 112414   Paper Code: 4209
(30)

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

Course Title: Foundation of Statistical Computing

Course Code: BOMM-4135

Time Allowed: 3 Hours   **Max Marks: 50**

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

Section-A

1. What are vectors in R? Explain in detail various vector operations available in R.   10

2. Discuss the usage of lists in R. Write R script to create a list with three different objects; a vector, a matrix and a data frame. Print all the elements of the created list. Also, merge the list elements and print them.   10

Section —B

3. Which matrix operations are applicable to data frames? Explain with examples.   10

4. How strings are manipulated in R? Explain any five string functions for creation and modifications of strings in R. 10

Section- C

5. a) Differentiate between read.csv() and Write.csv() functions in R. 5

   b) Create a user defined function fact(i) that returns the factorial of i using functions. 5

6. Discuss the control structures with looping statements in R giving suitable examples. 10

Section-D

7. Describe scatter plot and Box plot available in R to visualize the data. Also, explain the purpose of each plot. 10

8. What are the different ways to customize a plot in R? Write R script to create a legend that explains different box types and customizes it using graphical parameters. 10

LIBRARY
KMV-II [N.S.B]

Exam Code: 103304   Paper Code: 4189
        (30)
                            MoR-16-05-24

Programme: Bachelor of Science
            Semester-IV

Course Title: Botany (Diversity of Seed Plants and their
                    Systematics-I)

Course Code: BSMM-4075 (I)

Time Allowed: 3 Hours   Max Marks: 30

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

Section A

1. Write a note on distinguishing features of Angiosperms.
                                                    (6)

2. Discuss the origin and evolution of Angiosperms.
                                                    (6)

Section B

3. Write illustrated note on fossil gymnosperms.
                                                    (6)

4. Define geological time scale.
                                                    (6)

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Section C

5. Discuss in detail about the male gametophyte of Cycas.

(6)

6. Draw neat and labelled diagrams to explain the life cycle of Pinus. (6)

Section D

7. Draw diagrammatic life cycle of Ephedra. (6)

8. Give details of morphology and reproductive parts of Ginkgo. (6)

Exam Code: 103304   Paper Code: 4190
     (30)

Programme: Bachelor of Science Semester-IV

Course Title: Botany (Diversity of Seed Plants and their
Systematics-II)

Course Code: BSMM-4075 (II)

Time Allowed: 3 Hours   Max Marks: 30

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 equal 6 marks.

Section A

1. Describe following terms:
    a. Taxonomic literature
    b. Aims and Objectives of taxonomy   3x2=6
2. Describe. different keys use in identification of plants.
                                                        6

Section B

3. Give an outline of Bentham and Hooker system of
    classification and discuss its merits and demerits.   6

4. What is phytochemistry? Discuss the role of phytochemistry in plant taxonomy. 6

Section C

5. Write a note on diversity of flowering. plants and their characteristics of family Apiaceae. 6
6. Distinguish between the following :
   (a) Ranunculaceae and Brassicaceae by their gynoecium.
   (b) Caesalpinoideae and Papilionoideae (Faboideae) on the basis of corolla and stamens only. 3X2=6

Section D

7. Give a comparative account of Liliaceae and Chenopodiaceae. 6
8. Give an account of characteristics of family Euphobiaceae. 6

Paper Code: 4185

Programme	Exam Code	Course Code
Bachelor of Science (Medical)	103304	BSMM-4084 (I)
Bachelor of Science (Non-Medical)	103304	BSNM-4084 (I)

Semester-IV

Course Title: Chemistry (Inorganic Chemistry)

(70)

Time Allowed: 3 Hours   Max Marks: 30

Note: Candidates are required to attempt any five questions in all selecting one question from each section. The fifth question may be attempted from any section.

Section- A

1. (a) Does the following compounds follow the EAN rule ?

    (i) $NiCO_4$

    (ii) $[Pd(NH_3)_4]^{4+}$ (3)

    (b) Describe the bonding in $[Fe(CN)_6]^{3-}$ and $[Fe(H2O)_6]^{3+}$.

    (3)

2. (a) Describe in detail the chemistry of liquid Sulphur dioxide as a solvent.   (3)

    (b) Discuss the following reactions in liquid ammonia:

    (i) acid-base reactions

(ii) complex reactions (3)

Section-B

3. (a) What is Frost diagram. Explain in detail. (3)

    (b) What do you understand by redox stability in Water? (3)

4. (a) Calculate the magnetic moment of Dy^{3+} with outer electronic configuration $4f^9 6s^0$. (3)

    (b) What is Lanthanide contraction? What are its consequences? (3)

Section-C

5. (a) How does Lanthanides are Actinides differ from each other? (3)

    (b) How will you account for the colour in case of Actinides. (3)

6. (a) Give synthesis of Californium and Neptunium. (3)

    (b) How will you separate Np, Pu and Am from Uranium? Discuss the basics of separation of these elements from Uranium. (3)

Section-D

7. (a) Give the role of sodium-potassium pump in biological system. (3)

    (b) What is Cooperativity effect in Hb? (3)

8. (a) What are trace elements. Give their role in the biological systems with examples. (2)

    (b) Give the structure and biological role of Haemoglobin and Myoglobin. (4)

Exam Code: 103304   Paper Code: 4191

Programme: Bachelor of Science (Semester – IV)

Course Title: Food Science and Quality Control

(Vocational) (Quality Assurance)

Course Code: BSMM-4255

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 12 marks.

Section- A

Question 1. Discuss the importance of various manufacturing techniques of various food products.

Question 2. What are the major microbial quality control tests for food products, discuss in detail.

Section- B

Question 3. Explain in detail the quality testing methods in fruits and vegetable products.

Question 4. Describe in detail about color properties of food products and discuss about equipments used for testing of color properties.

Section- C

Question 5. Discuss in detail the importance of food sampling. What are the major sampling methods used in food industries.

Question 6. Discuss the nine point hedonic scale method used in sensory analysis of food products.

Section- D

Question 7. Explain the role of GMP in food safety and analysis.

Question 8. Discuss about FPO, AGMARK and FSSAI in detail.

Exam Code: 103304   Paper Code: 4184
   (30)

Programme: Bachelor of Science
Semester-IV

Course Title: Microbiology (Microbial Ecology)

Course Code: BSMM-4343

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

Note:- Attempt five questions in all, selecting one question from each of the four sections (A-D).The fifth question may be attempted from any section. All questions carry equal marks.

Section A

1. a. Differentiate between an ecological niche and a habitat.   6

   b. Explain how physical factors effect the diversity of microbes in a specific environment.   6

2. a. Along with examples explain how microorganisms are able to survive in aquatic habitat.   6

   b. Discuss the different type of microorganisms present in terrestrial environments.   6

Section B

3. a. Explain why some microorganisms require oxygen for survival in nature.   6

---

b. Giving examples explain the following terms: antagonism, commensalism. 6

4. a. Briefly discuss how microorganisms compete with one other for nutrients and space for survival in nature. 6

b. Write a short note on 'parasitism'. 6

Section C

5. a. Discuss in detail the role of microorganisms in Nitrogen cycle. 6

b. Giving examples explain how microbial toxins can be used as insecticidal agents. 6

6. a. Briefly explain the phosphorous cycle . 6

b. Explain the use of bacteria as Biofertizers along with examples. 6

Section D

7. a. Discuss the following biological treatment process involved in secondary treatment of waste water: Trickling Filter and Rotating Biological Contactor. 6

b. Giving examples explain the role played by microorganisms in bioremediation of persistent pollutants. 6

8. a. Briefly explain the concept of BOD. 6

b. Write a short note on bioteaching of metals. 6

LIBRARY (8)
KMV-II [M.S.B]
MoR. 23-05-2024

Exam Code: 103304   Paper Code: 4182
    (40)

Programme: Bachelor of Science
Semester-IV

Course Title: Zoology (Biochemistry)

Course Code: BSMM-4483 (I)

Time Allowed: 3 Hours   Max Marks: 30

Note: Attempt five questions in all, selecting one question from each section (A to D). Fifth question can be attempted from any section. Each question carries equal marks.

Section A

1. Write a note on classification and functions of lipids.
                                                                6
2. a) Discuss the composition of nucleic acids.   4
    b) What is Chargaff' s rule?   2

Section B

3. a) What is allosteric inhibition?   2
    b) What is coenzyme? Tabulate the difference between apozyme and coenzyme.   4
4.   Write a detailed note on ketosis.   6

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Section C

5.	Discuss TCA cycle in carbohydrate metabolism.	6
6.	What do you know about gluconeogenesis.	6

Section D

7.	a) What is decarboxylation?	2
	b) Write a note on hydrolysis of proteins.	4
8.	Discuss Orinithine cycle in detail.	6

Exam Code: 103304   Paper Code: 4183
    (40)

Programme: Bachelor of Science
Semester-IV

Course Title: Zoology (Animal Physiology)

Course Code: BSMM-4483 (II)

Time Allowed: 3 Hours   Max Marks: 30

Attempt five questions in all. Select at least one question from each section (A to D) respectively. Fifth question may be attempted from any section (A-D). Write legibly and Draw well labeled diagrams wherever necessary.

Section-A

1. Describe the mechanism of regulation of digestive processes in Human. (6)
2. Explain briefly:
   (a) Mechanism of Absorption of fats
   (b) Chloride Shift (3+3)

Section-B

3. (a) What is Blood Grouping? Explain the Rh group incompatibility factors during Erythroblastosis foetalis. (6)

(b) Explain the Cardiac cycle with the help of well labeled diagram. (3+3)

4. Discuss the mechanism of osmoregulation by kidneys.

(6)

Section-C

5. Explain the following:
   (a) Resting membrane potential
   (b) Biochemistry of Muscle fiber (3+3)
6. Describe the mechanism of nerve impulse propagation across the synapse. (6)

Section-D

7. Discuss in detail the histology of Thyroid gland along with the physiological functions of its hormones. (6)
8. Write short notes on:
   (a) Learning and Reasoning
   (b) Taxes and Reflexes (3+3)

Exam Code: 103304   Paper Code: 4187

Programme: Bachelor of Science (Semester: IV)
Course Title: Physics (Quantum Mechanics)
Course Code: BSNM/ BCSM-4395 (I)

Time Allowed: 3 Hours   Max Marks: 30

Note: Attempt five questions in all, selecting atleast one question from each section. The fifth question can be done from any section. Each question carries 6 marks.

Section A

1   (a) Give the mathematical theory of Compton effect. Show that the change in wavelength of X-ray photon on scattering from a free and stationary electron is independent of the wavelength of the incident radiation.   4

(b) Show that photon cannot transfer whole of its energy to the electron in Compton effect.   2

2   (a) Explain Heisenberg's uncertainty principle. Why is it important for microscopic particles, but insignificant in practical life?   2

(b) Define particle velocity, phase velocity and group velocity of a wave packet. Show that the particle velocity equals the group velocity of the wave packet   4

Section B

3   (a) State and prove orthogonality of energy eigen functions for one dimensional case.   3

(b) State the fundamental postulates of wave mechanics.   2

(c) What are orthonormal wave functions?   1

4   (a) What is correspondence principle? Illustrate with Ehrenfest derivations.   4

(b) What is Hermitian operator? Show that Hermitian operator has real eigen value.   2

Section C

5   What do you mean by a particle in a box? Obtain expression for energy levels and normalised wave functions for a particle in a box.   6

6   Differentiate between classical and quantum mechanical explanation for reflection and transmission through a potential barrier. Hence explain what tunnelling barrier for an energy is less than the barrier height.   6

Section D

7   Derive an expression for the transmission co-efficient of a particle through a rectangular potential barrier for an energy less than the barrier height. Discuss how a decay is explained in the light of the above derivation.   6

8   (a) Solve the angular parts of Schrodinger equation for a spherically show that the solutions are eigen functions of L, operator   5

(b) What are radiative transitions   1

Paper Code: 4188

Programme	Exam Code	Course Code
Bachelor of Science (Non-Medical)	103304	BSNM-4395 (II)
Bachelor of Science (Computer Science)	103304	BCSM-4395 (II)

Semester-IV

Course Title: Physics (Atomic and Molecular Spectra)

(40)

Time Allowed: 3 Hours   Max Marks: 30

All questions carries equal marks (6). Candidates are required to attempt five questions in all, Selecting at least one question from each section. Fifth question can be attempted from any section. Students can use Non-Scientific calculators or logarithmic tables.

Section A

1. A) Using Bohr's theory, deduce an expression for Rydberg Constant for hydrogen atom. Explain the spectrum of hydrogen. (4)

    B) What are possible values of quantum numbers l, s, j and m_j for a f electron. (2)

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2 . A) Give brief description of Stern- Gerlach experiment along with its significance. (4)

B) What do you mean by units in spectroscopy and term values. (2)

Section B

3. A) Explain the effect of spin orbit interaction on spectra of Na atom. (4)

B) What are selection rules for doublets? (2)

4. What is Zeeman effect? Under what conditions one obtains the Normal Zeeman effect? Describe and explain it by taking any example. (6)

Section C

5. What is the difference between the energy level diagrams of hydrogen and helium atoms. Explain its fine structure by drawing energy level diagram. (6)

6. How do non-equivalent electrons differ from equivalent electrons? Explain it by considering p-p and s-s configuration (6)

Section D

7. A) Explain the origin of Stokes and anti strokes lines in Raman effect on basis of quantum theory (4)

   B) Calculate the maximum frequency of the continuous X Rays from an X Ray tube whose operating voltage is 50,000 Volts (2)

8. A) Show that diatomic molecule can have discrete values of rotational energy governed by quantum number J. (4)

   B) Why X Ray line spectra is called Characteristics X Rays? (2)

For Reappear Candidates (Old Syllabus (2021-22))

Exam Code: 103304   Paper Code: 9401

Bachelor of Science (Semester-IV)
Course Title: Physics (Quantum Mechanics)
Course Code: BSNM-4395 (I)/ BCSM-4395 (I)

Time Allowed: 3 Hours   Max Marks: 30

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 equal (6) marks. Students can use Non-Scientific calculators or logarithmic tables.

Section A

1. Obtain time dependent Schrodinger wave equation for non-relativistic particle which is constrained to move along the positive x-direction in the region of positive potential V. Hence from it obtain the time independent Schrodinger equation.   6

2. State laws of photoelectric emission. In what way do classical electromagnetic theory of light fail to explain the basic facts of photo-electricity? Discuss the explanation of these laws on the basis of quantum mechanics.   6

Section B

3. (a) Define commutator. Show that position and momentum operators do not commute.   3

    (b) A particle is moving in one dimensional box and its wave function is given by

$\Psi(x) = A \, Sin \, \dfrac{\pi x}{a}$ for $0 < x < a$

$= 0$ outside

Normalize the wave function.   3

4. (a) Find the expectation value of momentum $<p>$ for a particle described by a wave function

$\Psi(x,t) = \sqrt{\dfrac{2}{a}} \, Sinkx \; e^{-iEt/\hbar}$ for $-a < x < a$

$= 0$ else where   4

    (b) State Admissibility conditions of wave function.   2

Section C

5. What is quantum mechanical tunnelling? A particle moving with energy E along x axis encounters a potential barrier defined with V

$$V = 0 \text{ for } x < 0$$
$$= V_0 \text{ for } 0 < x < L$$
$$= 0 \text{ for } x > L$$

Find expressions for transmission and reflection coefficients.   6

6. Write down the time independent Schroedinger equation for a one dimensional harmonic oscillator. Solve it to obtain the eigen function for the ground state.

Section D

7. (a) Calculate the maximum frequency of continuous X-rays emitted from X-ray tube whose operating voltage is 50kV.   2

    (b) Obtain the symmetric and anti symmetric wave functions for a hydrogen molecule and plot the corresponding probability distribution.   4

8. (a) What is Raman effect? Discuss its quantum theory and explain the origin of Stokes and anti-Stokes line.   4

    (b) On what factors do the rotational energy of a molecule depends? Determine its value for ground state.   2

For Reappear Candidates (Old Syllabus (2021-22))

Exam Code: 103304   Paper Code: 9402

Bachelor of Science, Semester-IV
Course Title: Physics (Atomic Spectra and Lasers)
Course Code:BSNM-4395(II)/ BCSM-4395 (II)

Time: 3 Hours   Max Marks: 30

NOTE: Attempt five questions in all, selecting one question from each section. Fifth question can be attempted from any section. Each question carries equal (6) marks. Students can use Non-Scientific calculators or logarithmic tables.

Section A

1. A) Give brief description of Stern- Gerlach experiment. Is Spin of a particle an inherent property associated with the particle? (4.5)
   B)What magnetic flux density B is required to observe the normal effect if a spectrometer can resolve spectral lines separated by 0.5 Å at 5000Å ? (1.5)

2. What is Zeeman effect ? Under what conditions one obtains the anomalous Zeeman effect? Describe and explain it by taking the case of sodium lines (6)

Section B

3. A) Explain Symmetric and antisymmetric wave functions. How does their concept leads to Pauli's exclusion principle. (4)
   B) Show that excited states of helium can have total spin zero or one , but the ground state have a spin of zero only. (2)

4. How do non-equivalent electrons differ from equivalent electrons? Explain it by considering p-p and s-s configuration (6)

Section C

5. A) Derive Fauchbaur- Ladenberg formula connecting absorption coefficient with population of levels (5)
   B) What do you mean by pulsed output in laser? (1)

6. A) Explain the concept of Coherence. Discuss how the spatial coherence is related to the size of the source (4)
   B) Determine which type of emission dominates for micrometer wavelength at temperature 100 K. Given Boltzman constant = 1.38×10^{-23} and h= 6.625×10^{-34} Js (2)

Section D

7. A) Explain Construction and working of first gas laser. (4)
   B) Compare the efficiency of Three level and four level lasers. (2)

8. A) What is holography and explain recording as well as reconstruction processes (4)
   B) How Nd YAG is different from Ruby laser. (2)