Course Title	Exam Code	Course Code
Bachelor of Arts	103206	BARL-6026
Bachelor of Science (Economics)	103306	BECL-6026

(40)

Sem: VI
Course Title: Banking (Optional) (Quantitative Aptitude)

Time Allowed: 2 Hours   Maximum Marks: 80

Note: The paper consists of four sections –A, B, C and D. Candidates are required to attempt 40 MCQs selecting at least 8 MCQs from each section. The remaining 8 MCQs may be attempted from any section. Each question carries 2 marks.

Section - A

1. $\frac{3}{8}$ of $168\times15\div5+? = 549\div9+235$.

   a) 107   b) 174   c) 189   d) 296   e)None of these

2. If x is a positive number, then which of the following fractions has the greatest value?

   a) $\frac{x}{x}$ b) $\frac{x}{x+1}$ c) $\frac{x+1}{x}$ d) $\frac{x+2}{x+3}$

3. $\frac{1}{10}$ of a pole is coloured red, $\frac{1}{20}$ white. $\frac{1}{30}$ blue, $\frac{1}{40}$ black, $\frac{1}{50}$ violet, $\frac{1}{60}$ yellow and the rest is green. If the length of the green portion of the pole is 12.08 metres, then the length of the pole is:

   a) 16 m   b) 18 m   c) 20 m   d) 30 m

4. A student has to obtain 33% of the total marks to pass. He got 125 marks and failed by 40 marks. The maximum marks are:

   a) 300   b) 500   c) 800   d) 1000

5. The population of a town increased from 1,75,00 to 2, 62,500 in a decade. The average percent increase of population per year is:

a) 4.37% b) 5% c) 6% d) 8.75 %

6. In an examination, the percentage of students qualified to the number of students appeared from school A is 70%. In school B, the number of students appeared is 20% more than the students appeared from school A and the number of students qualified from school B is 50% more than the students qualified from school A. What is the percentage of students qualified to the number of students appeared from school B?

a) 30% b) 70% c) 78.5% d) 87.5%

7. The difference between the place value and the face value of 6 in the numeral 856973 is?

a) 973 b) 6973 c) 5994 d) None of these

8. $(11^2 + 12^2 + 13^2 + \dots + 20^2) = ?$

a) 385 b) 2485 c) 2870 d) 3255

9. If the number 5 * 2 is divisible by 6, then * = ?

a) 2 b) 3 c) 6 d) 7

10. What will come in place of the question mark (?) in the following number series?

221 437 453 578 594 (?)

a) 658 b) 558 c) 624 d) 678

11. In following number series a number is wrong. Find out the wrong number.

39 43 51 60 87 110 167

a) 167 b) 87 c) 60 d) 110 e) 43

12. If the given numbers are arranged in the descending order based on the sum of the digits of each number, which number will be in the middle.

842   641   961   479   715   216   523

a) 961   b) 216   c) 479   d) 715   e) 523

13. Quadratic equation corresponding to the roots $2 + \sqrt{5}$ and $2 - \sqrt{5}$ is

a) $x^2 - 4x - 1 = 0$ b) $x^2 + 4x - 1 = 0$ c) $x^2 - 4x + 1 = 0$ d) $x^2 + 4x + 1 = 0$

14. If $3x^2 - ax + 6 = ax^2 + 2x + 2$ has only one repeated solution then the positive integral solution of a is?

a) 3   b) 2   c) 4   d) 5

15. Two consecutive positive even integers whose squares have the sum 164 are?

a) $x = 8$, $x = -10$ b) $x = 9$, $x = 11$
c) $x = 4$ and $x = -7$ d) $x = -9$, $x = 10$

Section – B

16. If A : B = 5 : 7 and B : C = 6: 11, then A : B :C is :

    a) 55 : 77 : 66   b) 30 : 42 : 77   c) 35 : 49 : 42   d) None of these

17. Two numbers are in the ratio 3 : 5. If 9 is subtracted from each, the new numbers are in the ratio 12 : 23. The smaller number is:

    a) 27   b) 33   c) 49   d) 55

18. A fraction which bears the same ratio to $\frac{1}{27}$ that $\frac{3}{11}$ does to $\frac{5}{9}$, is equal to :

    a) $\frac{1}{55}$ b) $\frac{1}{11}$ c) $\frac{3}{11}$ d) 55

19. If selling price of an article is $\frac{4}{3}$ of its cost price, the profit in the transaction is :

    a) $16\frac{2}{3}$ %   b) $20\frac{1}{2}$ %   c) $25\frac{1}{2}$ %   d) $33\frac{1}{3}$ %

20. A trader mixes 26 kg of rice at Rs. 20 per kg with 30 kg of rice of other variety at Rs. 36 per kg and sells the mixture at Rs. 30 per kg. His profit percent is:

    a) No profit, no loss   b) 5 %   c) 8%   d) 10%
    e) None of these

21. Albert buys 4 horses and 9 cows for Rs. 13,400. If he sells the horses at 10 % profit and the cows at 20 % profit, the he earns a total profit of Rs. 1880. The cost of a horse is:

    a) Rs. 1000   b) Rs. 2000   c) Rs. 2500   d) Rs. 3000

22. A sum of Rs. 1600 gives a simple interest of Rs 252 in 2 years and 4 months. The rate of interest per annum is :

    a) 6%   b) $6\frac{1}{4}$%   c) $6\frac{1}{2}$%   d) $6\frac{3}{4}$%

23. David invested certain amount in three different schemes A, B and C with the rate of interest 10 % p.a., 12 % p.a. and 15 % p.a. respectively. If the total interest accrued in one year was Rs. 3200 and the amount invested in Scheme C was 150 % of the amount invested in Scheme A and 240 % of the amount invested in Scheme B, what was the amount invested in Scheme B ?

    a) Rs. 5000   b) Rs. 6500   c) Rs. 8000   d)   Cannot   be determined

    e) None of these

24. Divide Rs, 2379 into 3 parts so that their amounts after 2, 3 and 4 years respectively may be equal, the rate of interest being 5 % per annum at simple interest. The first part is:

    a) Rs. 759   b) Rs. 792   c) Rs. 818   .   d) Rs. 828

25. In how many years will a sum of Rs. 800 at 10 % per annum compounded semi-annually become Rs. 926.10 ?

    a) $1\frac{1}{3}$ b) $1\frac{1}{2}$ c) $2\frac{1}{3}$ d) $2\frac{1}{2}$

26. The difference between the simple interest on a certain sum at the rate of 10 % per annum for 2 years and compound interest which is compounded every 6 months is Rs. 124.05. What is the principal sum?

    a) Rs. 6000   b) Rs. 8000   c) Rs. 10,000   d) Rs. 12,000

    e) None of these

27. The least number of complete years in which a sum of money put out at 20 % compound interest will be more than doubled is:

    a) 3   b) 4   c) 5   d) 6

28. David obtained 76, 65, 82, 67, 85 marks (out of 100) in English, Mathematics, Physics, Chemistry and Biology. What are his average marks ?

    a) 65   b) 69   c) 72   d) 76

    e) None of these

29. The average weight of three boys A, B and C is $54\frac{1}{3}$ kg, while the average weight of three boys B, D and E is 53 kg. What is the average weight of A, B, C, D and E ?

a) 52.4 kg   b) 53.2 kg   c) 53.8 kg   d)   Data inadequate

e) None of these

30. The average monthly income of P and Q is Rs. 5050. The average monthly income of Q and R is Rs. 6250 and the average monthly income of P and R is Rs. 5200. The monthly income of P is:

a) Rs. 3500   b) Rs. 4000   c) Rs. 4050   d) Rs. 5000

Section – C

31. Rajeev's age after 15 years will be 5 times his age 5 years back. What is the present age of Rajeev?

a) 10   b) 15   c) 18   d) 20

32. The ages of two persons differ by 16 years. If 6 years ago, the elder one be 3 times as old as the younger one, find their present ages.

a) 17   b) 14   c) 19   d) 20

33. Shilpa's age after 25 years will be 5 times his age 5 years back. What is the present age of shilpa?

a) 11   b) 15   c) 18   d) None of these

34. Rimpy was 4 times as old as his son 8 years ago. After 8 years, Rimpy will be twice as old as his son. What are their present ages?

a) 40   b) 43   c) 45   d) 50

35. One year ago, the ratio of Gaurav's and Sachin's age was 6:7 respectively. Four years hence, this ratio would become 7:8. How old is Sachin?

a) 10   b) 14   c) 18   d) None of these

36. Present ages of X and Y are in the ratio 5:6 respectively .Seven years hence this ratio will become 6:7 respectively .What is X's present age in years?

a) 25   b) 29   c) 35   d) None of these

37. How many minutes does Anita take to cover a distance of 400 m, if she runs at a speed of 20km/hr?

a) $1\frac{1}{5}$ b) $5\frac{1}{5}$ c) $7\frac{1}{5}$ d) $9\frac{1}{5}$

38. A cyclist covers a distance of 750 m in 2 min 30 sec. What is the speed in km/hr of the cyclist?

a) 15   b) 17   c) 18 d) 20

39. An aeroplane flies along the four sides of a square at the speeds of 200,400, 600 and 800 km/hr. Find the average speed of the plane around the field.

a) 384   b) 390   c) 395   d) None of these

40. How many minutes does Rinky take to cover a distance of 500 m, if she runs at a speed of 20km/hr?

a) $11\frac{1}{5}$ b) $15\frac{1}{5}$ c) $17\frac{15}{5}$ d) None of these

41. A and B together can complete a piece of work in 4 days .If A alone can complete the same work in 12 days ,in how many days can B alone complete that work?

a) **1/6**   b) 2/8   c) 3/7   d) 4/8

42. Worker A takes 8 hours to do a job. Worker B takes 10 hours to do the same job. How long should it take both A and B , working together but independently, to do the same job?

a) 9/40   b) 3/22   c) 11/33   d) 12/24

43. A man takes 5 hours 45 min in walking to a certain place and riding back. He would have gained 2 hours by riding both ways. The time he would take to walk both ways, is:

a) 3 hrs 45 min   b) 7 hrs 30 min

c) 7 hrs 45 min   d) 11 hrs 45 min

44. In what ratio must water be mixed with milk to gain 20% by selling the mixture at cost price?

a) 1:5 b) 1:9   c) 2 : 5   d) 2:9

45. How many kgs.of wheat costing Rs.8 per kg must be mixed with 36 kg of rice costing Rs.5.40 per kg so that 20% gain may be obtained by selling the mixture at Rs.7.20 per kg?

a) 11.9   b) 12.6   c) 14.3   d) None of these

Section – D

46. Find the value of $^{100}C_{98}$

a) 3457   b) 3450   c) 4500   d) 4950

47. How many words can be formed by using all letters of the 'BIHAR'?

a) 120   b) 230   c) 100   d) 120

48. In how many ways can a cricket eleven be chosen out of a batch of 15 players?
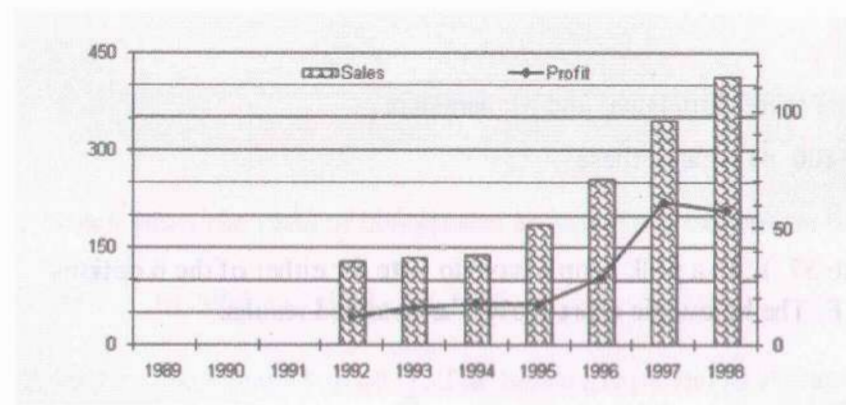
a) 1245   b) 1365   c) 2345   d) 1005

49. How many words with or without meaning, can be formed by using all the letters of the word, 'DELHI', using each letter exactly once?

a) 10   b) 25   c) 60   d) 120 e) None of these

DIRECTIONS for questions 50 to 52 : Refer to the following

g graph of sales and profit figures of ABC Ltd and answer the questions that follow.

50. Return on sales (Profit/sales) was highest in which year?

a) 1995   b) 1996   c) 1997   d) 1998

51. How many times return on sales (profit/sales) exceeded 15 % ?

a) Once   b) Twice   c) Thrice   d) Never

52. How many times growth in profit over the previous year exceeded 50% was registered ?

a) Once   b) Twice   c) Thrice   d) Never

Directions (Questions 53 to 54) : The following pie chart shows the percentage of users of a particular app.

If there are total of 15 lakhs users, then answer the following:
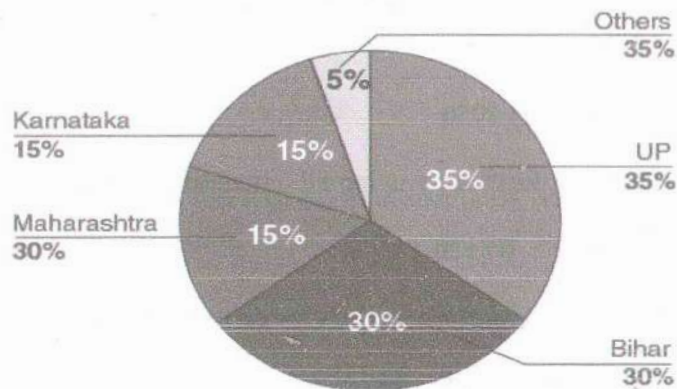
53. How many total users are there from UP, Bihar and Maharashtra?

a) 12,00,000   b) 14,00,000   c) 16,00,000 d) 11,00,000
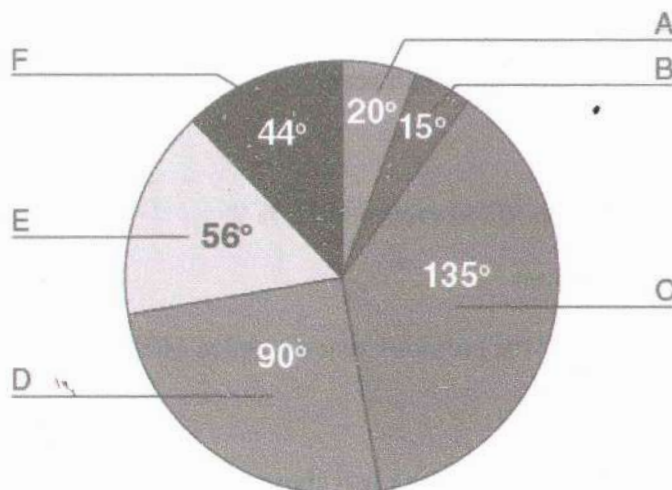
54. What is the central angle for Karnataka app users?

a) 54°   b) 34°   c)44°   d)64°

55. How many total users are there from Bihar and Maharashtra?

a) 147890 b) 165680 d) 23400 d) none of these

Directions (Questions 56 to 57) : In a poll, people have to vote for either of the 6 options
which are A, B, C, D, E & F. The below pie chart shows the obtained results.

56. If 1080 voters have voted for option C, then find out the total number of voters?

a) 2556   b) 2668   c) 2880   d) 2990

57. How many voters voted for options A, B and F.

a) 632   b) 670   c) 560   d) 650

58. The following graph represents the profit percentage earned by 2 companies A and B on their investment. [Hint: Revenue = Investment + Profit]

In which year, the ratio of investment and profit is maximum for company A?

a) 2001   b) 2000 c) 1999 d) 1995

Directions (Questions 59 to 60) : **The below graph shows the annual profit percentage earned by the company during the years 1995 to 2000.**
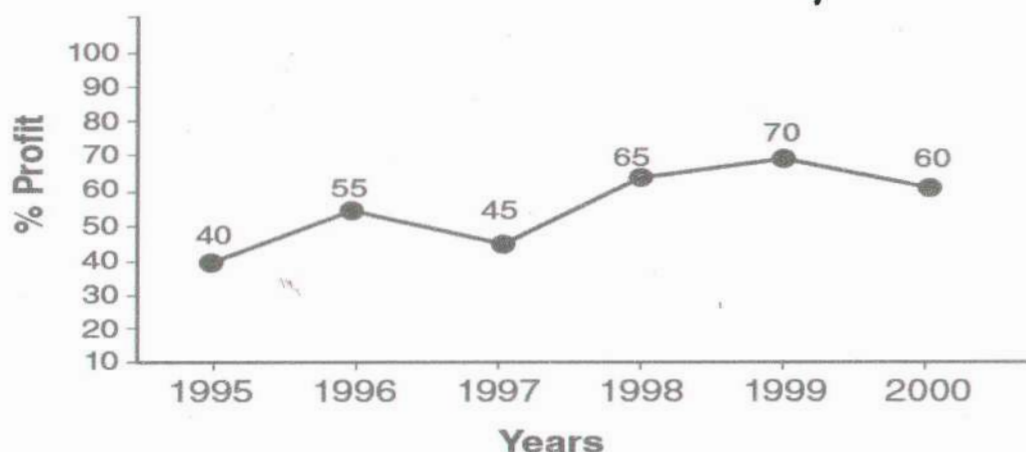
59. What is the average profit earned during the years 1995 to 2000?

a) 335/6   b) 365/6.   C) 375/6   d) 385/6

60. What is the average profit earned during the years 1998 to 2000?

a) 245/3   b) 267/3   c) 231/4   d) **None of these**

Programme	Exam Code	Course Code
Bachelor of Arts	103206	BARL-6031
Bachelor of Science (Non-Medical)	103306	BSNL-6031
Bachelor of Science (Medical)		BSML-6031
Bachelor of Science (Economics)		BECL-6031
Bachelor of Science (Computer Science)		BCSL-6031
Bachelor of Commerce	108506	BCRL-6031
Bachelor of Business Administration	105406	BBRL-6031

Course Title: Basic Punjabi
Semester-VI
(50)

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

ਨੋਟ: ਪ੍ਰਸ਼ਨ ਪੱਤਰ ਦੇ ਚਾਰ ਭਾਗ ਹਨ। ਹਰ ਭਾਗ ਵਿਚੋਂ ਦੋ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਗਏ ਹਨ। ਵਿਦਿਆਰਥੀ ਨੇ ਕੁੱਲ ਪੰਜ ਪ੍ਰਸ਼ਨ ਕਰਨੇ ਹਨ। ਹਰੇਕ ਭਾਗ ਵਿੱਚੋਂ ਇੱਕ-ਇੱਕ ਪ੍ਰਸ਼ਨ ਕਰਨਾ ਜ਼ਰੂਰੀ ਹੈ। ਪੰਜਵਾਂ ਪ੍ਰਸ਼ਨ ਕਿਸੇ ਵੀ ਭਾਗ ਵਿੱਚੋਂ ਕੀਤਾ ਜਾ ਸਕਦਾ ਹੈ। ਹਰੇਕ ਪ੍ਰਸ਼ਨ ਦੇ ਬਰਾਬਰ 8 ਅੰਕ ਹਨ।

ਭਾਗ-1

1. ਪੰਜਾਬੀ ਸਭਿਆਚਾਰ ਦੀ ਭੂਗੋਲਿਕ ਸਥਿਤੀ ਬਾਰੇ ਤੁਸੀਂ ਕੀ ਜਾਣਦੇ ਹੋ? ਵਿਸਥਾਰ ਪੂਰਵਕ ਚਰਚਾ ਕਰੋ।

2. ਪੰਜਾਬੀ ਸਭਿਆਚਾਰ ਦੇ ਪਿਛੋਕੜ ਬਾਰੇ ਵਿਸਥਾਰਪੂਰਵਕ ਜਾਣਕਾਰੀ ਦਿਉ।

ਭਾਗ-2

3. ਪੰਜਾਬ ਦੀ ਧਰਤੀ 'ਤੇ ਕਿਹੜੇ-ਕਿਹੜੇ ਤਿਉਹਾਰ ਮਨਾਏ ਜਾਂਦੇ ਹਨ, ਇਨ੍ਹਾਂ ਬਾਰੇ ਵਿਸਥਾਰਪੂਰਵਕ ਚਰਚਾ ਕਰੋ।

4. ਪੰਜਾਬ ਦੀ ਧਰਤੀ 'ਤੇ ਲੱਗਣ ਵਾਲੇ ਮੇਲਿਆਂ ਬਾਰੇ ਵਿਸਥਾਰਪੂਰਵਕ ਚਰਚਾ ਕਰੋ।

ਭਾਗ-3

5. ਮੌਤ ਨਾਲ ਸੰਬੰਧਤ ਰਸਮਾਂ ਬਾਰੇ ਤੁਸੀਂ ਕੀ ਜਾਣਦੇ ਹੋ ਵਿਸਤ੍ਰਿਤ ਜਾਣਕਾਰੀ ਦਿਉ।

6. ਵਿਆਹ ਨਾਲ ਸੰਬੰਧਤ ਰਸਮਾਂ ਬਾਰੇ ਤੁਸੀਂ ਕੀ ਜਾਣਦੇ ਹੋ ਭਰਪੂਰ ਰੂਪ ਵਿਚ ਚਰਚਾ ਕਰੋ।

ਭਾਗ-4

7. ਪੰਜਾਬ ਦੇ ਲੋਕ ਵਿਸ਼ਵਾਸ਼ਾਂ 'ਤੇ ਆਪਣੇ ਵਿਚਾਰ ਵਿਸਥਾਰ ਸਹਿਤ ਪੇਸ਼ ਕਰੋ।

8. ਪੰਜਾਬ ਦੇ ਖਾਣ-ਪੀਣ ਬਾਰੇ ਤੁਸੀਂ ਕੀ ਸੋਚਦੇ ਹੋ ਇਸ ਪ੍ਰਤੀ ਆਪਣੀ ਸੂਝ ਪ੍ਰਗਟ ਕਰੋ।

Paper Code: 6108

Programme	Exam Code	Course Code
Bachelor of Arts	103206	BARL-6175
Bachelor of Science (Economics)	103306	BECL-6175

Course Title: Economics (Quantitative Methods for Economists) Semester-VI

(40)

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. Use of non-scientific, non-programmable simple calculator is allowed.

SECTION A

1. a) What do you mean by set? Explain the types of set with examples

   b) If $A = \begin{bmatrix} 1 & 2 & 2 \\ 2 & 1 & 2 \\ 2 & 2 & 1 \end{bmatrix}$

   Prove that $A^2 - 4A - 51 = 0$ (8, 8)

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2. Differentiate $\frac{3x^2 + 5x}{7x+4}$

b) Find the maximum and minimum values of the function $2x^3 - 9x^2 + 12x + 6$ (8, 8)

SECTION B

3. a) Calculate arithmetic mean from the following data.

Marks	0-20	20-40	40-60	60-80	80-100	100-120	120-140
No. of students	4	26	22	10	9	6	3

b) Find the missing frequencies, if MODE = 24, N = 100

x	0-10	10-20	20-30	30-40	40-50
Frequency	14	?	26	?	18

(8, 8)

4. a) Explain the various measures of Dispersion.

b) Calculate the Standard Deviation of the following data.

Marks (less than)	10	20	30	40	50	60	70
No. of students	5	15	25	50	75	90	100

(6,10)

SECTION C

5. a) What is Skewness? Explain the various measures of Skewness.

   b) Find out the Coefficient of Skewness of the following data by using Karl Pearson's method:

Marks	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40
No. of Students	4	6	8	9	13	8	6	16

(6,10)

6. a) Find the coefficient of Rank Correlation from the following data.

X	10	18	20	16	16	14	22	26
Y	20	16	18	14	22	18	30	28

   b) Given below are the two Regression Equations

   3X + 2Y -26 = 0

   6X + Y — 31 = 0

   |f Variance of X = 25 Find

   i. The mean value of X and Y

   ii. The Standard Deviation of Y

   iii. Coefficient of Correlation

(8, 8)

SECTION D

7. From the following data estimate the production for the year 1980 and 2000

Year(X)	1950	1960	1970	1980	1990	2000	2010
Production (Y)	200	220	260	--	350	--	430

(16)

8. Calculate the Fisher's Ideal Index from the data given and show that it satisfies the time Reversal Test and Factor Reversal Test:

Commodity	2015		2016	
	Price	Expenditure	Price	Expenditure
A	8	80	10	120
B	10	120	12	96
C	5	40	5	50
D	4	56	3	60
E	20	100	25	150

(16)

Exam Code: 103206   Paper Code: 6128

Bachelor of Arts (Semester – VI)
Course Title: English (Elective)
Course Code: BARL-6198

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

SECTION-A

1. Attempt any three literary terms (each to be answered in 100 words approximately) out of the given five.
   a. Stream of consciousness
   b. Novel
   c. Short Story
   d. Biography
   e. Criticism   (3×4=12)

SECTION-B

2. Write phonetic transcription of any 12 words out of the given 16 words.

a. Magic	e. Question	i. Event	m. Gadget
b. Imitation	f. District	j. Habit	n. Machine
c. Journey	g. Gender	k. Parallel	o. Quality
d. Customer	h. Education	l. Ability	p. Peaceful

   (12×1=12)

SECTION-C

3. Attempt any one Reference to Context in about 300 words approximately.
   a. "I Michael Henchard, on this morning of the sixteenth of September, do take an oath before God here in this solemn place that I will avoid all strong liquors for the space of Twenty one years to come, being a year for every year that I have lived And this year to come being a year for every year that I have lived. And this I swear upon the book before me, and may I be stricken dumb, blind and helpless, if I break this my oath"
   b. "Right," said Henchard, "but just one word do you forgive me, Susan?"

She murmured something, but seemed to find it difficult to frame her answer.

"Never mind - all in good time", said he, "Judge me by my future works good-bye!" (1×8=8)

4. Attempt any two questions (each to be answered in 500 words approximately) out of the given three.
    a. What is the role of Susan Henchard in *The Mayor of Casterbridge?*
    b. What is Hardy's philosophy of pessimism and how does it affect the events of *The Mayor of Casterbridge?*
    c. Write the character sketch of Michael Henchard. (2×10=20)

SECTION-D

5. Attempt any one Reference to Context in about 300 words approximately.
    a. No! No! That won't do. I can't have all that just swimming in my mind. The mind wanders too much. Unnecessary details, irrelevant characters which do not figure anywhere I've got to put it all down. I've got to make a start.
    b. There's nothing much to tell. My grandfather, my mother's father was a very influential person. But my dad didn't take any help from him. Today my dad is the general manager of Indo-Swede Pharmacia the biggest pharmaceutical company in the country. Heard of it? (1×8=8)

6. Attempt any two questions (each to be answered in 500 words approximately) out of the given three.
    a. Write a note on the relation between Patel and Bharti.
    b. Discuss the theme of the play *Tara.*
    c. Do you think Tara and Chandan are two sides of the same same self? Justify your answer. (2×10=20)

Exam Code: 103206   Paper Code: 6129
(30)

Programme: Bachelor of Arts
Semester--VI

Course Title: Punjabi (Elective)

Course Code: BARL-6208

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

ਵਿਦਿਆਰਥੀਆਂ ਨੇ ਕੁੱਲ ਪੰਜ ਪ੍ਰਸ਼ਨ ਕਰਨੇ ਹਨ।ਹਰੇਕ ਭਾਗ ਵਿੱਚੋਂ ਇੱਕ-ਇੱਕ ਪ੍ਰਸ਼ਨ ਕਰਨਾ ਜ਼ਰੂਰੀ ਹੈ।ਪੰਜਵਾਂ ਪ੍ਰਸ਼ਨ ਕਿਸੇ ਵੀ ਭਾਗ ਵਿੱਚੋਂ ਕੀਤਾ ਜਾ ਸਕਦਾ ਹੈ। ਹਰੇਕ ਪ੍ਰਸ਼ਨ ਦੇ ਅੰਕ 16 ਹਨ।

ਭਾਗ-ਏ

1. ਗੁਰਮਤਿ ਕਾਵਿ ਧਾਰਾ ਬਾਰੇ ਤੁਸੀਂ ਕੀ ਜਾਣਦੇ ਹੋ? ਇਸ ਦੇ ਪ੍ਰਮੁੱਖ ਕਵੀਆਂ ਦੀਆਂ ਸਾਹਿਤਿਕ ਕਿਰਤਾਂ ਬਾਰੇ ਚਰਚਾ ਕਰੋ।

2. ਪੀਲੂ, ਅਹਿਮਦ, ਹਾਫ਼ਿਜ ਬਰਖੁਰਦਾਰ ਕਿੱਸਾਕਾਰਾਂ ਵਿੱਚੋਂ ਕਿਸੇ ਇਕ ਦੀ ਕਿਸਾ ਰਚਨਾ ਬਾਰੇ ਵਿਸਥਾਰ ਪੁਰਵਕ ਚਰਚਾ ਕਰੋ।

ਭਾਗ-ਬੀ

3. ਸਾਹਿਤ ਅਤੇ ਸਮਾਜ, ਸਾਹਿਤ ਤੇ ਮਨੋਵਿਗਿਆਨ, ਸਾਹਿਤ ਤੇ ਰਾਜਨੀਤੀ, ਇਨ੍ਹਾਂ ਵਿਭਿੰਨਾਂ ਅਨੁਸ਼ਾਸਨਾਂ ਵਿੱਚੋਂ ਕਿਸੇ ਇਕ ਅਨੁਸ਼ਾਸਨ ਦਾ ਸਾਹਿਤ ਨਾਲ ਕੀ ਸੰਬੰਧ ਹੈ ਚਰਚਾ ਕਰੋ।

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4. ਸਾਹਿਤ ਅਤੇ ਸ਼ਖਸੀਅਤ ਜਾ ਸਾਹਿਤ ਅਤੇ ਸਭਿਆਚਾਰ ਵਿਚੋਂ ਕਿਸੇ ਇਕ ਬਾਰੇ ਵਿਸਥਾਰਪੂਰਵਕ ਚਰਚਾ ਕਰੋ।

ਭਾਗ–ਸੀ

5. ਛੰਦ, ਸਰੋਤਾ, ਸਵੱਈਆਂ, ਬੈਂਤ ਵਿਚੋਂ ਕਿਸੇ ਦੋ ਦੀ ਪਰਿਭਾਸ਼ਾ ਅਤੇ ਲੱਛਣਾਂ ਉੱਤੇ ਚਾਨਣਾ ਪਾਓ।

6. ਜੀਵਨੀ, ਸਵੈਜੀਵਨੀ, ਸਫਰਨਾਮਾ, ਰੇਖਾ ਚਿੱਤਰ ਵਿੱਚੋਂ ਕਿਸੇ ਦੀ ਪਰਿਭਾਸ਼ਾ, ਪ੍ਰਕਾਰ ਤੇ ਤੱਤ ਲਿਖੋ।

ਭਾਗ–ਡੀ

7. ਵਿਸਰਕ ਆਲੋਚਨਾ ਦੇ ਨਿਮਨਲਿਖਿਤ ਤੱਤਾਂ ਵਿਚੋਂ ਕਿਸੇ ਤਿੰਨ ਬਾਰੇ ਜਾਣਕਾਰੀ ਦਿਓ। (ਵਿਸ਼ਾ ਵਸਤੂ, ਬਿੰਬ, ਪ੍ਰਤੀਕ ਆਲੰਕਾਰ, ਰਸ)

8. ਨਿਮਨਲਿਖਿਤ ਕਾਵਿ ਟੋਟੇ ਦੀ ਵਿਹਾਰਕ ਆਲੋਚਨਾ ਕਰੋ।
   ਜਦੋਂ ਕਿਸੇ ਵੀ ਕੌਮ ਤੇ ਦੇਸ਼ ਅੰਦਰ,
   ਆ ਕੇ ਵਾ ਆਜ਼ਾਦੀ ਦੀ ਵੱਗਦੀ ਏ।
   ਉਸ ਮੁਲਕ ਦੇ ਸੱਚਿਆਂ ਆਸ਼ਕਾਂ ਨੂੰ,
   ਮਹਿੰਦੀ ਹੋਸ ਨਾ ਸੀਸ ਤੇ ਪੱਗ ਦੀ ਏ।
   ਘਰ ਉਜੜਦੇ ਸੈਂਕੜੇ ਮੱਖੀਆਂ ਦੇ,
   ਬੱਤੀ ਮੋਮ ਦੀ ਤਾਂ ਇਕ ਜੱਗਦੀ ਏ।
   ਸਿਰਫ ਖੂਨ ਗਰੀਬਾਂ ਦੇ ਨੁੱਚੜ ਜਾਂਦੇ
   ਮਹਿੰਦੀ ਹੋਰਾਂ ਦੇ ਹੱਥੀ ਲੱਗਦੀ ਏ।

(Old Syllabus (2021-22))

Exam Code: 103202   **Paper Code: 9605**

Bachelor of Arts (Semester: VI)

Course Title: ENGLISH (COMPULSORY)
Course Code: BARL-6212

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

Section-A

I. Attempt any five questions in about 50 words each. (5x2=10)

1. Describe the town of Mano Majra at the beginning of the novel *"Train to Pakistan."*
2. Who is Lala Ramlal in the novel *"Train to Pakistan?"*
3. Write a note on the Ghost Train.
4. What kind of change comes in Emily's behaviour ? (The Will)
5. Why is Mrs. Meldon dressed in black? (Progress)
6. Why is Jeanne looking for a villa? (Villa for Sale)

Section-B

II. Attempt any two questions in about 250 words each. (2x5=10)

1. Analyse the role of women in the novel *"Train to Pakistan."*
2. What is the main theme of the novel *"Train to Pakistan."*
3. Write the character sketch of Jagga.
4. Write a note on the dacoity in *"Train to Pakistan."*

Section-C

III. Attempt any two questions in about 250 words each. (2x5=10)

1. Write the character sketch of Emily Ross.
2. Explain the role of the supernatural elements in the play "The Monkeys Paw."
3. Write the summary of the play "Villa for Sale."
4. Briefly explain and comment upon the anti-war theme of the play "Progress."

Section-D

IV. Attempt any one Essay in about 300 words. (1x6=6)

My Childhood Memories

Or

Effects of Climate Change and Global Warming.

V. Attempt any one Report in about 200 words. (1x4=4)

Write a report on the Golden Jubilee celebration of your college.

Or

Write a report on kidnapping of a school student.

2053   20

Exam Code: 103206   Paper Code: 6223 (A)
(100)

Programme: Bachelor of Arts
Semester-VI

Course Title: English (Compulsory)

Course Code: BARL-6212

Time Allowed: 3 Hours   Max Marks: 40

Section A

I.   Attempt any 5 questions, in about 50 words each.
     Each question carries 2 marks (5*2= 10)

     a. How does Robert's guess about the young
        couple's visit fail?
     b. Why does Juliette's maid want a day off?
     c. Why couldn't Corrie go to the station to receive
        Mrs Meldon?
     d. Describe the village of Mano Majra as described
        at the beginning of the novel.
     e. Write a very short note on Nooran.
     f. Describe how Lala Ram Lal is killed.

Section B

II. Attempt any 2 questions in about 250 words each.
     Each question carries 5 marks (2*5=10)

     a. What role do religious leaders .... Meet
        Singh and Imam Baksh .... play in the
        novel " Train to Pakistan "?

    b. Describe the dacoity in Lala Ram Lal's house.

    c. Discuss the significance of the trains in the novel " Train to Pakistan ".

    d. Write a character sketch of Juggat Singh.

Section C

III. **Attempt any 2 questions in about 250 words each. Each question carries 5 marks (2*5=10)**

    a. Bring out the irony in the play " The Will" and explain how a comic looking situation turns tragic.

    b. Discuss " Villa for Sale" as a hilarious comedy.

    c. Write a character sketch of Mrs Meldon.

    d. Explain the role of the supernatural in the play " The Monkey's Paw".

Section D

IV. **Attempt any 1 essay in about 200 words (1*6=6)**

    a. Women empowerment in India

    b. Wildlife conservation and management

V. **Write a report on any 1 topic in about 200 words (1*4=4)**

    a. A family function that you have attended

    b. The farewell function held in your college.

Lib
KMU-II   11/5/23 (Mol?)

Exam Code: 103206   Paper Code: 6111
     (60)

Programme: Bachelor of Arts
Semester--VI

Course Title: History (History of The Punjab (1799-1966)

Course Code: BARL-6273

Time Allowed: 3 Hours   Max Marks: 80

Attempt any 3 question selecting atleast one from each section A,B,C. Each question will carry 16 marks. section-D is compulsory. Answer to each question should be in about 1200 words.

Section-A

1. Describe Political condition of Punjab in the 18th century. Was it fruitful for Maharaja Ranjit Singh.
2. What was Jagirdari system? Explain the main features, merits and demerits of jagirdari system.

Section-B

3. Discuss the main causes and results of Second Anglo Sikh war.
4. What were the main objectives of formation of Singh Sabha? Also write the contribution of Singh sabha in Sikh history.

Section-C

5. Discuss the contribution of SGPC in Gurdwara Reform Movement in Punjab.

6. How was Communal Politics responsible for the partition of Punjab.

Section-D

7. Write a brief note (in about 25 to 30 words) of any 8 on: Each question carries 2 marks.

   -Meaning of term Ghadar
   -Who was Ras Bihari Bose
   -HSRA
   -Naujawan Bharat sabha
   -Nankana Sahib Morcha
   -Meaning of Term Gurdwara
   -Causes responsible formation of Muslim league
   -Meaning of term Communalism
   -What was cabinet mission plan
   -Atlee Declaration
   -Fateh Singh/Master Tara Singh
   -Eastern Punjab –

8. Mark any 8 places on the map of Punjab and explain their importance in history of Punjab- (2marks Each) Lahore, Amritsar, Peshawar, Multan, Kashmir, Kasoor, Ramnagar, Chillanwala, Gujarat and Amritsar.

(2 marks Each)

Hindi version

नोटः इकाई A,B,C से एक प्रश्न का चयन करते हुए किन्हीं 3 प्रश्नों के उत्तर दीजिए। प्रत्येक प्रश्न 16 अंक का होगा। प्रत्येक प्रश्न का उत्तर लगभग 1200 शब्दों में होना चाहिए। चौथी इकाई अनिवार्य है।

इकाई—ए

1. 18 वीं शताब्दी में पंजाब की राजनैतिक स्थिति का वर्णन कीजिए। क्या यह महाराजा रणजीत सिंह के लिए फलदायी था।

2. जागीरदारी व्यवस्था क्या थी? जागीरदारी प्रणाली की मुख्य विशेषताओं, गुणों और दोषों की व्याख्या कीजिए।

इकाई—बी

3. द्वितीय आंग्लो सिख युद्ध के मुख्य कारणों एंव परिणामों की विवेचना कीजिए।

4. सिंह सभा के गठन के मुख्य उद्देश्य क्या थे? सिक्ख इतिहास में सिंह सभा का योगदान भी लिखिए।

इकाई—सी

5. पंजाब में गुरुद्वारा सुधार आंदोलन में एसजीपीसी के योगदा
   की चर्चा कीजिए।

6. पंजाब के विभाजन के लिए सांप्रदायिक राजनीति कै
   जिम्मेदार थी?

इकाई—डी

7. संक्षिप्त टिप्पणी लिखें कोई 8 हर एक के 2 अंक हैं। लगभ
   25 से 30 शब्दों में:—

   — ग़दर शब्द का अर्थ
   —कौन थे रास बिहारी बोस
   —एचएसआरए
   —नैजवान भारत सभा
   —ननकाना साहिब मोर्चा
   —गुरुद्वारा शब्द का अर्थ
   —मुस्लिम लीग के जिम्मेदार गठन का कारण बनता है
   —साम्प्रदायिकता शब्द का अर्थ
   —कैबिनेट मिशन योजना क्या थी
   —एटली घोषणा
   —फतेह सिंह / मास्टरा तारा सिंह
   —पूर्वी पंजाब

8. पंजाब के मानचित्र पर किन्हीं 8 स्थानों को चिन्हित कीजिए तथा पंजाब के इतिहास में उनके महत्व की व्याख्या कीजिए–लाहौर, अमृतसर, पेशावर, मुल्तान, कश्मीर, कसूर, रामनगर, चिल्लनवाला, गुजरात और अमृतसर।

Punjabi version

ਇਕਾਈ A,B,C ਵਿੱਚੋ ਇੱਕ ਪ੍ਰਸ਼ਨ ਚੁਣਦੇ ਹੋਏ ਕਿਸੇ ਵੀ 3 ਪ੍ਰਸ਼ਨਾਂ ਦੀ ਕੋਸ਼ਿਸ਼ ਕਰੋ।ਹਰੇਕ ਪ੍ਰਸ਼ਨ ਵਿੱਚ 16 ਅੰਕ ਹੋਣਗੇ। ਹਰੇਕ ਸਵਾਲ ਦਾ ਜਵਾਬ ਲਗਭਗ 1200 ਸ਼ਬਦਾਂ ਵਿੱਚ ਹੋਣਾ ਚਾਹੀਦਾ ਹੈ। ਚੌਥੀ ਇਕਾਈ ਲਾਜ਼ਮੀ ਹੈ।

ਇਕਾਈ-ਏ

1. 18ਵੀਂ ਸਦੀ ਵਿੱਚ ਪੰਜਾਬ ਦੀ ਰਾਜਨੀਤਿਕ ਸਥਿਤੀ ਦਾ ਵਰਣਨ ਕਰੋ।ਕੀ ਇਹ ਮਹਾਰਾਜ ਰਣਜੀਤ ਸਿੰਘ ਲਈ ਫਲਾਦਾਇਕ ਸੀ?

2. ਜਗੀਰਦਾਰੀ ਸਿਸਟਮ ਕੀ ਸੀ? ਜਗੀਰਦਾਰੀ ਪ੍ਰਣਾਲੀ ਦੀਆਂ ਮੁੱਖ ਵਿਸ਼ੇਸ਼ਤਾਵਾਂ, ਖੂਬੀਆਂ ਅਤੇ ਨੁਕਸਾਨਾਂ ਬਾਰੇ ਦੱਸੋ।

ਇਕਾਈ-ਬੀ

3. ਦੂਜੀ ਐਂਗਲੋ ਸਿੱਖ ਜੰਗ ਦੇ ਮੁੱਖ ਕਾਰਨਾਂ ਅਤੇ ਨਤੀਜਿਆਂ ਦੀ ਚਰਚਾ ਕਰੋ।

4. ਸਿੰਘ ਸਭਾ ਦੇ ਗਠਨ ਦੇ ਮੁੱਖ ਉਦੇਸ਼ ਕੀ ਹਨ? ਸਿੱਖ ਇਤਿਹਾਸ ਵਿੱਚ ਸਿੰਘ ਸਭਾ ਦਾ ਯੋਗਦਾਨ ਵੀ ਲਿਖੋ।

ਇਕਾਈ-ਸੀ

5. ਪੰਜਾਬ ਵਿੱਚ ਗੁਰਦੁਆਰਾ ਸੁਧਾਰ ਲਹਿਰ ਵਿੱਚ ਐਸ ਜੀ ਪੀ ਸੀ ਦੇ ਯੋਗਦਾਨ ਦੀ ਚਰਚਾ ਕਰੋ।

6. ਪੰਜਾਬ ਦੀ ਵੰਡ ਲਈ ਫਿਰਕੂ ਰਾਜਨੀਤੀ ਕਿਸ ਤਰ੍ਹਾਂ ਜ਼ਿੰਮੇਵਾਰ ਸੀ?

ਇਕਾਈ-ਡੀ

7. ਇੱਕ ਸੰਖੇਪ ਨੋਟ ਲਗਭਗ 25 ਤੋਂ 30 ਸ਼ਬਦਾਂ ਵਿੱਚ ਕੋਈ 8 ਤੇ ਲਿਖੋ ਹਰੇਕ ਦੇ 2 ਅੰਕ ਹਨ :-

-ਗਦਰ ਸ਼ਬਦ ਦਾ ਅਰਥ
-ਰਾਸ ਬਿਹਾਰੀ ਬੋਸ ਕੌਣ ਸੀ?
-ਐਚ.ਐਸ.ਆਰ.ਏ
-ਨੌਜਵਾਨ ਭਾਰਤ ਸਭਾ
-ਨਨਕਾਣਾ ਸਾਹਿਬ ਮੋਰਚਾ
-ਗੁਰਦੁਆਰਾ ਸ਼ਬਦ ਦਾ ਅਰਥ
-ਮੁਸਲਿਮ ਲੀਗ ਦੇ ਗਠਨ ਜ਼ਿੰਮੇਵਾਰ ਕਾਰਨ
-ਸੰਪਰਦਾਇਕਤਾ ਸ਼ਬਦ ਦਾ ਅਰਥ
-ਕੈਬਨਿਟ ਮਿਸ਼ਨ ਯੋਜਨਾ ਕੀ ਸੀ
-ਐਟਲੀ ਘੋਸ਼ਣਾ
-ਫਤਹਿ ਸਿੰਘ/ ਮਾਸਟਰ ਤਾਰਾ ਸਿੰਘ
-ਪੂਰਬੀ ਪੰਜਾਬ

8. ਪੰਜਾਬ ਦੇ ਨਕਸ਼ੇ 'ਤੇ ਕਿਸੇ ਵੀ 8 ਸਥਾਨਾਂ ਦੀ ਨਿਸ਼ਾਨਦੇਹੀ ਕਰੋ ਅਤੇ ਪੰਜਾਬ ਦੇ ਇਤਿਹਾਸ ਵਿਚ ਉਹਨਾਂ ਦੀ ਮਹੱਤਤਾ ਨੂੰ ਸਮਝਾਓ–ਲਾਹੌਰ, ਅੰਮ੍ਰਿਤਸਰ, ਪੇਸ਼ਾਵਰ, ਮੁਲਤਾਨ, ਕਸ਼ਮੀਰ, ਕਸੂਰ, ਰਾਮਨਗਰ, ਚਿੱਲਾਂਵਾਲਾ, ਗੁਜਰਾਤ ਅਤੇ ਅੰਮ੍ਰਿਤਸਰ।   2×8

Exam Code: 103206   Paper Code: 6119

Programme: Bachelor of Arts (Semester – VI)

Course Title: Human Rights (Women Rights)

Course Code: BARL-6295

Time Allowed: 3 Hours   Maximum Marks: 80

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 sixteen marks.

SECTION –A

1. Describe the meaning, characteristics and scope of women rights. Also discuss its importance.
2. Elaborate in detail the historical evolution of women rights in India.

SECTION –B

3. Describe the Women rights as mentioned in various international Instruments.
4. Analyze the Constitutional and Statutory provisions of rights for women in India.

SECTION –C

5. Discuss the different forms of violation of women rights. Also suggest the remedial measures.
6. Elucidate the concept of Gender sensitization. Also discuss its significance.

SECTION-D

7. What is the meaning of empowerment of women? Also discuss its implications on society in India.
8. What steps are taken by the Indian Government to safeguard and promote the welfare of the women?

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।

खंड-ए

1. महिला अधिकारों के अर्थ, विशेषताओं और कार्यक्षेत्र का वर्णन करें। इसके महत्व की भी चर्चा कीजिए।

2. भारत में महिला अधिकारों के ऐतिहासिक विकास का विस्तार से वर्णन कीजिए।

खंड-बी

3. विभिन्न अंतर्राष्ट्रीय दस्तावेजों में वर्णित महिला अधिकारों का वर्णन कीजिए।

4. भारत में महिलाओं के अधिकारों के संवैधानिक और वैधानिक प्रावधानों का विश्लेषण करें।

खंड-सी

5. महिला अधिकारों के हनन के विभिन्न रूपों की चर्चा कीजिए। निवारण के उपाय भी सुझाइए।

6. जेंडर संवेदीकरण की अवधारणा को स्पष्ट कीजिए। इसके महत्व की भी चर्चा कीजिए।

खंड-डी

7. महिला सशक्तिकरण का क्या अर्थ है? भारत में समाज पर इसके प्रभावों की भी चर्चा कीजिए।

8. भारत सरकार ने महिलाओं की सुरक्षा और उनके कल्याण को बढ़ावा देने के लिए क्या कदम उठाए हैं?

Exam Code: 103206　　　　　　　Paper Code: 6124
(20)

Programme: Bachelor of Arts
Semester--VI

Course Title: Philosophy (Indian Metaphysics and Epistemology)

Course Code: BARL-6377

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. All question carry equal marks, i.e. 16 marks each.

Section A

1. Write an elaborate note on the "Vaidik (Orthodox) and Avaidik (Hetrodox) schools of Indian Philosophy.　16

2. State the main principles of Materialism of Charvaka Darshana.　16

Section-B

3. State the nature of Purusha and Prakriti. Explain the Samkhya theory of Causation.　8,8=16

4. Discuss the nature of Maya and Avidya in Advaitavada of Sankara.　16

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Section-C

5. Discuss the Nyaya theory of Knowledge and the four Pramanas. State the two forms of Pratyaksha Pramana.   16

6. Explain the Vaisesika theory of Padarthas. State the kinds of Gunas.   16

Section-D

7. Discuss the main principles of Sikhism. State the concept of Akal Purakh and Jagat Rachna in Sikh Philosophy.   16

8. State the eight angas of Patanjali Yog Darshana. What is Citta and Samadhi?   16

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

Exam Code: 103206   Paper Code: 9604
Bachelor of Arts (Semester-VI)
Course Title: Political Science (International Relations)
Course Code: BARL-6406
Time Allowed: 3 Hours   Maximum 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. Define International Politics? Write down its meaning, scope and significance.

   अंतर्राष्ट्रीय राजनीति को परिभाषित करें? इसका अर्थ, क्षेत्र और महत्व लिखिए।

2. Explain the characteristics Idealist Approach of International Politics.

   अंतर्राष्ट्रीय राजनीति के आदर्शवादी दृष्टिकोण की विशेषताओं की व्याख्या कीजिए।

SECTION –B

3. What do you mean by National Power? Also discuss its elements.

   राष्ट्रीय शक्ति से आप क्या समझते हैं? इसके तत्वों की भी चर्चा कीजिए।

4. Elaborate the meaning, nature and methods of Balance of Power.

   शक्ति संतुलन के अर्थ, प्रकृति और विधियों की व्याख्या कीजिए।

SECTION –C

5. Discuss the trends of the emerging world order.

   उभरती हुई विश्व व्यवस्था की प्रवृत्तियों पर चर्चा करें।

6. Elaborate in detail the causes and consequences of international terrorism.

   अंतर्राष्ट्रीय आतंकवाद के कारणों और परिणामों का विस्तार से वर्णन कीजिए।

SECTION-D

7. Analyze the aims, objectives and achievements of the United Nations.

   संयुक्त राष्ट्र संघ के लक्ष्यों, उद्देश्यों और उपलब्धियों का विश्लेषण कीजिए।

8. Examine the relevance of SAARC in the present day world.

   वर्तमान विश्व में सार्क की प्रासंगिकता का परीक्षण कीजिए।

Exam Code: 103206   Paper Code: 6120

Programme: Bachelor of Arts (Semester – VI)

Course Title: Political Science (International Relations)

Course Code: BARL-6406

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

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 sixteen marks.

SECTION –A

1. What do you mean by International Politics? Write down its scope and significance.
2. Explain Morgenthau's Realist Model of International Politics.

SECTION –B

3. Define National Power. Discuss the elements of National Power.
4. Discuss the meaning, features and methods of Balance of Power.

SECTION –C

5. Write down the nature of the emerging world order.
6. What is International Terrorism? Discuss the causes of the emergence of terrorism at international level.

SECTION-D

7. Write down the weaknesses and successes of the United Nations.
8. Write down the importance of SAARC and discuss its problems.

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।

खंड- ए

1. अंतर्राष्ट्रीय राजनीति से आप क्या समझते हैं? इसका क्षेत्र एवं महत्व लिखिए।

2. अंतर्राष्ट्रीय राजनीति के मार्गन्थो के यथार्थवादी मॉडल की व्याख्या कीजिए।

खंड-बी

3. राष्ट्रीय शक्ति को परिभाषित कीजिए। राष्ट्रीय शक्ति के तत्वों की चर्चा कीजिए।

4. शक्ति संतुलन के अर्थ, विशेषताओं और विधियों की चर्चा कीजिए।

खंड-सी

5. उभरती हुई विश्व व्यवस्था की प्रकृति लिखिए।

6. अंतर्राष्ट्रीय आतंकवाद क्या है? अन्तर्राष्ट्रीय स्तर पर आतंकवाद के उदय के कारणों की विवेचना कीजिए।

खंड-डी

7. संयुक्त राष्ट्र की कमजोरियों और सफलताओं को लिखिए।

8. सार्क के महत्व को लिखें और इसकी समस्याओं पर चर्चा करें।

Exam Code: 103206　　　　　　　　Paper Code: 6114
　　　　(20)

Programme: Bachelor of Arts
Semester--VI

**Course Title: Public Administration(Development
Administration)**

Course Code: BARL-6414

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 will carry sixteen marks.

Section-A

1. Describe Development Administration. Discuss its characteristics and scope.
2. Elucidate the main features of Development Administration in India.

Section-B

3. Briefly explain the structure, function and working of National Development Council.
4. Define Good Governance. Discuss its features and significance.

Section-C

5. In the wake of Liberalisation, discuss role and problems of Public Sector.
6. Discuss the administrative problems of Public Sector in India.

Section-D

7. Discuss the provision for the welfare of scheduled caste in India.
8. Highlight the welfare measures regarding women and Children in India.

Hindi version

नोटः उम्मीदवारों को प्रत्येक खंड से कम से कम एक प्रश्न का चयन करते हुए, पांच प्रश्नों का प्रयास करना आवश्यक है। पांचवां प्रश्न किसी भी खंड से हल किया जा सकता है। प्रत्येक प्रश्न सोलह अंक का होगा।

खंड—ए

1. विकास प्रशासन का वर्णन कीजिए।इसकी विशेषताओं और कार्यक्षेत्र की विवेचना कीजिए।
2. भारत में विकास प्रशासन की मुख्य विशेषताओं की व्याख्या कीजिए।

खंड—बी

3. राष्ट्रीय विकास परिषद की संरचना, कार्यों और कार्यप्रणाली की संक्षेप में व्याख्या करें।
4. सुशासन की परिभाषा दीजिए।इसकी विशेषताओं और महत्व पर चर्चा करें।

खंड—सी

5. उदारीकरण के मद्देनजर सार्वजनिक क्षेत्र की भूमिका और समस्याओं पर चर्चा करें।
6. भारत में सार्वजनिक क्षेत्र की प्रशासनिक समस्याओं की चर्चा कीजिए।

खंड—डी

7. भारत में अनुसूचित जाति के कल्याण के लिए प्रावधानों की चर्चा कीजिए।

8. भारत में महिलाओं और बच्चों के कल्याण के उपायों पर प्रकाश डालिए।

Programme	Exam Code	Course Code
Bachelor of Arts	103206	BARL-6421
Bachelor of Science (Non-Medical)	103306	BSNL-6421
Bachelor of Science (Medical)		BSML-6421
Bachelor of Science (Economics)		BECL-6421
Bachelor of Science (Computer Science)		BCSL-6421
Bachelor of Commerce	108506	BCRL-6421
Bachelor of Business Administration	105406	BBRL-6421

Course Title: Punjabi (Compulsory)

Semester-VI

(240)

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

ਨੋਟ: ਕੁੱਲ ਪੰਜ ਪ੍ਰਸ਼ਨ ਕਰੋ। ਹਰ ਭਾਗ ਵਿੱਚੋਂ ਇੱਕ ਪ੍ਰਸ਼ਨ ਲਾਜ਼ਮੀ ਹੈ,ਪੰਜਵਾਂ ਪ੍ਰਸ਼ਨ ਕਿਸੇ ਵੀ ਭਾਗ ਵਿਚੋਂ ਕੀਤਾ ਜਾ ਸਕਦਾ ਹੈ।ਸਾਰੇ ਪ੍ਰਸ਼ਨਾਂ ਦੇ ਅੰਕ ਬਰਾਬਰ 8 ਹਨ।

ਸੈਕਸ਼ਨ-ਏ

1. ਹੇਠ ਲਿਖਿਆਂ ਕਾਵਿ ਸਤਰਾਂ ਦੀ ਪ੍ਰਸੰਗ ਸਹਿਤ ਵਿਆਖਿਆ ਕਰੋ:

   ਵਡੇ ਵਡੇ ਜੋ ਦੀ ਸਹਿ ਲੋਗ।।

   ਤਿਨੁ ਕਉ ਬਿਆਪੈ ਚਿੰਤਾ ਰੋਗ।।

ਕਉਨ ਵਡਾ ਮਾਇਆ ਵਡਿਆਈ।।
ਸੋ ਵਡਾ ਜਿਨਿ ਰਾਮ ਲਿਵ ਲਾਈ।।ਰਹਾਉ।।
ਭੂਮੀਆ ਭੂਮਿ ਉਪਰਿ ਨਿਤ ਲੁੜੈ।।
ਛੋਡਿ ਚਲੈ ਤ੍ਰਿਸਨਾ ਨਹੀਂ ਬੁਝੈ।।
ਕਹੁ ਨਾਨਕ ਇਹੁ ਤਤੁ ਬੀਚਰਾ।।
ਬਿਨੁ ਹਰਿ ਭਜਨ ਨਹੀਂ ਛੁਟਕਾਰਾ।।

2. 'ਤੈਨੂੰ ਰੱਬ ਨਾ ਭੁੱਲੀ' ਕਾਫੀ ਦਾ ਵਿਸ਼ਾ ਵਸਤੂ ਸਪਸ਼ਟ ਕਰੋ।

ਸੈਕਸ਼ਨ-ਬੀ

3. 'ਧਰਤੀਆਂ ਦੇ ਗੀਤ' ਸਫ਼ਰਨਾਮੇ ਦਾ ਸਮਾਨ-ਸਭਿਆਚਾਰਕ ਪਰਿਪੇਖ ਸਪਸ਼ਟ ਕਰੋ।

4. 'ਧਰਤੀਆਂ ਦੇ ਗੀਤੇ ਸਫ਼ਰਨਾਮੇ ਵਿੱਚ ਇੱਕ ਸਫ਼ਲ ਸਫ਼ਰਨਾਮੇ ਵਾਲੀਆਂ ਕਿਹੜੀਆਂ ਵਿਸ਼ੇਸ਼ਤਾਵਾਂ ਹਨ?

ਸੈਕਸ਼ਨ-ਸੀ

5. ਹੇਠ ਲਿਖਿਆਂ ਵਿੱਚੋਂ ਕਿਸੇ ਇੱਕ ਵਿਸ਼ੇ 'ਤੇ ਲੇਖ ਲਿਖੋ:
   (ੳ) ਨਸ਼ਾ ਮਾਫ਼ੀਆ ਨੂੰ ਰਾਜਨੀਤਕ ਸਰਪ੍ਰਸਤੀ
   (ਅ) ਰਸੂ-ਯੂਕਰੇਨ ਯੁੱਧ ਦੇ ਮਾਰੂ ਪ੍ਰਭਾਵ
   (ੲ) ਭਾਰਤ ਵਿੱਚ ਇਸਤਰੀ ਦੀ ਸਥਿਤੀ ਤੇ ਸੁਰੱਖਿਆ

6. ਸਾਹਿਤ ਰੂਪ 'ਨਾਟਕ' ਦੀ ਪਰਿਭਾਸ਼ਾ ਦਿੰਦੇ ਹੋਏ ਇਸ ਦੇ ਤੱਤਾਂ ਬਾਰੇ ਜਾਣਕਾਰੀ ਦਿਓ।

ਸੈਕਸ਼ਨ-ਡੀ

7. ਕਿਰਿਆ ਵਾਕੰਸ਼ ਦੀ ਪਰਿਭਾਸ਼ਾ ਦਿੰਦੇ ਹੋਏ ਇਸ ਦੀ ਬਣਤਰ 'ਤੇ ਨੋਟ ਲਿਖੋ।

8. ਲਿੰਗ ਦੀ ਪਰਿਭਾਸ਼ਾ ਕਰਦੇ ਹੋਏ ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਵਿੱਚ ਲਿੰਗ ਬਦਲੀ ਦੇ ਨਿਯਮਾਂ ਸੰਬੰਧੀ ਜਾਣਕਾਰੀ ਦਿਓ।

Paper Code: 6103

Programme	Exam Code	Course Code
Bachelor of Arts	103206	BARL-6431
Bachelor of Science (Non-Medical)		BSNL-6431
Bachelor of Science (Medical)	103306	BSML-6431
Bachelor of Science (Economics)		BECL-6431
Bachelor of Science (Computer Science)		BCSL-6431
Bachelor of Commerce	108506	BCRL-6431
Bachelor of Business Administration	105406	BBRL-6431

Course Title: Punjab History and Culture
Semester-VI
(40)

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. Examine the causes for the partition of Punjab with the impacts of the partition.

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2. Discuss the measures undertaken to the rehabilitation of people of Punjab.

SECTION-B

3. Write a detailed note on the different Morchas related to the Punjabi suba movement of 1966 A.D.
4. Discuss the Green Revolution and its impact on Punjab.

SECTION-C

5. Discuss the development of Punjabi Diaspora.
6. Write a detailed note on the growth of Modern Education in Punjab.

SECTION-D

7. Write a detailed note on Punjabi literature and drama with special reference to Shiv Kumar Bataivi.
8. In the context of Punjab, describe the Drug Addiction and female foeticide.

Hindi version

प्रत्येक भाग में से एक प्रश्न करते हुए पांच प्रश्न करें। पांचवां प्रश्न किसी भी भाग में से कर सकते हैं प्रत्येक प्रश्न के 08 अंक हैं।

भाग—क

1. पंजाब के विभाजन के कारणों का वर्णन करते हुए विभाजन के प्रभाव बताएं।
2. पंजाब के लोगों के पुनर्वास के लिए किए गए उपायों की चर्चा कीजिए।

भाग—ख

3. 1966 ई. के पंजाबी सूबा आंदोलन से संबंधित विभिन्न मोर्चों पर विस्तृत टिप्पणी लिखिए।
4. हरित क्रांति और पंजाब पर इसके प्रभाव की विवेचना कीजिए।

भाग—ग

5. पंजाबी प्रवास के विकास पर चर्चा करें।
6. पंजाब में आधुनिक शिक्षा के विकास पर एक विस्तृत टिप्पणी लिखिए।

भाग—घ

7. शिव कुमार बटावली के विशेष संदर्भ के साथ पंजाबी साहित्य और नाटक पर एक विस्तृत नोट लिखें।

8. पंजाब के संदर्भ में, नशे की लत और महिला भ्रूणहत्या का वर्णन करें।

Exam Code: 103206 Paper Code: 6117
(40)

Programme: Bachelor of Arts
Semester--VI

Course Title: Sociology (Social Research and Scientific Methods)

Course Code: BARL-6475

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

Note: Attempt one question from each section and fifth question can be done from any section. Each question carries 16 marks.

Section A

1. What is the use of social research ? What steps are involved in doing research ?   16
2. Define Hypothesis ? How fact and theory help in forming a hypothesis ?   16

Section B

3. Explain Descriptive method used in research ?   16
4. Define sampling and explain its types in detail.   16

Section C

5. How is observation useful in research.   16
6. Write a note on the technique of interview for data collection ?   16

Section D

7. Explain the process of analysing data with reference to coding ?   16
8. What are the steps involved in data analysis ?   16

Exam Code: 103206　　　　　　　　**Paper Code: 6131**

Programme: Bachelor of Arts (Semester - VI)

Course Title: English (Honours): English Drama

Course Code: BARL-6559

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 16 marks.　　　　　**(5x16=80)**

Section–A

1. Write a detailed essay on the prevalent themes in *Macbeth*.
2. How does Lady Macbeth persuade Macbeth to commit murders? What drives her to insanity?

Section–B

3. How effectively does Pinter use comedy to heighten terror in *The Birthday Party?*
4. Write a detailed note on the structure of Pinter's *The Birthday Party*. Do you think it is an incomplete play?

Section–C

5. How is the play *Justice* a satire? Explain in detail.
6. Bring out the importance of the trial scene in Galsworthy's *Justice?*

Section–D

7. Write short notes on:
   a) Theatre of the Absurd　　　　　　　b) Tragedy
8. Write short notes on:
   a) Comedy of Menace　　　　　　　　b) Plot

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Exam Code: 103206   Paper Code: 6132

Programme: Bachelor of Arts (Semester – VI)

Course Title: Hindi (Honours): भारतीय काव्यशास्त्र एवं आधुनिक आलोचना की प्रवृतियाँ

Course Code: BARL-6569

Time Allowed: 3 Hours   Maximum Marks: 80

आवश्यक निर्देश - प्रश्न पत्र चार भागों में विभाजित है । प्रथम भाग अनिवार्य है । शेष तीन भागों में से एक-एक प्रश्न का उत्तर देना आवश्यक है । पांचवा प्रश्न प्रथम भाग के अतिरिक्त किसी भी भाग में से करें । कुल पाँच प्रश्नों के उत्तर दें । सभी प्रश्नों के समान अंक हैं ।

(भाग – क)

(1) निम्नलिखित प्रश्नों में से किन्हीं 4 प्रश्नों के उत्तर दें ।

(क)   काव्य के क्षेत्र में भारतीय काव्यशास्त्र की भूमिका स्पष्ट करें

(ख)   आचार्य भरतमुनि द्वारा प्रतिपादित रस सूत्र की व्याख्या करें ।

(ग)   अलंकारों का वर्गीकरण करें ।

(घ)   काव्य के गुणों पर चर्चा करें ।

(ङ)   ध्वनि संप्रदाय का स्वरूप स्पष्ट करें ।

(च)   रस के संबंध में आचार्य भरतमुनि के क्या विचार हैं ?

                                                            4 x 4 = 16

(भाग – ख)

(2) आधुनिक हिन्दी समीक्षा की विशेषताएँ बताएं ।

(3) आधुनिक हिन्दी समीक्षा के प्रकारों पर प्रकाश डालें ।

                                                            (16)

(भाग – ग)

(4) प्रतीक का अर्थ स्पष्ट करते हुए इसके भेद बताएं ।

(5) बिम्ब के भेदोपभेदों की चर्चा करें ।

                                                            (16)

(भाग – घ)

(6) राष्ट्रभाषा के रूप में हिन्दी भाषा की विशेषताओं पर प्रकाश डालें ।

(7) राजभाषा के रूप में हिन्दी भाषा के समक्ष क्या चुनौतियाँ हैं ? स्पष्ट करें ।

                                                            (16)

Exam Code: 103206   Paper Code: 6133

(20)

Programme: Bachelor of Arts
Semester-VI

Course Title: Punjabi (Honours)

Course Code: BARL-6579 ✓

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

ਵਿਦਿਆਰਥੀ ਨੇ ਕੁੱਲ ਪੰਜ ਪ੍ਰਸ਼ਨ ਕਰਨੇ ਹਨ।ਹਰੇਕ ਭਾਗ ਵਿੱਚੋਂ ਇੱਕ-ਇੱਕ ਪ੍ਰਸ਼ਨ ਕਰਨਾ ਜ਼ਰੂਰੀ ਹੈ।ਪੰਜਵਾਂ ਪ੍ਰਸ਼ਨ ਕਿਸੇ ਵੀ ਭਾਗ ਵਿੱਚੋਂ ਕੀਤਾ ਜਾ ਸਕਦਾ ਹੈ। ਹਰੇਕ ਪ੍ਰਸ਼ਨ ਦੇ ਅੰਕ 16 ਹਨ।

ਭਾਗ-ਪਹਿਲਾ

1. "ਧੁਨੀ" ਸੰਕਲਪ ਬਾਰੇ ਵਿਸਥਾਰ ਸਹਿਤ ਜਾਣਕਾਰੀ ਦਿਓ?   16

2. ਮਾਰਕਸਵਾਦੀ ਆਲੋਚਨਾ ਵਿਧੀ ਕਿਸ ਵਿਚਾਰਧਾਰਾ ਦੀ ਪੇਸ਼ਕਾਰੀ ਕਰਦੀ ਹੈ? ਚਰਚਾ ਕਰੋ?   16

ਭਾਗ-ਦੂਜਾ

3. ਹੇਠ ਲਿਖੇ ਭਾਸ਼ਾਈ ਚਿੰਨ੍ਹਾਂ ਤੇ ਨੋਟ ਲਿਖੋ:-
   ਲਾਗਭਾਸ਼ਾ (Laugue), ਪੈਰੋਲ (Parale), ਇਕਾਲਕ (Synchronic), ਦੁਕਾਲਕ (Diachronic)   16

4. ਲੜੀਦਾਰ ਅਤੇ ਕੜੀਦਾਰ ਭਾਸ਼ਿਕ ਤੱਤ ਕਿਸ ਸਮਾਜਕ ਸੰਬੰਧਾਂ ਦੀ ਪੇਸ਼ਕਾਰੀ ਕਰਦੇ ਹਨ।   16

ਭਾਗ-ਤੀਜਾ

5. ਹੇਠ ਲਿਖੇ ਭਾਸ਼ਾਈ-ਸੰਕਲਪਾਂ ਤੇ ਨੋਟ ਲਿਖੋ?
   1 ਭਾਸ਼ਾਈ ਯੋਗਤਾ,
   2 ਸ਼ੈਲੀ (Style),
   3 ਸਜੋੜ (Coherance),
   4 ਪੇਸ਼ਬੰਦੀ , ਅਗਰਭੂਸੀ (For Grounding)   16

6. ਹੇਠ ਲਿਖੇ ਸੰਕਲਪਾਂ ਬਾਰੇ ਜਾਣਕਾਰੀ ਦਿਓ:-
   ਰੁਪਾਵਲੀ (Paradigm), ਭਾਸ਼ਾਈ ਨਿਭਾਅ (Unguistice Performance), ਪ੍ਰਸੰਗ ਸਥਿਤੀ (Context of Situation), ਸੰਰਚਨਾ (Structure)   16

ਭਾਗ-ਚੌਥਾ

7. ਹੇਠ ਲਿਖੇ ਭਾਸ਼ਾਈ-ਸੰਕਲਪਾਂ ਬਾਰੇ ਚਰਚਾ ਕਰੋ?
   ਪ੍ਰਵਾਲੀ/ਪ੍ਰਬੰਧ (System), ਪੂਰਕਵੰਡ (Complimentary Distribution), ਪ੍ਰਵਚਨ (Discourse), ਕਿਰਤ/ ਪਾਠ (Text).   16

8. ਪ੍ਰਕਾਰਜ ਵੰਡ, ਖੁੱਲ ਬਦਲ , ਭਾਸ਼ਾਈ ਚਿੰਨ੍ਹ, ਸਭਿਆਚਾਰਕ ਚਿੰਨਾਂ ਸੰਬੰਧੀ ਉਦਾਹਰਨਾਂ ਸਹਿਤ ਨੋਟ ਲਿਖੋ?   16

Exam Code: 103206   Paper Code: 6134
(20)

Programme: Bachelor of Arts
Semester-VI

Course Title: History (Honours): Russian Revolution of 1917 and Russian Reconstruction Under Lenin

Course Code: BARL-6589

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

Section-A

The candidates will attempt four questions out of 8 questions in 40-40 sentences. (20 marks)

1. Treaty of Bristlitovsk.
2. April Thesis of Levin.
3. Agricultural policy of Levin.
4. Main causes of the failure of the Russian Revolution of 1905.
5. Short note on Czar Nicholas IInd.
6. Why did Russian withdraw from Ist world war.
7. Russian civil war.
8. Define state and Religion.

Section-B

The candidates will attempt 5 questions in 1000 words out of 8 questions one from each unit and 5th question from any unit of 12 marks each. (60 marks)

Unit-I

I 1. Critically discuss the February Revolution of Russia with Results.

II 2. Describe the Role of Bolsheviks in October Revolution of 1917.

Unit-II

IV 3. Discuss the causes and effects of the civil war.

V 4. How did the Bolsheviks manage to consolidate the Regime.

Unit-III

VI 5. Discuss in detail the effects October Revolution on Russia and the world.

VII 6. Critically examine the war communism.

Unit-IV

VIII 7. Discuss in detail about new economic policy.

IX 8. What do you know about the new state and society in Russia

Hindi version

भाग—ए

विद्यार्थी इस भाग में 8 प्रश्नों से 4 प्रश्न हल करेंगे 40—50 वाक्यों के बीच जिनमे प्रत्येक के 5 अंक होंगे।   5x4=20

I

1. ब्रिस्टलिटोव्स्क की संधि
2. लेनिन के अप्रैल थिसीस
3. लेनिन की कृषि नीति
4. 1905 की रूसी कान्ति की असफलता के कारण बताएं।
5. जार निकोलख द्वितीय पर लघु नोट लिखें।
6. रूस प्रथम विश्व युद्ध से पीछे क्यों हटा।
7. रूसी गृह युद्ध
8. राज्य और धर्म के बारे में बताएं।

भाग—बी

प्रत्येक इकाई में से एक प्रश्न अनिवार्य हैं। जो कि 1000 शब्दों में होगें। पांचवां प्रश्न किसी भी इकाई से करें। प्रत्येक प्रश्न 12 अंकों का होगा।   12x5=60

इकाई—1

II 1. फरवरी कान्ति के कारण और परिणामों का आलोचनात्मक वर्णन करें।

II 2. 1917 की अक्तूबर कान्ति में बोल्शेविकों की भूमिका का वर्णन करें।

इकाई—2

IV 3. गृहयुद्ध के कारणों और प्रभावों की चर्चा करें।

V 4. बोल्शेविकों ने राज्य को कैसे सुदृढ़ किया बताएं।

इकाई—3

VI 5. अक्टूबर कान्ति ने रूस और विश्व को कैसे प्रभावित किया।

VII 6. युद्धकालीन साम्यवाद का आलोचनात्मक वर्णन करें।

इकाई—4

VIII 7. नई आर्थिक नीति के बारें में विस्तारपूर्वक बताएं।

IX 8. आप रूस के 8 राज्य और समाज के बारे में क्या जानते हो?

Exam Code: 103206   Paper Code: 6135
(20)

Programme: Bachelor of Arts
Semester-VI

Course Title: Political Science (Honours) : Comparative
Political Thought-II

Course Code: BARL-6599

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 A

1. Discuss the key social and political ideas of Swami Vivekananda that has visible influence on the Indian Constitutional Philosophy.
2. Discuss Raja Ram Mohan Roy as a liberal political thinker.

SECTION B

3. Analyze Rabindra Nath Tagore's ideas on nationalism.
4. Critically evaluate Veer Savarkar's views on nationalism.

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SECTION C

5. Examine M.N.Roy's ideas on democracy.
6. Critically evaluate Mao's Theory of Contradictions.

SECTION D

7. Write a detailed note on John Rawls' Theory of Political Liberalism.
8. Critically evaluate the concept of Integral Humanism given by Deen Dyal Upadhayay.

Hindi Version

नोटः निम्नलिखित चार इकाइयों में से प्रत्येक से एक प्रश्न लिखें। पांचवां प्रश्न किसी भी खंड से हल किया जा सकता है। प्रत्येक प्रश्न 16 अंक का है। उत्तर 1000 शब्दों में होना चाहिए।

इकाई—1

1. स्वामी विवेकानंद के प्रमुख सामाजिक और राजनीतिक विचारों पर चर्चा करें जिनका भारतीय संवैधानिक दर्शन पर स्पष्ट प्रभाव है।
2. एक उदार राजनीतिक विचारक के रूप में राजा राम मोहन राय की चर्चा कीजिए।

इकाई–2

3. राष्ट्रवाद पर रवींद्र नाथ टैगोर के विचारों का विश्लेषण कीजिए।

4. राष्ट्रवाद पर वीर सावरकर के विचारों का आलोचनात्मक मूल्यांकन कीजिए।

इकाई–3

5. लोकतंत्र पर एम.एन. रॉय के विचारों का परीक्षण कीजिए।

6. माओ के अंतर्विरोध सिद्धांत का आलोचनात्मक मूल्यांकन कीजिए।

इकाई–4

7. जॉन रॉल्स के राजनीतिक उदारवाद के सिद्धांत पर विस्तृत टिप्पणी लिखिए।

8. दीन दयाल उपाध्याय द्वारा गढ़ी गई एकात्म मानववाद की अवधारणा का आलोचनात्मक मूल्यांकन करें।

Punjabi Version

ਨੋਟ: ਕੁੱਲ ਪੰਜ ਪ੍ਰਸ਼ਨ ਕਰੋ।ਹਰੇਕ ਭਾਗ ਵਿੱਚੋਂ ਇਕ-ਇਕ ਪ੍ਰਸ਼ਨ ਕਰਨਾ ਲਾਜ਼ਮੀ ਹੈ ਅਤੇ ਪੰਜਵਾਂ ਪ੍ਰਸ਼ਨ ਕਿਸੇ ਵੀ ਭਾਗ ਵਿੱਚੋਂ ਕੀਤਾ ਜਾ ਸਕਦਾ ਹੈ। ਹਰੇਕ ਪ੍ਰਸ਼ਨ ਦੇ ਅੰਕ 16 ਹਨ।ਉੱਤਰ ਲੱਗਭੱਗ 1000 ਸ਼ਬਦਾਂ ਵਿੱਚ ਦਿਓ।

ਯੂਨਿਟ-1

1. ਸਵਾਮੀ ਵਿਵੇਕਾਨੰਦ ਦੇ ਪ੍ਰਮੁੱਖ ਰਾਜਨੀਤਿਕ ਅਤੇ ਸਮਾਜਿਕ ਵਿਚਾਰਾਂ ਦਾ ਵਰਨਣ ਕਰੋ, ਜਿਹਨਾਂ ਦਾ ਭਾਰਤੀ ਸੰਵਿਧਾਨ ਦੇ ਫਲਸਫੇ ਉਪਰ ਪ੍ਰਤੱਖ ਪ੍ਰਭਾਵ ਦਿਖਾਈ ਦਿੰਦਾ ਹੈ।

2. ਰਾਜਾ ਰਾਮ ਮੋਹਨ ਰਾਏ ਨੂੰ ਇੱਕ ਉਦਾਰਵਾਦੀ ਰਾਜਨੀਤਿਕ ਚਿੰਤਨ ਦੇ ਰੂਪ ਵਿੱਚ ਵਰਨਣ ਕਰੋ।

ਯੂਨਿਟ-2

3. ਰਬਿੰਦਰ ਨਾਥ ਟੈਗੋਰ ਦੇ ਰਾਸ਼ਟਰਵਾਦ ਵਿਚਾਰਾਂ ਦਾ ਵਿਸ਼ਲੇਸ਼ਣ ਕਰੋ।

4. ਰਾਸ਼ਟਰਵਾਦ ਬਾਰੇ ਵੀਰ ਸਾਵਰਕਰ ਦੇ ਵਿਚਾਰਾਂ ਦਾ ਆਲੋਚਨਾਤਮਕ ਮੁਲਾਂਕਣ ਕਰੋ।

ਯੂਨਿਟ-3

5. ਐਮ. ਐਨ. ਰਾਏ ਦੇ ਲੋਕਤੰਤਰ ਸੰਬੰਧੀ ਵਿਚਾਰਾਂ ਦੀ ਜ਼ਾਂਚ ਕਰੋ।

6. ਮਾਓ ਦੇ ਵਿਰੋਧਾਭਾਸ ਸਿਧਾਂਤ (Theory of Contradiction) ਦਾ ਆਲੋਚਨਾਤਮਕ ਮੁਲਾਂਕਣ ਕਰੋ।

ਯੂਨਿਟ-4

7. ਜੋਹਨ ਰਾਲਸ ਦੇ ਰਾਜਨੀਤਕ ਉਦਾਰਵਾਦ ਦੇ ਸਿਧਾਂਤ ਦੇ ਵਿਸਤ੍ਰਿਤ ਨੋਟ ਲਿਖੋ।

8. ਦੀਨ ਦਿਆਲ ਉਪਧਿਆਏ ਦੁਆਰਾ ਰਚਿਤ ਅਖੰਡ ਮਾਨਵਵਾਦ ਦੀ ਧਾਰਨਾ ਦਾ ਆਲੋਚਨਾਤਮਕ ਮੁਲਾਂਕਣ ਕਰੋ

Programme	Exam Code	Course Code
Bachelor of Arts	103205	BARL-6609
Bachelor of Science (Economics)	103305	BECL-6607 (Opt-II)

Course Title: Economics (Honours): Public Finance

Semester-VI

(20)

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 carries 16 marks.

SECTION A

1. Briefly discuss the different classification of Public Expenditure. Which of the classification is most suitable to developing countries?   16

2. Briefly explain the following.
   (a) Canon of Public Expenditure.
   (b) Public Expenditure and Economic growth.   16

SECTION B

3. What are the effects of Public Expenditure on Production and Distribution.   16
4. Explain the various Theories of Public Revenue.   16

SECTION C

5. Explain the concept of Taxable Capacity. What are the factors the Taxable Capacity of a Country.   16
6. What is meant by Public Debt? Explain the role of Public Debt in the process of economic development of a Country.   16

SECTION D

7. Define Budget. Give the Classification of Public Budget.
   16
8. Explain the various Principles of Federal Finance.   16

Exam Code: 103206　　　　　　　　Paper Code: 6137
(30)

Programme: Bachelor of Arts
Semester-VI

Course Title: Psychology (Honours): Applied Psychology

Course Code: BARL-6619

Time Allowed: 3 Hours　　　　　　　　Max Marks: 80

Note: All question carry equal (16) marks. Out of eight questions attempt five question, selecting at least one question from each section and the fifth question may be attempted from any section.

SECTION A

1. Discuss nature and scope of Educational Psychology.

   16

2. Describe various teaching methods with suitable examples.　　16

SECTION B

3. Explain goals and ethical issues of counselling.　16
4. Write a note on the following:
   a) Career Counselling
   b) Counselling for addictive behaviour　16

SECTION C

5. Briefly discuss Work Stress. How one can manage stress In work settings.   16

6. Explain dynamics of organizational behaviour and discuss organizational change.   16

SECTION D

7. Discuss the role of health psychology in society.   16

8. Describe the role of psychologists in dealing with psycholosomatic disorders.   16

Exam Code: 103206 (B.A.), 103306 (B.Sc.)   Paper Code: 6107

Bachelor of Arts, Bachelor of Science (Semester-VI)
Course Title: Computer Applications (Vocational)
(Business Data Processing)
Course Code: BARM/BECM-6124

Time Allowed: 3 Hours   **Max Marks: 50**

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. All question carry equal (10) marks.

Section-A

1. Explain the use of computers in various business areas using Data Processing.

2. Discuss the various needs of computers in business. Explain the role of computers in inventory management and online reservation systems.

Section-B

3. What is the role of Data Processing in any organization? Explain the characteristics of Distributed processing.

4. Explain serial and sequential file access methods with suitable examples.

Section-C

5. Explain Pivot Table and how can you add and remove data from Pivot Table.

6. Explain the various applications of worksheet and How you can print any spreadsheet.

Section-D

7. Explain the role of functions in any spreadsheet also explain any 5 statistical functions with examples.

8. Explain the following:
   a) Trigonometric and Mathematical functions.
   b) Data analytics tools- sort, filter, fill, and query.

Paper Code: 6106

Programme	Exam Code	Course Code
Bachelor of Arts	103206	BARM-6134
Bachelor of Science (Economics)	103306	BECM-6134
Bachelor of Science (Computer Science)		BCSM-6134

Course Title: Computer Science (Information Technology)

Semester-VI

(40)

Time Allowed: 3 Hours　　　　　　　**Max Marks: 50**

CANDIDATES ARE REQUIRED TO ATTEMPT FIVE QUESTIONS, SELECTING ATLEAST ONE QUESTION FROM EACH SECTION.THE FIFTH QUESTION MAY BE ATTEMPYED FROM ANY SECTION.

SECTION A

1. EXPLAIN VARIOUS TYPES OF TOPOLOGIES IN DETAIL.
   (10)

2. WHAT IS INTERNET EXPLAIN ITS USES AND APPLICATIONS.　　　　　　　(10)

SECTION B

3. EXPLAIN DSS IN DETAIL. (10)

4. EXPLAIN COMPONENTS OF COMPUTER BASED INFORMATION SYSTEM. (10)

SECTION C

5. EXPLAIN THE WORKING OF INSTAGRAM IN DETAIL. (10)

6. WHAT IS E-MAIL AND HOW IT WORKS. (10)

SECTION D

7. HOW TO REGISTER A DOMAIN WITH A WEBSITE HOST . (10)

8. EXPLAIN NAVIGATING STUDIO IN DETAIL. (10)

Exam Code: 103206   Paper Code: 6127
(20)

Programme: Bachelor of Arts
Semester--VI

Course Title: Cosmetology (Vocational)

Course Code: BARM-6147

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. DESCRIBE THE RULES OF SALOON PLANNING?
2. WRITE DOWN THE QUALITIES AND DUTIES OF OWNER?

SECTION—B

3. WHAT ARE THE PROFESSIONAL ETHICS AS AN EMPLOYEE AND OPERATOR?
4. EXPLAIN THE MAINTAINCE OF RECORDS?

SECTION—C

5. WHAT KIND OF PRECAUTIONS WE SHOULD TAKE IN A SALOON?

6. DESCRIBE THE EMERGENCY PROCEEDURE IN A SALOON?

SECTION-D

7. WHAT IS PERMANENT WAVING? WRITE THE TOTAL PROCEEDURE IN DETAIL?

8. HOW WILL YOU APPLY THE TEMPORARY AND PERMANENT HAIR COLOUR?

Exam Code: 103206   Paper Code: 6121

Bachelor of Arts (Semester-VI)
Course Title: Indian Classical Dance (Kathak)
Course Code: BARM-6156

Time Allowed: 3 Hours   **Maximum Marks – 40**

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

SECTION –A

1. Comparison between Indian and Western dance.

2. What do you mean by Satriya Dance.

SECTION –B

3. Explain elements of dance according to Natayashastra.

4. What do you mean by nayak nayika. Explain how they use in dance.

SECTION –C

5. (a) What is guru shishya prampara.

   (b) Explain Sathanak Bhedas.

6. Explain the dances of Arunachal Pradesh.

SECTION –D

7. (a) Write the notation of Chakradar paran and tehai in Pancham Swari Taal.

   (b) Write Arh, kuarh, Viarh in Teentaal.

8. (a) What is Pancham Swari taal and write the notation of this taal with ekgun, dugun, tigun and chaugun.

   (b) Compare the following taals: Sooltaal and Kehrva taal.

2053   20

Exam Code: 103206   Paper Code: 6126
    (20)

Programme: Bachelor of Arts
Semester--VI

Course Title: Fashion Designing and Garment Construction (Vocational) (Historic Costumes of India-II)

Course Code: BARM-6237

Time Allowed: 3 Hours   Max Marks: 30

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

Section-A

1. Explain the traditional male and female costumes of Panjab.   (6)
2. Explain the traditional costumes of males and females worn during festivals and weddings in Himachal.   (6)

Section-B

3. Explain the traditional male and female costumes of Maharashtra?   (6)
4. Give an account of various characteristics of the traditional costumes of Rajasthan.   (6)

Section-C

5. Explain various characteristics of traditional costumes of Bengal. (6)
6. Give an account of male and female. traditional costumes of Gujarat. (6)

Section-D

7. Give an account of female traditional costumes of Kerala with an illustration. (6)
8. Explain various characteristics of traditional costumes of Karnataka. (6)

Exam Code: 103206   Paper Code: 6118
(20)

Programme: Bachelor of Arts
Semester--VI

Course Title: Fine Arts (Drawing and Painting)

Course Code: BARM-6245

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. Write in brief British concept Indian art.   8
2. What do you know about Goddess Kali in Kalighat paintings. Write in detail.   8

Section-B

3. Discuss in detail about any 2 paintings of Nandlal Bose.   8

4. Discuss about any 2 Vaas paintings of Abanindr nath Tagore.   8

Section-C

5. Write about European concept of Amrita Shergill.　8
6. Raja Ravi Varma's oil paintings hold an important Place in Indian art. What do you think?　8

Section-D

7. Discuss the paintings titled "British Raj" Produced in 1986 and its artist.　8
8. Write a short essay on S.G. Thakur singh's art gallery. Throwing light on the water colour.　8

Punjabi Version

ਸੈਕਸ਼ਨ-ਏ

1. ਭਾਰਤੀ ਕਲਾ ਦੀ ਬਿਟ੍ਰਿਸ਼ ਧਾਰਨਾ ਸੰਖੇਪ ਵਿੱਚ ਲਿਖੋ।   8

2. ਕਾਲੀਘਾਟ ਪੇਂਟਿੰਗ ਵਿੱਚ ਦੇਵੀ ਕਾਲੀ ਬਾਰੇ ਤੁਸੀਂ ਕੀ ਜਾਣਦੇ ਹੋ? ਵਿਸਥਾਰ ਵਿੱਚ ਲਿਖੋ।   8

ਸੈਕਸ਼ਨ-ਬੀ

3. ਨੰਦ ਲਾਲ ਬੋਸ ਦੇ ਕੋਈ ਦੋ ਪੇਂਟਿੰਗ ਦਾ ਵਿਸਥਾਰ ਨਾਲ ਵਰਣਨ ਕਰੋ?   8

4. ਅਵਨਿੰਦਰ ਨਾਥ ਟੈਗੋਰ ਦੀਆਂ ਕਿਸੇ ਦੋ ਵਾਸ਼ ਪੇਂਟਿੰਗਾਂ ਬਾਰੇ ਚਰਚਾ ਕਰੋ।   8

ਸੈਕਸ਼ਨ-ਸੀ

5. ਅੰਮ੍ਰਿਤਾ ਸ਼ੇਰਗਿੱਲ ਦੀ ਯੁਰੋਪਿਏ ਅਵਧਾਰਨਾ ਬਾਰੇ ਲਿਖੋ।   8

6. ਰਾਜਾ ਰਵੀ ਵਰਮਾ ਦੇ ਤੇਲ ਚਿੱਤਰ ਭਾਰਤੀ ਕਲਾ ਵਿੱਚ ਮਹਤੱਵਪੂਰਨ ਸਥਾਨ ਰੱਖਦੇ ਹਨ, ਕੀ ਤੁਸੀਂ ਇਸ ਨਾਲ ਸਹੱਮਤ ਹੋ?   8

ਸੈਕਸ਼ਨ-ਡੀ

7. 1986 ਵਿੱਚ ਬਣਾਈ ਗਈ ਬ੍ਰਿਟਿਸ਼ ਰਾਜ ਪੇਂਟਿੰਗ ਅਤੇ ਉਸਦੇ
   ਕਲਾਕਾਰ ਬਾਰੇ ਚਰਚਾ ਕਰੋ।   8

8. ਐਸ.ਜੀ ਠਾਕੁਰ ਸਿੰਘ ਦੇ ਜਲ-ਰੰਗਾਂ ਉੱਤੇ ਪ੍ਰਕਾਸ਼ ਪਾਉਂਦੇ ਹੋਏ,
   ਉਹਨਾਂ ਦੀ ਆਰਟ-ਗੈਲਰੀ ਬਾਰੇ ਸੰਖੇਪ ਵਿੱਚ ਨਿਬੰਧ ਲਿਖੋ।   8

Exam Code: 103206   Paper Code: 6130
(30)

Programme: Bachelor of Arts
Semester—VI

Course Title: Hindi (Elective) (Vishishth Rachnakar Evam
Rachna: Saidhantik Evam Vishleshnatmak Addhyan,
Anuvaad Bodh)

Course Code: BARM-6268 ✓

Time Allowed: 3 Hours   Max Marks: 60

आवश्यक निर्देश— प्रश्न पत्र चार भागों में विभाजित है। भाग—क में से तीन व्याख्याएं करनी अनिवार्य है। शेष भागों में से एक—एक प्रश्न का उत्तर देना अनिवार्य है। पांचवां प्रश्न भाग—ख, ग, घ में से किया जा सकता है।

भाग—क

1. निम्न में से किन्हीं तीन पद्यांशों की सप्रसंग व्याख्या करें—

     ।) तन से समरशूर, मन से भावुक, स्वभाव से दानी,
        जाति—गोत्र का नहीं, शील का, पौरुष का अभिमानी।
        ज्ञान—ध्यान, शस्त्रास्त्र, शास्त्र का कर सम्यक अभ्यास,
        अपने गुण का किया कर्ण ने स्वंय सुविकास।

II) तूने जीत लिया था मुझको निज पवित्रता के बल से,
क्या था पता, लूटने आया है कोई मुझको छल से?
किसी और पर नहीं किया, वैसा सनेह में करता था,
सोने पर भी, धनुर्वेद का ज्ञान कान में भरता था।

III) मैत्री की राह बताने को,
सबको सुमार्ग पर लाने को,
दुर्योधन को समझाने को,
भीषण विध्वंस बचाने को,
भगवान हस्तिनापुर आये,
पांडव का संदेशा लायें।

IV) नहीं जानता था की छह इतना संहारक होगा,
दान कावच कुंडल का ऐसा हृदय–विदारक होगा।
मेरे मन का पाप मुझी पर बनकर घिरेगा,
वज्र भेद कर तुझे तुरंत मुझ पर भी आन गिरेगा।

V) अर्जुन से लड़ना छोड़ कीर्ति क्या लूँगा?

क्या स्वंय आप अपने को उत्तर दूँगा?

मेरा चरित्र फिर कौन समझ पाएगा?

सारा जीवन ही उलट—पलट जाएगा।

VI) वीर कर्ण, विक्रमी, दान का अति अमोघ व्रतधारी,

पाल रहा था बहुत काल से एक पुण्य—प्रण भारी।

रवि—पूजन के समय सामने जो याचक आता था,

मुँहमाँगा वह दान कर्ण से अनायास पाता था।

12

भाग—ख

2. 'रश्मिरथी' खंडकाव्य के आधार पर 'कर्ण' का चरित्र—चित्रण करें।   12

3. 'रश्मिरथी' में स्थापित युद्ध और धर्म संबंधी विचारों की समीक्षा करें।   12

भाग—ग

4. ''रश्मिरथी खंडकाव्य में भाग्य से अधिक पौरुष को महत्व दिया गया है।'' प्रस्तुत कथन की समीक्षा करें।   12

5. वर्तमान जीवन मूल्यों के संदर्भ में 'रश्मिरथी' में संकलित विचारों पर प्रकाश डालें।   12

भाग—घ

6. खंडकाव्य के तत्वों के आधार पर 'रश्मिरथी' की समीक्षा करें।   12

7. 'रश्मिरथी' खंड काव्य के आधार पर 'भीष्म पितामाह' का चरित्र—चित्रण करें।   12

Exam Code: 103206   Paper Code: 6115
      (20)

Programme: Bachelor of Arts
Semester--VI

Course Title: Home Science (Foods and Nutrition and Child Development)

Course Code: BARM-6284

Time Allowed: 3 Hours   Max Marks: 60

Attempt five questions, selecting at least one question from each section and the fifth question may be attempted from any section. All questions carry equal 12 marks.

Section-A

1. Write note on:-
    a. Concept of Balanced diet?
    b. Classification of food based on 5 food groups?
                                            (6+6)

2. What is the importance of diet during pregnancy? What points should be kept in mind while planning meal for pregnant woman?   12

Section-B

3. Explain different types of fever with examples. Discuss the causes, symptoms & dietary management of typhoid fever.   12

4. a. Explain Principles of therapeutic diets.   6
   b. Write short notes on following:-
   (i) Soft diet
   (ii) Bland diet
   (iii) Liquid diet.   (2+2+2)

Section-C

5. Define Play. Explain its importance in the child's development.   12

6. Define Social Development. What are the factors affecting social development.   12

Section-D

7. Discuss the common discomforts during pregnancy. How can these be relieved.   12

8. Write notes on:-
   (a) Bottle feeding & Breast feeding.   3+3
   (b) Weaning foods & Importance of weaning.   3+3

Exam Code: 103206   Paper Code: 6113
(20)

Programme: Bachelor of Arts
Semester--VI

Course Title: Journalism and Mass Communication
(Vocational) (Public Relations)

Course Code: BARM-6313

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 A

1. Enumerate the growth of PR as a concept and profession. What is the prospect of PR in India?
2. Define Public Relation. What are the objectives of Public Relation? Discuss

SECTION-B

3. Write a short note on:
   a) Advertising
   b) Press Conference

4. Discuss the various PR organizations

SECTION-C

5. Describe the various tools of PR and explain the two most important among those.
6. What are the ways in which a PR professional can use the internet and other audio visual aids as effective PR tools?

SECTION-D

7. As a PRO of an organization, you have been asked by the management to organization press conference. How will you plan and execute it?
8. What is Crisis management?

Paper Code: 6104

Programme	Exam Code	Course Code
Bachelor of Arts	103206	BARM-6333 (I)
Bachelor of Science (Non-Medical)	103306	BSNM-6333 (I)
Bachelor of Science (Economics)		BECM-6333 (I)
Bachelor of Science (Computer Science)		BCSM-6333 (I)

Course Title: Mathematics (Linear Algebra)

Semester-VI

(50)

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

NOTE :- Attempt five questions selecting at least one question from each section. The fifth question may he attempted from any section. Each question carries 8 marks.

Section-A

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

    (i) Commutative ring without unity,

    (ii) Commutative ring with unity,   4

    (b) Find a set of linearly independent generators of the subspace of

    R^3 consisting of all solutions of equation $x_1 - x_2 + x_3 = 0$.   4

2. (a) Is the intersection of two subspaces always a subspace ? Prove your answer.   3

    (b) Let R^3 over R be a vector space. Let U={(x,y,0): x,y∈ R} and W={(0,y,z): y,z ∈ R} be subspaces Of R^3. Prove that

    $R^3 = U + W$ but $R^3 \neq U \oplus W$.   5

Section-B

3. Let S and T be finitely generated subspaces of a vector space V. Then S∩T and S+T are finitely generated subspaces, and we have

   dim(S+T)+dim(S∩T)=dimS+dimT.   8

4. (a) Let V be finitely generated vectore space over field F then any linearly indepnedent subset of V can be extended to form a basis of V.   5

   (b) Find basis and dimension of subspace W={(a,b,c): c= a+b, b=2a} of

   R^3.   3

Section-C

5. Let T:$V \rightarrow W$ be a linear transformation, where dimV = dimW. Prove that the following statements are equivalent.

   (i)   T is invertible.

   (ii)   T is non-singular.

   (iii)   T is onto.

   (iv)   If the set $\{v_1, v_2, ..., v_n\}$ be a basis of v, then

           $\{T(v_1), T(v_2), ..., T(v_n)\}$ is a basis of W.   8

6. (a) Check the mapping T : $R^2 \rightarrow R^2$ defind as $T(x_1, x_2)=(2 x_2, x_1)$ is linear transmation.   4

   (b) Give an example of two linear transformation S and T such that ST≠TS.   4

Section-D

7. (a) Let V and W be finite dimensional vector spaces. Let T:V→W be a linear transformation. If B_1 and B_2 are ordered bases of V and W respectively. Prove that for any vector v in V,

   $[T;B_1, B_2][v;B_1]=[T(v);B_2]$.   4

   (b) Let T be a linear operator on R^2 defined by T(x,y)=(3x-2y,x+4y). Find matrix of T relative to the basis B={(1,0), (1,1)}.   4

8. (a) Given a matrix $\begin{pmatrix} \frac{1}{2} & 1 \\ \frac{2}{3} & 4 \end{pmatrix}$. Find the corresponding linear operator T

on R^2 realtive to the basis B={ (1,1) (-1,0)}.   4

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

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

$\mathcal{B}$={(1,2,2), (1,1,2), (1,2,1)}.   4

(50)   **Paper Code: 6105**

Programme	Exam Code	Course Code
Bachelor of Arts	103206	BARM-6333 (II)
Bachelor of Science (Non-Medical)	103306	BSNM-6333 (II)
Bachelor of Science (Economics)		BECM-6333 (II)
Bachelor of Science (Computer Science)		BCSM-6333 (II)

Course Title: Mathematics (Numerical Analysis)   Semester-VI

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

Note: Student are required to attempt five questions, selecting at least one question from each section. Each question carries eight marks. Use of non-programmable and non-storage type calculator is allowed.

Section-A

Q1. Find the number of terms of the exponential series such that their sum gives the value of e^x correct to eight decimal places at x=1.

Q2. Give geometrical interpretation of Regula-falsi method and calculate it's order of convergence.

Section-B

Q3. Solve the system of equations by Gauss-Jordan elimination method:

2x+6y-z=-14;   5x-y+2z=29;   -3x-4y+z=4.

Q4. Derive Newton's Backward Difference Interpolation Formula.

Section-C

Q5. (a) Given a table:

x	10	11	12	13	14
y	0.23967	0.28060	0.31788	0.35209	0.38368

Evaluate y(12.2) using Stirling's formula.

(b) Find the value of $\frac{dy}{dx}$ at x=1.2 for the following using interpolation method:

x	1.0	1.2	1.4	1.6	1.8	2.0	2.2
y	2.7183	3.3201	4.0552	4.9530	6.0496	7.3891	9.0250

Q6. Compute $I = \int_{-1}^{1}(1 - x^2)^{\frac{3}{2}} \cos x \, dx$ by using Gauss one-point, two-point and three-point quadrature rules.

Section-D

Q7. Use Milne's Predictor corrector method to evaluate the integral of $\frac{dy}{dx} - 4y = 0$ at x=0.4 given that

x	0	0.1	0.2	0.3
y	1	1.492	2.226	3.320

Q8. Given $\frac{dy}{dx} = \frac{y-x}{y+x}$ where y(0)=1. Find y(1) by

(i) Runga-Kutta second order formula   (ii) Runga-Kutta fourth order formula.

Exam Code: 103206   Paper Code: 6125
(20)

Programme: Bachelor of Arts
Semester--VI

Course Title: Music (Instrumental)

Course Code: BARM-6357 ✓

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 do you know about popular music culture? How does it impact our life?
2. Throw the light on classification of folk instruments of Punjab.

SECTION B

3. Pandit Niladri Kumar made a notable contribution to the field of Indian music. Justify.
4. What is the role of stage in performing classical Indian music.

SECTION C

5. What are string instruments? How many kinds of string instruments are there in Indian music?
6. Write a description of musical instruments used in Bhakti Sangeet.

SECTION D

7. Give a brief description of Raag Baageshwari with four Toras and notation.
8. Write down full description of Dhamaar Taal with Ek Gun, Do Gun and Chaar Gun layakaaris.

Hindi Version

प्रत्येक खंड से कम से कम एक प्रश्न का चयन करते हुए कुल पांच प्रश्नों का उत्तर दें। पांचवां प्रश्न किसी भी खंड से किया जा सकता है। प्रत्येक प्रश्न के बराबर (8) अंक हैं।

खंड—ए

1. लोकप्रिय संगीत संस्कृति के बारे में आप क्या जानते हैं? यह हमारे जीवन को कैसे प्रभावित करता है?
2. पंजाब के लोक वाद्यों के वर्गीकरण पर प्रकाश डालिए।

खंड—बी

3. पंडित नीलाद्रि कुमार ने भारतीय संगीत के क्षेत्र में उल्लेखनीय योगदान दिया वर्णन कीजिए।
4. शास्त्रीय भारतीय संगीत के प्रदर्शन में मंच की क्या भूमिका है?

खंड—सी

5. स्ट्रिंग यंत्र क्या हैं? भारतीय संगीत में कितने प्रकार के स्ट्रिंग वाद्य यंत्र हैं?
6. भक्ति संगीत में प्रयुक्त वाद्ययंत्रों का वर्णन कीजिए।

खंड—डी

7. राग बागेश्वरी का संक्षिप्त विवरण चार तोरों और स्वरों के साथ दीजिए।

8. धमार ताल का पूरा विवरण एक गुण, दो गुण और चार गुण लयकारी के साथ लिखें।

Punjabi Version

ਨੋਟ: ਹਰੇਕ ਸੈਕਸ਼ਨ ਵਿੱਚੋਂ ਘੱਟੋ-ਘੱਟ ਇੱਕ ਸਵਾਲ ਦੀ ਚੋਣ ਕਰਕੇ ਪੰਜ ਸਵਾਲਾਂ ਦੇ ਜਵਾਬ ਦਿਓ। ਪੰਜਵਾਂ ਸਵਾਲ ਕਿਸੇ ਵੀ ਸੈਕਸ਼ਨ ਤੋਂ ਕੀਤਾ ਜਾ ਸਕਦਾ ਹੈ। ਹਰੇਕ ਸਵਾਲ ਦੇ 8 ਅੰਕ ਹਨ।

ਸੈਕਸ਼ਨ ਏ

1. ਤੁਸੀਂ ਪ੍ਰਸਿੱਧ ਸੰਗੀਤ ਸੱਭਿਆਚਾਰ ਬਾਰੇ ਕੀ ਜਾਣਦੇ ਹੋ? ਇਹ ਸਾਡੇ ਜੀਵਨ ਨੂੰ ਕਿਵੇਂ ਪ੍ਰਭਾਵਿਤ ਕਰਦਾ ਹੈ?

2. ਪੰਜਾਬ ਦੇ ਲੋਕ ਸਾਜ਼ਾਂ ਦੇ ਵਰਗੀਕਰਨ 'ਤੇ ਚਾਨਣਾ ਪਾਓ।

ਸੈਕਸ਼ਨ ਬੀ

3. ਪੰਡਿਤ ਨੀਲਾਦਰੀ ਕੁਮਾਰ ਨੇ ਭਾਰਤੀ ਸੰਗੀਤ ਦੇ ਖੇਤਰ ਵਿੱਚ ਇੱਕ ਜ਼ਿਕਰਯੋਗ ਯੋਗਦਾਨ ਪਾਇਆ। ਜਾਇਜ਼ ਠਹਿਰਾਓ।

4. ਸ਼ਾਸਤਰੀ ਭਾਰਤੀ ਸੰਗੀਤ ਦੇ ਪ੍ਰਦਰਸ਼ਨ ਵਿੱਚ ਸਟੇਜ ਦੀ ਕੀ ਭੂਮਿਕਾ ਹੈ।

ਸੈਕਸ਼ਨ ਸੀ

5. ਸਟਰਿੰਗ ਯੰਤਰ ਕੀ ਹਨ? ਭਾਰਤੀ ਸੰਗੀਤ ਵਿੱਚ ਕਿੰਨੇ ਤਰ੍ਹਾਂ ਦੇ ਤਾਰਾਂ ਦੇ ਸਾਜ਼ ਹਨ?

6. ਭਗਤੀ ਸੰਗੀਤ ਵਿੱਚ ਵਰਤੇ ਜਾਂਦੇ ਸਾਜ਼ਾਂ ਦਾ ਵਰਣਨ ਲਿਖੋ।

ਸੈਕਸ਼ਨ ਡੀ

7. ਰਾਗ ਬਾਗੇਸ਼ਵਰੀ ਦਾ ਚਾਰ ਤੋਰਾਂ ਅਤੇ ਸੰਕੇਤਾਂ ਨਾਲ ਸੰਖੇਪ ਵਰਣਨ ਦਿਓ।

8. ਇੱਕ ਗਾਨ, ਦੋ ਗਾਨ ਅਤੇ ਚਾਰ ਗਾਨ ਲਾਈਕਾਰੀਆਂ ਨਾਲ ਯਮਾਰ ਤਾਲ ਦਾ ਪੂਰਾ ਵੇਰਵਾ ਲਿਖੋ।

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Exam Code: 103206   Paper Code: 6122
        (20)

Programme: Bachelor of Arts
        Semester--VI

Course Title: Music (Vocal)

Course Code: BARM-6366

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 questions 8 Marks.

Section-A

1. Definition and Explanation of Sargam Geet and Raag Malika musical terms.
2. Contribution of Ustaad Fiyaiz Khan in the development of Indian Music

Section-B

3. Role of Patiala and Agra Ghranas of Khayal Gayaki in the growth and propagation of Indian Classical Music.
4. Define Gamak and its various types.

Section-C

5. Write a note on Music and Aesthetics.
6. Contribution of Guru Gobind Singh in the development of Gurmat Sangeet.

Section-D

7. Write a notation of Sool Taal with Ekgun and Dugun.
8. Write a notation of Raga Madhuwanti with two alaps and Taans.

Punjabi Version

ਹਰੇਕ ਵਿਦਿਆਰਥੀ ਕੁੱਲ ਪੰਜ ਪ੍ਰਸ਼ਨ ਹੱਲ ਕਰੇਗਾ।ਪ੍ਰਸ਼ਨ ਪੱਤਰ ਵਿੱਚ ਦਿਤੇ ਗਏ ਭਾਗ ਪਹਿਲਾ, ਦੂਜਾ, ਤੀਜਾ ਅਤੇ ਚੌਥਾ ਵਿੱਚੋਂ ਇਕ-ਇਕ ਪ੍ਰਸ਼ਨ ਹੱਲ ਕਰਨਾ ਲਾਜ਼ਮੀ ਹੈ ਅਤੇ ਪੰਜਵਾਂ ਪ੍ਰਸ਼ਨ ਕਿਸੇ ਵੀ ਭਾਗ ਵਿੱਚੋਂ ਹੱਲ ਕੀਤਾ ਜਾ ਸਕਦਾ ਹੈ।ਹਰੇਕ ਪ੍ਰਸ਼ਨ ਦੇ ਅੱਠ ਅੰਕ ਹੋਣਗੇ।

ਭਾਗ-ਪਹਿਲਾ

1. ਸਰਗਮ ਗੀਤ ਅਤੇ ਰਾਗ ਮਾਲਿਕਾ ਦਾ ਪਰਿਭਾਸ਼ਾ ਸਹਿਤ ਵਿਖਿਆਨ ਕਰੋ।

2. ਹਿੰਦੁਸਤਾਨੀ ਸੰਗੀਤ ਦੇ ਵਿਕਾਸ ਵਿੱਚ ਉਸਤਾਦ ਫੈਆਜ਼ ਥਾਂ ਦੀ ਕੀ ਭੂਮਿਕਾ ਹੈ।

ਭਾਗ-ਦੂਜਾ

3. ਭਾਰਤੀ ਸੰਗੀਤ ਦੇ ਵਿਕਾਸ ਵਿੱਚ ਖਿਆਲ ਗਾਇਕੀ ਦੇ ਪਟਿਆਲਾ ਅਤੇ ਆਗਰਾ ਘਰਾਣਿਆਂ ਦੀ ਭੂਮਿਕਾ ਤੇ ਚਰਚਾ ਕਰੋ।

4. ਗਮਕ ਅਤੇ ਉਸਦੇ ਪ੍ਰਕਾਰਾਂ ਨੂੰ ਪਰਿਭਾਸ਼ਿਤ ਕਰੋ।

ਭਾਗ-ਤੀਜਾ

5. ਸੰਗੀਤ ਅਤੇ ਸਹੁਜ ਸ਼ਾਸਤਰ ਉੱਪਰ ਨੋਟ ਲਿਖੋ।

6. ਗੁਰਮਤਿ ਸੰਗੀਤ ਦੇ ਵਿਕਾਸ ਵਿੱਚ ਗੁਰੂ ਗੋਬਿੰਦ ਸਿੰਘ ਦੀ ਕੀ ਭੂਮਿਕਾ ਹੈ।

ਭਾਗ-ਚੌਥਾ

7. ਸੂਲ ਤਾਲ ਨੂੰ ਇਕਗੁਣ, ਦੁਗੁਣ ਸਹਿਤ ਲਿਪਿਬੱਧ ਕਰੋ।

8. ਰਾਗ ਮਧੁਵੰਤੀ ਨੂੰ ਦੋ ਅਲਾਪ ਅਤੇ ਤਾਨਾਂ ਸਹਿਤ ਸਵਰਲਿਪਿਬੱਧ ਕਰੋ।

Exam Code: 103206   Paper Code: 6116
(30)

Programme: Bachelor of Arts
Semester--VI

Course Title: Physical Education

Course Code: BARM-6384

Time Allowed: 3 Hours   Max Marks: 50

Candidates are required to attempt Five questions selecting at least One question from each section (A-D). Fifth question can be attempted from any section. Each question carries 10 marks.

Section-A

1. Describe the Biochemical and Body composition changes in Muscular system after training?
2. Define Fatigue and Explain causes and care of Muscular Fatigue?

Section-B

3. Briefly discuss the methods of Conducting and organizing a Play day.

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4. What is coaching? Describe the Qualification and Qualities of Good Coach.

Section-C

5. Describe the different roles of Muscles in human movements.

6. Write down the types of Movement around different Joints.

Section-D

7. Define Endurance and Write down the methods to improve it.

8. Define Strength? Explain different methods of developing Strength.

Punjabi version

ਨੋਟ: ਉਮੀਦਵਾਰਾਂ ਨੂੰ ਹਰੇਕ ਭਾਗ (ਏ–ਡੀ) ਵਿੱਚੋਂ ਘੱਟੋ-ਘੱਟ ਇੱਕ ਪ੍ਰਸ਼ਨ ਕਰਦੇ ਹੋਏ ਕੁੱਲ ਪੰਜ ਪ੍ਰਸ਼ਨ ਕਰਨੇ ਹਨ। ਪੰਜਵਾਂ ਪ੍ਰਸ਼ਨ ਕਿਸੇ ਵੀ ਭਾਗ ਤੋਂ ਕੀਤਾ ਜਾ ਸਕਦਾ ਹੈ।ਹਰੇਕ ਪ੍ਰਸ਼ਨ ਦੇ 10 ਅੰਕ ਹਨ।

ਸੈਕਸ਼ਨ-ਏ

1. ਸਿਖਲਾਈ ਤੋਂ ਬਾਅਦ ਮਾਸਪੇਸ਼ੀਆਂ ਵਿੱਚ ਜੀਵ-ਰਸਾਇਣਕ ਅਤੇ ਸਰੀਰ ਦੀ ਰਚਨਾ ਵਿੱਚ ਆਉਣ ਵਾਲਿਆਂ ਤਬਦੀਲੀਆਂ ਦਾ ਵਰਣਨ ਕਰੋ।

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2. ਥਕਾਵਟ ਦੀ ਪਰਿਭਾਸ਼ਾ ਦਿਓ ਅਤੇ ਮਾਸਪੇਸ਼ੀਆਂ ਦੇ ਥਕਾਵਟ ਦੇ ਕਾਰਨ ਅਤੇ ਦੇਖਭਾਲ ਬਾਰੇ ਸੰਖੇਪ ਵਿੱਚ ਚਰਚਾ ਕਰੋ।

ਸੈਕਸ਼ਨ-ਬੀ

3. ਖੇਡ ਦਿਵਸ ਦੇ ਆਯੋਜਨ ਦੇ ਤਰੀਕੀਆਂ ਬਾਰੇ ਸੰਖੇਪ ਵਿੱਚ ਚਰਚਾ ਕਰੋ।

4. ਕੋਚਿੰਗ ਕੀ ਹੈ? ਚੰਗੇ ਕੋਚ ਦੀ ਯੋਗਤਾ ਅਤੇ ਗੁਣਾਂ ਦਾ ਵਰਣਨ ਕਰੋ।

ਸੈਕਸ਼ਨ-ਸੀ

5. ਮਨੁੱਖੀ ਸਰੀਰ ਦੇ ਵਿੱਚ ਮਾਸਪੇਸ਼ੀਆਂ ਦੀਆਂ ਹਰਕਤਾਂ ਬਾਰੇ ਵਖੋ ਵੱਖਰੀਆਂ ਭੁਮਿਕਾਵਾਂ ਦਾ ਵਰਣਨ ਕਰੋ।

6. ਜੋੜਾਂ ਦੇ ਆਲੇ-ਦੁਆਲੇ ਹੋਣ ਵਾਲੀਆਂ ਵੱਖ-ਵੱਖ ਹਰਕਤਾਂ ਬਾਰੇ ਲਿਖੋ।

ਸੈਕਸ਼ਨ-ਡੀ

7. ਸਹਿਣਸ਼ੀਲਤਾ ਦੀ ਪਰਿਭਾਸ਼ਾ ਦਿਓ ਅਤੇ ਇਸ ਨੂੰ ਸੁਧਾਰਨ ਦੇ ਤਰੀਕੇ ਬਾਰੇ ਲਿਖੋ।

8. ਤਾਕਤ ਦੀ ਪਰਿਭਾਸ਼ਾ ਦਿਓ? ਤਾਕਤ ਨੂੰ ਵਿਕਸਿਤ ਕਰਨ ਦੇ ਵੱਖ-ਵੱਖ ਤਰੀਕਿਆਂ ਬਾਰੇ ਦੱਸੋ।

Hindi version

नोटः उम्मीदवारों को प्रत्येक भाग ए–डी में से कम से कम एक प्रश्न करते हुए कुल पाँच प्रश्न करने है। पांचवां प्रश्न किसी भी भाग से किया जा सकता है। प्रत्येक प्रश्न के 10 अंक है।

भाग—ए

1. प्रशिक्षण के बाद मांसपेशियों में होने वाले जैव रासायनिक और शारीरिक परिवतर्नों का वर्णन करें।

2. थकान को परिभाषित करें और मांसपेशियों की थकान के कारणों और देखभाल पर संक्षेप में चर्चा करें।

भाग—बी

3. खेल दिवस के आयोजन के तरीकों की संक्षेप में चर्चा करें।

4. कोचिंग क्या है? एक अच्छे प्रशिक्षक की योग्यताओं और गुणों का वर्णन कीजिए।

भाग—सी

5. मानव शरीर में मांसपेशियों की गति की विभिन्न भूमिकाओं का वर्णन कीजिए।

6. जोड़ों के आसपास होने वाली विभिन्न गतिविधियों के बारे में लिखिए।

भाग—डी

7. सहनशीलता को परिभाषित करें और इसे सुधारने के तरीकों के बारे में लिखें।

8. ताकत को परिभाषित करें? ताकत को विकसित करने के विभिन्न तरीकों की व्याख्या कीजिए।

Exam Code: 103206   Paper Code: 6112
(40)

Programme: Bachelor of Arts
Semester--VI

Course Title: Psychology(Abnormal Psychology-II)

Course Code: BARM-6443

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

Attempt five questions, selecting at least one question from each section and the fifth question may be attempted from any section. All questions carry equal 12 marks.

Section-A

1. Describe the symptoms and etiology of GAD?   12
2. What are the various types of Phobia? How can they be treated?   12

Section-B

3. What are the personality disorder characterized by odd and eccentric behavior? Write down its causes?   12
4. Describe the Clinical picture and etiology of Anthology Personality?   12

Section-C

5. What is bipolar disorder? Give a detailed account of Symptoms & causes?   12
6. What are the various causes of Schizophrenia?   12

Section-D

7. "Humanistic therapy is a non directive approach of Psycho therapy". Why?   12
8. Describe the various methods of shaping human behavior with behavioral therapy?   12

xam code: 103206   Paper Code – 6123

Programme -   Bachelor of Arts

Semester – VI(6th)

SANSKRIT

Course Title (Sahitya Evam Vyakarana)

Course Code – BARM : 6466

ime Allowed – 3 Hours   Max. Marks – 60

ोट – प्रश्नपत्र का माध्यम हिन्दी-संस्कृत होगा | उत्तर संस्कृत. हिन्दी,पंजाबी, अंग्रेजी में हो सकते हैं |
श्रपत्र के चार सैक्शन ABCD होंगे | प्रत्येक सैक्शन में दो प्रश्न होंगे| इस प्रकार चारों सैक्शन में कुल आठ प्रश्न
ोंगे | किसी एक सैक्शन से दोनों प्रश्न करना अनिवार्य है | शेष तीन सैक्शन से केवल एक-एक प्रश्न करना
निवार्य है| सभी प्रश्नों के अंक समान है | (12)

Section-A

Question -1. निम्नलिखित श्लोकों में से किन्हीं दो श्लोकों की सप्रसंग व्याख्या कीजिए –

I.   कलैव्यं मा स्म गमः पार्थ नैतत्त्वय्युपपद्यते |
      हृदयदौर्बल्यं क्षुद्रं त्यक्त्वोत्तिष्ठ परन्तप ||

II.   कार्पण्यदोषोपहतस्वभावः पृच्छामि त्वां धर्मसम्मूढचेताः ।
      यच्छ्रेयः स्यान्निश्चितं ब्रूहि तन्मे शिष्यस्ते हम शाधि मां त्वां प्रपन्नम् ॥

III. अशोच्यानन्वशोचस्त्वं प्रज्ञावादांश्च भाषते ।   •
      गतासूनगतासूंश्च नानुशोचन्ति पण्डिताः ॥

IV.   वासांसि जीर्णानि यथा विहाय नवानि गृह्णाति नरो पराणि ।
      तथा शरीराणि विहाय जीर्णान्यन्यानि संयाति नवानि देही ॥

Question – 2.   निम्नलिखित में से किन्हीं दो श्लोकों की सप्रसंग व्याख्या कीजिए –

I.   सुखदुःखे समे कृत्वा लभालाभौ जयाजयौ ।
      ततो युद्धाय युज्यस्व नैवं पापमवाप्स्यसि ॥

II.   कर्मण्येवाधिकारस्ते मा फलेषु कदाचन ।
मा कर्मफलहेतुर्भूर्मा ते सङ्गोस्त्वकर्मणि ॥

III.   योगस्थः कुरु कर्माणि सङ्गं त्यक्त्वा धनञ्जय ।
सिद्ध्यसिद्ध्योः समो भूत्वा समत्वं योग उच्यते ॥

IV.   विहाय कामान्यः सर्वान्पुमांश्चरति निःस्पृहः ।
निर्ममो निरहङ्कारः स शान्तिमधिगच्छति ॥

Section – B

Question – 3. (i.) श्रीमद्भगवद्गीता के द्वितीय अध्याय का प्रतिपाद्य विषय बताते हुए उसका सार स्वशब्दों में लिखिए ।

(ii). श्रीमद्भगवद्गीता के द्वितीय अध्याय के अनुसार निष्काम कर्मयोग की महत्ता लिखिए ।

Question – 4.   लौकिक संस्कृत साहित्य की कृतियों में से किन्हीं दो कृतियों का संक्षिप्त परिचय लिखिए -

  i. अभिज्ञानशाकुन्तलम्

  ii. हितोपदेश

  iii. उत्तररामचरितम्

Section – C

Question – 5.   निम्नलिखित में से किन्हीं तीन समस्तपदों का विग्रह कीजिए –

  १. चतुर्युगम्
  २. प्रतिदिनम्
  ३. उपतटम्
  ४. यथाशक्ति
  ५. अध्यात्मम्
  ६. निर्मक्षिकम्

(२). निम्नलिखित में से किन्हीं तीन विग्रहपदों का समस्तपद लिखिए –

  (१).   आत्मनि इति
  (२).   जनानाम् अभावः
  (३).   एकम् एकम् प्रति
  (४).   त्र्याणां भुवनानां समाहारः
  (५).   कृष्णस्य समीपम्
  (६)   चक्रेण युगपत्

Question – 6. निम्नलिखित कृतियों में से किन्हीं दो कृतियों का सामान्य परिचय लिखिए-

१. कुमारसम्भवम्

२. पञ्चतन्त्रम्

३. किरातार्जुनीयम्

Section – D

Question – 7. निम्नलिखित निबन्धों में से किसी एक निबन्ध को संस्कृत में लिखिए –

१. आदर्शः छात्रः

२. सत्सङ्.गति

३. मम प्रियं पुस्तकम्

Question – 8. निम्नलिखित अलङ्.कारों में से किन्हीं दो का लक्षण,उदाहरण एवं स्पष्टीकरण लिखिए

१. अनुप्रास अलंकार

२. यमक अलंकार

३. उपमा अलंकार

Exam Code: 105406   Paper Code: 6188
    (50)

Programme: Bachelor of Business Administration
Semester-VI

Course Title: Income Tax

Course Code: BBRL-6323

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

Q.1. What is previous year under Income Tax Act.1961? Explain the exceptions related with previous year.

Q.2. Mr. Vishal, an MBA in IB, who is engaged in export business, visits France very frequently. From particulars given below determine his residential status for the previous year 2020-21:

Previous Year	Stay in France	Previous Year	Stay in France
2013-14	187 days	2017-18	70 days
2014-15	140 days	2018-19	225 days
2015-16	305 days	2019-20	306 days
2016-17	65 days	2020-21	283 days

Section-B

Q. 3. What do you mean by Profit in lieu of Salary? Discuss the major provisions related with pension, gratuity and leave encashment under Salary head.

Q. 4. From the two self occupied houses of Sunil advice the owner (Sunil) as to which house he should choose as self occupied for the assessment year 2021-22.

Particulars	House-A	House-B
	Rs.	Rs.
MRV	24,000 p.a.	30,000 p.a.
Municipal Tax (50% Paid)	2,000 p.a.	3,000 p.a.
Ground Rent	500 p.a.	1,000 p.a.
Fire Insurance	1,000 p.a.	2,000 p.a.
Interest on loan to construct the house	15,000 p.a.	18,000 p.a.

Other Income   2, 00,000 p.a.

Section-C

Q. 5. Mr. Shiv submits the following particulars about sale of assets during the year 2020-21

	Securities Listed	Silver	Jewellary	Shop
	Rs.	Rs.	Rs.	Rs.
Sale Price	2, 60,000	15, 00,000	6, 00,000	11, 50,000
Date of Sale	(1-6-2020)	(1-12-2020)	(11-3-202)	(31-3-202)
Cost of acquisition	1, 80,000	30,000	1, 50,000	3, 30,000
Date of acquisition	(1-1-2010)	(1-1-2000)	(1-9-2007)	(1-3-2004)
C.I.I	(148)	(100)	(129)	(109)
F.M.V. on 1-4-2002	-	4, 00,000	-	-

He has purchased house for Rs. 22, 00,000 on 1-6-2021. He did not own any other house on this date. Calculate taxable capital gain. (C.I.I. for 2020-21 is 301)

Q. 6. What do you mean by Capital Gain? Explain the various provisions related with Long term and Short term Capital Gain.

Section-D

Q. 7. Explain in detail the provisions relating to deduction from the gross total income of donations to certain funds, charitable institutions etc. u/s 80G of the Income Tax Act, 1961.

Q. 8. Mr. Verma is the manager of Punjab Cotton Mills Ltd. He draws a salary of Rs. 33,000 p.m. His other items of Income are:

(a) Interest on fixed deposits with SBI Rs. 14800 and Interest credited in the saving account in the bank Rs. 22,000.

(b) Winning from lottery Rs. 60,000.

(c) Dividend from Indian company Rs. 3600

(d) Long term capital gain from sale of his residential house, occupied for the last 20 years, Rs. 1,15,000. He purchased another house for his residence for Rs. 1, 05,000 within four months of the transfer of his residential house.

(e) Short term capital loss Rs. 10,000.

(f) Long term capital loss from Hold brought forward from the assessment year 2019-20 Rs. 20, 000.

The following deductions are claimed:

(i)   Life Insurance premium (Policy for Rs. 100000 taken in 2006) Rs. 14500.

(ii)   Donation for Punjabi university, Rs. 5000

(iii)   Donation to clean Ganga Fund setup by Central Govt. Rs. 5,000

(iv)   Education for his Children, Rs.4500

Compute his total income and tax payable for the assessment year 2021-22.

RMV I Comm 13/5/23

Exam Code: 105406　　　　　　**Paper Code: 6189**
(50)

Programme: Bachelor of Business Administration
Semester-VI

Course Title: Fundamentals of Capital Markets

Course Code: BBRL-6324

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

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. Explain the objectives and importance of capital market in India?
2. Explain the role of instruments in development of capital markets by giving their types too.

Section B

3. Explain the need and role of mutual funds in India.
4. How capital market is different form money market in India? How regulators control these markets. Explain in detail.

Section C

5. What do you mean by stock exchange market? Explain its functions?

6. Explain the role of SEBI in regulating stock exchange market in India?

Section D

7. Explain types of market indices and their uses in security market.

8. What do you mean by listing of securities? Explain its objectives and advantages in detail.

Exam Code: 105406   Paper Code: 6190
    (50)

Programme: Bachelor of Business Administration
Semester-VI

Course Title: Training and Development

Course Code: BBRL-6325 (Opt BI)

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. What is meant by the effectiveness of Training? How is it Evaluated?   (8)
2. What are the Objectives of Providing Training to Workers? Discuss the Various Methods of Training.
                                                            (8)

Section -B

3. Explain the Meaning and Purpose of Training Needs Assessment.   (8)
4. Discuss the Various Methods used in Training Needs Assessment in Detail?   (8)

Section -C

5. How is the Development Programs Designed? Also, Explain the Development Process in Detail? (8)

6. Summarize the Advantages and Disadvantages of the Case Study Method. (8)

Section -D

7. Explain The Meaning and Importance of Sensitivity Training. (8)

8. Explain Transaction Analysis in Detail. (8)

Exam Code: 105406　　　　　　　Paper Code: 6191
(50)

Programme: Bachelor of Business Administration
Semester-VI

Course Title: Contemporary Issues in Human Resource
Management

Course Code: BBRL-6326 (Opt BII)

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. Human resource Management the most effective tool
   for attaining competitive advantage. Comment.

   　　　　　　　　　　　　　　　　8 Marks

2. What is the purpose of establishing a performance
   management and reward system?　Discuss the scope
   and background.　　　　　　　　　8 Marks

Section B

3. Discuss various steps involved in designing an effective
   performance management system.　　　8 Marks

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4. Critically evaluate various Subsistence and Standard of living theories related to Pay. **8 Marks**

Section C

5. Workforce diversity has become one of the major challenges in contemporary HRM. How could be improve the management of diversity in the organization. **8 Marks**

6. Discuss concept and nature of Work. Comment on the changes pattern of work. **8 Marks**

Section D

7. Write a note Human Resource Accounting and Auditing. **8 Marks**

8. The role of Human resource Management in contemporary times has undergone a major strategic shift. Comment on the role of HRM in 21st century. **8 Marks**

Exam Code: 107406   **Paper Code: 6161**

Programme: Bachelor of Science (Bio-Technology)

Semester: VI

Course Title: rDNA Technology-II

Course Code: BBTM-6061

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

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 six marks.

Section-A

1. Explain the following:

(i)BAC   3

(ii) YAC   3

2. Give an overview of cloning in detail.   6

Section-B

3. How recombinant proteins are processed?   6

4. Explain expression vectors in concern to different promoters. 6

Section-C

5. Discuss various types of PCR.   6

6. What is site directed mutagenesis? Explain PCR based methods of site directed mutagenesis.   6

Section-D

7. What is microarray? Explain it in detail.   6

8. Write a note on following:

(i) Maxam-Gilbert Method   3

(ii) Pyrosequencing   3

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Exam Code: 107406   Paper Code: 6162
    (20)

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

Course Title: Animal Biotechnology-II

Course Code: BBTM-6062

Time Allowed: 3 Hours   Max Marks: 30

Candidates are required to attempt five questions, selecting at least one question from each section; A, B, C, D. The fifth question may be attempted from any of these four sections. Each question carry 6 marks.

Section — A

1. Define an histotypic culture? Write in detail about the methods, advantages and applications of histotypic culture?

2. What do you know about the primary and secondary animal cell lines? Write about the origin and characteristics of the following cell lines
   -WI — 38   -HEK - 293   -HeLa

Section — B

3. Write a comprehensive note on any three types of transfection methods used for inserting foreign nucleic acids to produce genetically modified cells?

4. Explain any various methods used to detect or identify transgenics? Why in future we need to express and produce proteins in transgenics or animal cells?

Section — C

5. Define a bioreactor? Name the various bioreactors used for large scale culturing of animal cells? Explain different types of animal cell bioreactors using suitable and well labeled diagrams?

6. Write a detailed note on methods for propagation of "anchorage dependent cell" cultures in animal biotechnology?

Section—D

7. Give a detailed discussion on benefits and ethical concerns related to practical use of transgenics and animal biotechnology?

8. Comprehensively explain the process of genetic engineering using IVF? Briefly explain various applications and advantages of IVF and embryo transfer techniques known to you?

Exam Code: 107406   Paper Code: 6163
   (20)

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

Course Title: Plant Bio-Technology-II

Course Code: BBTM-6063

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

Attempt five Questions out of eight, selecting atleast one question from each section. Fifth question can be attempted from any section. Each question carries equal (6) marks.

Section-A

1. A) Discuss different factors affecting micro propagation and technical problems associated with it?
   B) Describe the shoot-tip culture?   (4 + 2 marks)
2. What is somatic embryogenesis? Explain different types and applications of somatic embryogenesis?

                                             (6 marks)

Section-B

3. Discuss haploid and triploid plant production through tissue culture?   (6 marks)

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4. A) Write a note on embryo culture?

   B) Explain selection of variant cell lines and its applications? (2+ 4 marks)

Section-C

5. A) Explain the process of protoplast fusion?

   B) Discuss the factors affecting protoplast isolation?

   (3 +3 marks)

6. A) Discuss the Applications of somatic cell hybridization?

   B) Describe Viability of Protoplast? (4+2 marks)

Section-D

7. Explain the role of bioreactors in secondary metabolite production? (6 marks)

8. A) Write a note on the transgenic approaches in secondary metabolite production?

   B) What is immobilized plant cell culture.

   (4+2 marks)

Exam Code: 107406   Paper Code: 6164
     (20)

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

Course Title: Bioprocess Engineering-II

Course Code: BBTM-6064

Time Allowed: 3 Hours   Max Marks: 30

Note: Attempt five questions, selecting at least one question from each section A,B,C,D. The fifth question may be attempted from any section. Each question carries 6 marks.

Section — A

1. Draw neat and well labeled sketch of atleast three bioreactors used for culturing microbial cells? Give their advantages and disadvantages also?

2. (a) Write a note on and draw diagram of a plug flow bioreactor?   (3marks)
   (b) Describe the types and design of various spargers used for aeration in a bioreactor?   (3 marks)

Section — B

3. Write a comprehensive note on various types of temperature measuring probes and their working principles?

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4. (a) How will you justify the need of flow measurement in a microbial bioreactor? Give one method used for measuring flow? (3 marks)

(b) Explain the construction and working of any one type foam sensor used in bioreactor? (3 marks)

Section — C

5. Explain the various types of centrifuges used in down stream processing of metabolites?

Draw appropriate diagrams where ever applicable?

6. Define the process of aqueous two phase system used in down stream processing of microbial fermentation products? What are the advantages of this method over other conventional methods used for down stream processing?

Section - D

7. Explain the procedural details of primary, secondary and tertiary effluent treatment processes? Explain the role of acid forming and methanogenic microbes in this process?

8. What do you know about fermentation economics? Briefly explain use of various economy rules and principles or assumptions which can be used in different up-stream and down — stream steps of an industrial fermentation so as to increase the overall profit?

Exam Code: 107406   Paper Code: 6166
(20)

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

Course Title: Biochemical and Biophysical Techniques-II

Course Code: BBTM-6066

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. (a) Define solubilizer with example. (2)

    (b) Discuss Factors affecting electrophoretic mobility (4)

2. Discuss theory, procedure and applications of SDS-PAGE. (6)

Section B

3. How isoelectric focusing achieves better separation of proteins in its complex sample as compared to normal electrophoresis? Explain the principle of the technique and its importance in 2-D Electrophoresis. (6)

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4. Describe capillary electrophoresis and its type to suit different application. (6)

Section-C

5. Write n detailed note on MALDI-TOF. (6)
6. Discuss principle and instrumentation of fluorescence spectrometer. (6)

Section -D

7. How radioactivity can be measured using GM Counter'? Discuss their working principle and why they are preferred over other approaches. (6)

8. Describe

(a) Different type radioactive decay (2)

(b) Common Radioisotopes used in biological studies (2)

(c) Define primary and secondary Flour (2)

Exam Code: 107406   Paper Code: 6165

Programme: Bachelor of Science (Bio-technology) Semester – VI

Course Title: Chemistry - III

Course Code: BBTM-6085

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

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 six marks. Use of non - scientific calculator is allowed.

Section – A

1. (a) Derive the expression of Gibbs – Helmholtz Equation. (4)
    (b) State and explain third law of thermodynamics. ? (2)
2. (a) Describe in detail Carnot Cycle for establishing the maximum convertibility of heat into work. (4)
    (b) Explain the difference between Reversible and Irreversible process. (2)

Section – B

3. (a) What are Ideal and Non Ideal Solutions. (2)
    (b) How molecular mass of solute can be calculated from the elevation in boiling point. (4)
4. (a) What do you mean by Le – Chatelier principle? Also discuss the effect of temperature and pressure on Le – Chatelier principle. (3)
    (b) Derive the relationship between K_p and K_c. (3)

Section – C

5. (a) What are the factors affecting the rate of a chemical reaction? Explain. (3)
    (b) Show that the half life period of the third order reaction is inversely proportional to the square of the initial concentration. (3)
6. (a) Derive Michaelis – Menten equation. (4)
    (b) Difference between Order and Molecularity of the reaction. (2)

Section – D

7. (a) Explain Debye – Huckel theory of strong electrolyte. (4)
    (b) What do you mean by mean activity coefficient. (2)
8. (a) Explain how the conductometric titrations can be used for the titration of a mixture of weak acid and a strong acid against NaOH solution . (4)
    (b) State and explain specific conductance and molar conductance. (2)

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(Only for Reappear Candidates (2021-22))

Exam code : 107406   Paper code: 9603

Programme : Bachelor of science(Bio - Technology) Semester: VI

Course Title: Physical, Organic and Inorganic Aspects of Spectroscopy- B

Course Code: BBTM – 6087

Time Allowed: 3 Hours   Max Marks: 30

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 6 marks.

Section – A

1. (a) What is Chemical Shift. What are the various factors affecting Chemical shift?   (4)

   (b) Write a note on spin –spin splitting.   (2)

2. (a) Acetylene protons are more shielded than aromatic (benzene) protons. Explain?   (4)

   (b) What is TMS .Why it is chosen as the reference compound?   (2)

Section –B

3. Discuss the ^{1}HMR Spectrum of the following: (6)

   (a) Ethyl bromide   (b) Ethanol

4. A compound having the molecular formula $C_{10}H_{14}$ gave the following pmr data   (i) Singlet , τ 9.12(δ0.88),9   (ii) Singlet , τ 2.72(δ7.28),5H

   Assign a structure to the compound on the basis of the above data.   (6)

Section – C

5. (a) Write detailed description of Mclafferty Rearrangement.   (4)

   (b)What do you understand by Metastable ions or peaks. What is the importance of metastable ions?   (2)

6. (a) What is odd and even electron rule. Discuss with suitable examples. (3)

   (b) Explain the various components of Mass spectrometer.   (3)

Section – D

7. (a) In the mass spectrum of toluene, strong peaks are formed at m/e 91 and m/e 65. Also a broad peak appears at 46.4. Justify the origin of these signals.   (4)

   (b) Explain the fragmentation pattern of Benzyl methyl ether.   (2)

8. (a) How will you distinguish between 1-Butanol and 2-Butanol on the baisis of mass spectrometry.   (3)

   (b) Discuss the fragmentation of Tropylium cation.   (3)

Exam Code: 107206   Paper Code: 6192
(50)

Programme: Bachelor of Computer Applications
Semester-VI

Course Title: Computer Graphics

Course Code: BCAL-6111

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. All questions carry equal 12 marks.

Section A

I.   a) i) Discuss the use of Computer Graphics in the field of Image Processing.

ii) Explain the working of Video Controller.

b) Explain the working of Cathode Ray Tube.   6+6

II.   a) What is Raster Scan system? How does it work?

b) What are the components of a Workstation. Explain.
           6+6

Section B

III.   a) Consider the line from (0, 0) to (4, 6).Use DDA algorithm to rasterize this line.

b) Explain Arc generation technique using DDA algorithm.   6+6

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IV. a) Write the steps required to plot a line whose slope is between 0° and 45° using the slope-intercept equation.

b) Explain midpoint circle drawing algorithm.   6+6

Section C

V. Apply the Shearing transformation to square with A(0,0),B(1,0),C(1, 1) and D(0,l) as given below :

(i) Shear parameter value of 0.5 relative to the line Yref= -1;

(ii) Shear parameter value of 0.5 relative to the line Xref= -1;

b) Explain Window to Viewport Transformation in Computer Graphic   s 6+6

VI. a) What is Cohen Sutherland Line Clipping Algorithm? Give Advantages of Cohen Sutherland Line Clipping.

b) Differentiate between Uniform and Differential scaling.   6+6

Section D

VII. What do you mean by projection? Describe different types of projection with example. What are the various projection anomalies?   12

VIII. a) Write 3D transformation matrix to find reflection of a point P (15,25,35) about plane z=0.   6+6

b) How do you find the vanishing points in computer graphics?6+6

Exam Code: 107206   Paper Code: 6193
    (50)

Programme: Bachelor of Computer Applications
Semester-VI

Course Title: Software Engineering

Course Code: BCAL-6112

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 carries 12 marks.

SECTION-A

1. Describe the importance of software Engineering? What should be the steps taken under the process of developing a software system. Explain different software Engineering paradigms.   12

2. What is Spiral Model? Justify how spiral model overcomes the limitations of waterfall model.   12

SECTION-B

3. Explain COCOMO Model in detail. Illustrate it with the help of an example.   6,6

4. Write short notes on the following:
   a) Cohesion and Coupling
   b) Functional Independence   6,6

SECTION—C

5. Explain COCOMO Model in detail. Illustrate it with the help of an example.   12
6. What is Software Maintenance? What is the need of Software maintenance? What are the challenges in Software maintenance?   12

SECTION-D

7. Explain code inspection and code walkthrough in detail.   12

8. What is testing? Explain the various types of software testing.   12

Exam Code: 108506   Paper Code: 6183
    (60)

Programme: Bachelor of Commerce
Semester-VI

Course Title: Operations Research

Course Code: BCRL-6093

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

I.   What is Operations Research? Briefly explain its Methodology and Scope.

(2, 3,3)

II. Solve the following LPP :
     Minimise $Z = 3x_1 + 8x_2$
     Subject to:
     $X_1 + X_2 = 200$
     $X_1 \leq 80$
     $X_2 \geq 60$ Where $X_1, X_2 \geq 0$

(8)

SECTION B

III.   A city corporation has decided to carry out road repairs on four major entries of the city. The Govt. has decided to make special grant of Rs.53 Lakhs for this purpose. If need be, supplementary grant can be sought. The Govt. has invited tenders for four roads and five contractors have submitted bids:

(i) Find the best way of assigning the roads so as to minimise the cost.

(ii) Is it necessary to seek supplementary grant? If so, of what amount should be sought.

(iii) Which of the five contractors will remain unsuccessful in his bid.

		Roads			
		A	B	C	D
	1	9	14	19	15
Contractors	2	7	17	20	19
	3	9	18	21	18
	4	10	12	18	19
	5	10	15	21	16

(5,2,1)

IV.   Solve the following transportation problem and test its optimality:

ABC company has three refineries and four depots. Transportation costs per ton, capacity and requirement are given below:

	D_1	D_2	D_3	D_4	Capacity
P_1	5	7	13	10	700
P_2	8	6	14	13	400
P_3	12	10	9	11	800
Requirement	300	600	700	400	

(8)

SECTION C

V. Solve the following game.

It is a game between two players where A is the maximising player and B is the minimising player. Player A wins B's coin if the two coins total is equal to an odd number and loses his coin if the total of two coins is even. It is a game of 1, 2, 5, 10 and 50 rupees coins. Determine the payoff matrix, the best strategies for each player and the value of game to A. (8)

VI. What is Queuing Theory? Briefly explain its features and assumptions. (2,3,3)

SECTION D

VII. Write Short notes on :

    a. Meaning and Significance of Network Analysis

    b. Crashing of Activities (4,4)

VIII. The following are the activity timings in a project network:

Activity	Expected time (t_e)
1-2	20
1-3	25
2-3	10
2-4	12
3-4	6
4-5	10

(i) Draw the network diagram.

(ii) Find the expected project completion time.

(iii) Calculate the floats of the activities.

(4,2,2)

Exam Code: 108506   Paper Code: 6184
    (60)

Programme: Bachelor of Commerce
Semester-VI

Course Title: Corporate Governance

Course Code: BCRL-6094

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

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

Section A

1. Explain the principles of Business ethics in detail.
2. Write Short notes on:
   a. Characteristics of Ethical Organisation
   b. Theories of Business Ethics

Section B

3. What is Whistle Blowing? Give its consequences?
4. Critically discuss Maharashtra Cooperative Bank Scam.

Section C

5. What are the common governance problems noticed in corporate failures?

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6. Explain the Combined Code of Best Practices (London Stock Exchange), 1998 in detail.

Section D

7. Discuss in detail the Euro shareholders Corporate Governance Guidelines, 2000.

8. Explain Smith Report, 2003 (UK) in detail.

Exam Code: 108506   Paper Code: 6185
(60)

Programme: Bachelor of Commerce
Semester-VI

Course Title: Foreign Exchange Management

Course Code: BCRL-6095Opt-B(I)

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 foreign exchange? Explain its importance and functions.
2. Discuss various techniques of forecasting exchange rate movements.

Section B

3. Q3. Write a note of futures market in India. What are the different types of contracts available in the futures market?
4. Write a note on financial sector adjustments in response to booms and busts since 1980.

Section C

5. Discuss different types of swap products available in foreign exchange market.
6. What are the legal and regulatory issues related to Swaps market in India?

Section D

7. What is exchange rate risk? Discuss various types of exchange rate risks.
8. Discuss the various techniques of measuring and managing interest rate risks.

Exam Code: 108506   Paper Code: 6186
(60)

Programme: Bachelor of Commerce
Semester-VI

Course Title: Risk Management and Insurance

Course Code: BCRL-6096Opt-B(II)

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 carry 8 marks.

SECTION A

1. What do you mean by Risk Transfer? Explain various methods of risk transfer in detail.
2. What is Commercial Liability Insurance? Explain various policies available under commercial liability insurance.

SECTION B

3. Give an overview of workmen compensation insurance in India. Discuss various features of workmen compensation insurance.

4. What is Homeowner Insurance Policy? Explain various types of home insurance policies in detail.

SECTION C

5. Define Annuity. What different types of annuities are available for the money savers?

6. What is the importance of Estate planning? Discuss various steps involved in estate planning.

SECTION D

7. Discuss various functions of insurers in detail.

8. Who are Foreign Insurers'? Discuss IRDA guidelines for foreign insurers.

Exam Code: 108506 Paper Code: 6187
(60)

Programme: Bachelor of Commerce
Semester-VI

Course Title: Bank Marketing (Honours)

Course Code: BCRL-6628 Opt-A(IV)

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 eight marks.

Section-A

1. Define Marketing. Discuss the various elements of marketing mix in detail. (8)
2. Discuss in detail the various Micro and Macro factors affecting the market for an organization. (8)

Section-B

3. Write short notes on the following:
   a. Relationship Marketing (4)
   b. Multiple Marketing (4)
4. Define marketing research. Also discuss the various types of data in detail. (8)

Section-C

5. Explain the various pricing strategies and their applications in banking in detail. (8)

6. Discuss the concepts of elasticity of demand and Break Even analysis. (8)

Section- D

7. What do you mean by Communication? Discuss the various steps in developing effective communication strategy. (8)

8. How does the bank organize and meets the needs of large corporate clients? (8)

Exam Code: 103306   Paper Code: 6109

Bachelor of Science (Economics) Semester: VI

Course Title: Quantitative Techniques (Quantitative Techniques-VI)

Course Code: BECL-6453

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

NOTE: 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. Each question carries equal marks.

Section-A

1. What do you mean by Econometrics? Explain the nature and scope of Econometrics.   16

2. Using the following data estimate the values of the coefficients of the following model regression model $Y_t = b_0 + b_1 X_t + U$.   16

Y	3.5	4.3	5	6	7	8	9	10	12	14
X	15	20	30	42	50	54	65	72	85	90

Section-B

3. State and prove Gauss Markov Theorem for K varibales.   16

4. What do you mean by goodness of fit? Derive the values of R^2 and adjusted R^2 for three variables model.   16

Section-C

5. Explain the nature of problem of multicollinearity. Explain in detail the measure to detect it.   16

6. What do you mean by specification bias? Explain various reasons for this bias.   16

Section-D

7. Differentiate between distributive lag models and autoregressive models. How do you estimate partial adjustment model.   16

8. What are dummy variable? Explain various applications of dummy variables.   16

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Exam Code: 108606 Paper Code: 6197

Bachelor of Science (Fashion Designing) Semester- VI
Course Title: Fashion Industry, Marketing and Management
Course Code: BFDL-6231

Time: 3 hrs Total 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 question carries equal (12) marks.

Section-A

1. Write in detail about the nature of Fashion Industry? 12
2. What do you know about Domestic Fashion Industry? Also write about its latest trends. 12

Section-B

3. Discuss various job opportunities in Fashion Industry? 12
4. Fashion Industry works at different levels. Explain in detail? 12

Section-C

5. What is market research? What role does it play in marketing? 12
6. Discuss
   a) Nature of marketing
   b) Scope of marketing 2X6=12

Section-D

7. Define Marketing environment? Explain factors affecting it? 12

8. What role does management play in marketing? Also discuss its principles? 12

2053 50

Exam Code: 108206   Paper Code: 6172
    (20)

Programme: Bachelor of Science (Home Science)
Semester-VI

Course Title: Applied Nutritional Biochemistry

Course Code: BHSM-6066

Time Allowed: 3 Hours   Max Marks: 25

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 5 marks.

Section-A
1. What is nitrogen balance? Explain its types ?   (5)
2. What are Enzymes ? Give the specificity of an enzymes?
                                                         (5)

Section-B
3. Explain the replenishment effect of dehydration? (5)
4. Explain specific dynamic action of good stuffs? (5)

Section-C
5. What is basal metabolic rate. What are the factors affecting basal metabolic rate?   (5)

6. What is Water and electrolyte balance. Explain it in detail. (5)

Section-D

7. Explain Elementary study of general metabolism of protein? (5)

8. What are the different factors affecting enzymatic activity? (5)

Exam Code: 108206   Paper Code: 6167
(20)

Programme: Bachelor of Science (Home Science)
Semester-VI

Course Title: Behavioral Psychology

Course Code: BHSM- 6281

Time Allowed: 3 Hours   Max Marks: 25

Attempt five questions in all selecting atleast one questions from each section. The fifth question may be attempted from any section. Each question carries 5 marks.

Section-A

1. Describe the various methods of Intelligence measurement.   5
2. Define Intelligence. Explain its characteristics.   5

Section-B

3. What are major Projective tests used for measuring Personality.   5
4. Briefly discuss social factors that influence development of personality.   5

Section-C

5. What do you understand by Behavioral disorders? Briefly explain different types of behavioral disorders.

5

6. Write a short note on the general ways of preventing behavioral disorders.   5

Section-D

7. Define 'Learning disability', its types, causes and characteristics.   5

8. Discuss the role of Parents and Teachers in educating a gifted child.   5

Exam Code: 108206   Paper Code: 6168
(20)

Programme: Bachelor of Science (Home Science)
Semester-VI

Course Title: Interior Decoration

Course Code: BHSM-6282

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

Note:- Attempt five questions in all, selecting at least one question from each section and the fifth question may be attempted from any of the four sections. All question carry equal marks i.e. 12 marks each.

Section-A

1. Describe characteristic of good lighting and effects of lighting on interior.   12

2. Write notes on:-
   (i)   Types of lights
   (ii)   Selection of lamp shade & fixture   (6,6)

Section-B

3. Discuss the following.
   (i)   Types of curtains, draperies and suitability.
   (ii)   Types of windows   (6,6)

---

4. Discuss vevetian blinds, rollers and window accessories in detail. 12

Section-C

5. Discuss importance of flower arrangement. What types of equipment and accessories are needed to make a good flower arrangement. 12

6. Elaborate on the application of elements and principles of design in flower arrangement. 12

Section-D

7. Write notes on:-
    (i)   Picture types, selection and framing
    (ii)   Selection of household furnishing like blankets and quilts. (6,6)

8. Write importance, types and selection of accessories for
    (i)   Drawing Room
    (ii)   Dinning Room 12

Exam Code: 108206   Paper Code: 6169
    (20)

Programme: Bachelor of Science (Home Science)
                Semester-VI

Course Title: Community Nutrition

Course Code: BHSM-6283

Time Allowed: 3 Hours   Max Marks: 60

Attempt 5 questions, selecting at least one question from each section. The fifth question may be attempted from any section. All questions carry equal (12)marks.

SECTION A

1. Enumerate the major nutritional problems prevalent in India. Discuss any one in detail.   (12)

2. (a) Discuss the effect of malnutrition on defense mechanism.

    (b) Effect of infection and malnutrition on the growth and development   (6+6=12)

SECTION - B

3. What do you understand by Assessment of Nutritional Status. Discuss in detail .   (12)

---

4. (a) Enumerate the common methods used to assess dietary intakes

(b) What do you understand by biochemical assessment? what are the characteristics of an ideal biochemical test . (6+6=12)

SECTION - C

5. Discuss the various methods used to enhance the nutritive value of food. (12)

6. (a)Discuss the various channels of nutrition education in the community

(b)Write in detail about the various feeding programs and policies in our country. (6+6=12)

SECTION - D

7. Write notes on:

(a) CFTRI

(b) UNICEF (6+6=12)

8. Discuss in detail the role of any one community nutrition program. (12)

Lib 18/5/23 (iMoR) KMU-II

Exam Code: 108206   Paper Code: 6170
        (20)

Programme: Bachelor of Science (Home Science)
                Semester-VI

Course Title: Garment Designing and Construction

Course Code: BHSM-6284

Time Allowed: 3 Hours   Max Marks: 60

Candidates are required to attempt five questions, selecting at least one question from each section and the fifth question may be attempted from any section. Each question carries 12 marks.

Section-A

1. Write down methods of identifying different types of fabrics suitable for different garments. Give examples where necessary.   12

2. What is the importance of labeling? Write down terminology, care, symbols and their usage?   12

Section-B

3. What are the factors affecting the selection of clothing for toddler's and pre schooler's.   12

---

4. Define Anthropomelry? What points to be kept in mind while taking body measurements. What are the main measurements required for Blouse?   12

Section-C

5. Write down application of elements of Art in clothing? Give examples and diagrams.   12

6. What are the common fitting problems occur in different garments and what are the methods of correcting them?   12

Section-D

7. Write down the different methods of developing design? Explain in detail the methods of pattern making?   12

8. What is Drafting? What are tools required for drafting and write down the process of drafting?   12

Exam Code: 108206   Paper Code: 6171
(20)

Programme: Bachelor of Science (Home Science)
Semester-VI

Course Title: Communication and Audio-Visual in
Extension Work

Course Code: BHSM-6285

Time Allowed: 3 Hours   Max Marks: 25

Attempt five questions, selecting at least one question from each section and the fifth question may be attempted from any of the four sections. Each question carries equal 5 marks.

Section-A

1. What are problems in communication? What are major functions of communication?   (2.5+2.5)
2. Define communication. Name five types of communication models? Explain any one?   (1+1+3)

Section-B

3. Write note on:-
   Brief introduction of commonly used aids:
   (a) Charts
   (b) Power point presentation.   (2.5+2.5)

---

4. What is the meaning of Audio Visual aids & classify them. (2.5+2.5)

Section-C

5. What are two main channels of communication (written & Oral) Explain? (5)
6. Feedback is the key to success. Explain? (5)

Section-D

7. Explain essential Elements of an effective Development plan? (5)
8. What is program planning and what are its principles? (1+4)

Exam Code: 108206   Paper Code: 6173
(20)

**Programme: Bachelor of Science (Home Science)
Semester-VI**

Course Title: Applied Zoology and Food Microbiology

Course Code: BHSM-6487 ✓

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

Note: Attempt five questions in all, Selecting at least one question from each section (A to D) respectively. Fifth question may be attempted from any section (A-D). All question carry 12 marks. Write legibly and Draw well labeled diagrams wherever necessary.

Section A

1. (a) Discuss the life cycle of Culex and Anopheles Mosquitoes.
   (b) Write a brief note on disease caused, Symptoms and Control of Head Louse.   (6+6)
2. Discuss the concept of Vermicomposting and economic importance of Earthworm.   (12)

Section-B

3. What are the various Symptoms of food poisoning? Suggest measures for its control. (12)

4. Explain the biology of pests of Cereals pulses and stored food grains with special reference to Rice Weevil and Lesser grain pests. (12)

Section-C

5. Write short notes on-
    (a) Characteristics of Viruses
    (b) Economic Importance of Yeast (6+6)

6. Discuss the role of bacteria in milk and milk products industry. (12)

Section-D

7. Explain the microbiology of food spoilage, contamination & control of Vegetables and fruits. (12)

8. Give the various methods to prevent the spoilage and contamination of Meat and its products. (12)

Exam Code: 105706   Paper Code: 6194
    (20)

Programme: Bachelor of Science (Information Technology)
Semester-VI

Course Title: Computer Graphics

Course Code: BITL-6111

Time Allowed: 3 Hours   Max Marks: 60

Note: Attempt FIVE questions, selecting at least ONE question from each section. Each question carries 12 marks.

SECTION- A

1. Define Computer Graphics? Explain the application of computer graphics in the field of entertainment ?

    (12)

2. Write Short Note on
    (a) DVST
    (b) Plasma panel display
    (c) Virtual reality   (4,4,4)

SECTION- B

3. Explain DDA line drawing algorithm? And differentiate between DDA and Bresenham's line drawing algorithm?

    (12)

---

4. Write the algorithm to draw a ellipse using Mid-point algorithm? And plot the a ellipse at the center (20,10) and length of semi major axis = 4 and length of semi minor axis = 8 using mid-point algorithm? (6,6)

SECTION- C

5. What is transformation? Explain various geometric transformation in detail? (12)
6. Differentiate between window port and view port demonstrate window to view Port transformation ? (12)

SECTION- D

7. What is 3D transformation? Explain coordinate transformation in detail? (12)
8. What is projection? Explain the paralleled and prospective projection in detail? (12)

Exam Code: 105706   **Paper Code: 6195**

Bachelor of Science (Information Technology)
Semester-VI
Course Title: Digital Marketing
Course Code: BITL–6112

Time Allowed: 3 Hours   **M. 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 question carries equal (12) marks.

SECTION-A

Q.1. Explain the Terms: Value Creation, Communication, Delivery and
  Exchange.   (12)

Q.2. Explain Psychological and Environmental factors of Consumer
  behaviour.   (12)

SECTION-B

Q.3. Explain Search Engine Optimization in detail.   (12)

Q.4. What is Search Engine Marketing? How do you create SEM Campaign
  Strategy?   (12)

SECTION-C

Q.5. What do you know about Social Media Marketing?   (12)

Q.6. Explain B2B and B2C Social media platforms.   (12)

SECTION-D

Q.7. What is Content Marketing? Explain.   (12)

Q.8. Discuss the Role of website in social media marketing.   (12)

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Lib- 15-5-2023 (mar.)
Kmv-Ⅲ

(Only for Reappear Candidate (2021-22))

Exam Code: 105706   Paper Code: 9607

Bachelor of Science (Information Technology) Semester – VI
Course Title: Software Engineering
Course Code: BITL - 6112

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

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 of equal marks (12 Mark).

Section A

Q1. What is life cycle of Software Development? Explain different phases of SDLC. (12)

Q2. Explain Classic Waterfall Model? How it is different from Prototyping Model? (12)

Section B

Q3. (a) Why Requirement Gathering is important in Software Development? Explain various Requirement Gathering Tools.

(b) Explain SRS? What are the characteristics and components of a good SRS Document? (6X2)

Q4. Explain the following:

1. Structure Chart
2. Coupling & Cohesion (6X2)

Section C

Q5. Discuss the software cost estimation techniques in detail. (12)

Q6. (a) What is Software Maintenance? Why it is needed? What are the various types of software maintenance?

(b) Explain Software Reliability. (6X2)

Section D

Q7. What are the Coding Standards and Guidelines? How to review the code? (12)

Q8. Explain:

1. White Box Testing (8)
2. Validation and Verification (4)

2053   20

Exam Code: 105706   Paper Code: 6196
(20)

Programme: Bachelor of Science (Information Technology)
Semester-VI

Course Title: Data Mining Tool

Course Code: BITM-6115

Time Allowed: 3 Hours   Max Marks: 30

Candidates are required to attempt any two questions, Selecting at least one question from each section. The fifth question can be attempted from any section. Each question carries 6 marks.

Section A

1. Explain the Feature of the Weka Toolkit.   6
2. What is the confusion Matrix? Explain the term Precision & recall in machine learning.   6

Section B

3. Explain the following filters
   a. Discretization
   b. Resample   6
4. Explain with Apriori algorithm with different support and confidence value.   6

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Section C

5. Explain the following terms
   a. Entropy value
   b. Kappa statistic
   c. ROC curve   6
6. Explain the K-nearest Neighbor classification algorithm.

                                                       6

Section D

7. Explain the K means clustering algorithm.   6
8. Explain the clustering techniques available in Weka
   Tool.   6

Exam Code: 108706   Paper Code: 6138
(20)

**Programme: Bachelor of Arts (Journalism & Mass Communication)
Semester-VI**

Course Title: Global Media

Course Code: BJML-6311 ✓

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 A

1. Explain the role of media during coverage of Russia-Ukraine war
2. Discuss the History of BBC and The Washington Post in detail.

SECTION B

3. Throw light on role of media in promoting regional understanding in Asia.
4. Write notes on
   a) Reuters
   b) AFP

SECTION C

5. Discuss the challenges and opportunities faced by market force and media?

6. Discuss the role of media in promoting humanity and peace.

SECTION D

7. What is IPTV? How does it work?

8. Write notes on :
   a) Global satellite system
   b) Global Internet Service.

Exam Code: 108706   Paper Code: 6139

Programme: Bachelor of Arts (Journalism & Mass
Communication) Semester- VI

Course Title: Current Affairs: Contemporary Issue in
Media- II

Course Code: BJML- 6312

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 carries twelve marks.

Section A

1. Write a detailed note on the current situation of Russia- Ukraine war
2. Discuss in detail the current political situation of Punjab.

Section B

3. Write a detailed note on the current economic scenario of India?
4. Describe in detail the various aspects of Union Budget 2023?

Section C

5. Write a detailed note on the importance of India's G-20 Presidency.
6. Explain in detail the new initiatives taken by Punjab Government in the field of education.

Section D

7. Write a detailed note on India's relationship with China.
8. Do you think that media is playing its role positively in the society?

Lib

17/5/23 (MoR)

KMU - II

Exam Code: 108706   Paper Code: 6140
        (20)

Programme: Bachelor of Arts (Journalism& Mass Communication)
Semester-VI

Course Title: Perspective of Audio Sound

Course Code: BJML-6313

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. Write a detailed note on the meaning & characteristics of sound?

2. Explain in detail the various types of microphones.

Section B

3. Explain the process of Digital Recording System?

4. Write a detailed note on different audio cables & connectors

Section C

5. Write a note on the role of sound recordist in production?
6. Explain in detail Mono. Stereo & Surround sound?

Section D

7. Explain in detail the process of Non- Linear audio editing?
8. Explain in detail the various types of sound effects.

Exam Code: 108706   Paper Code: 6141
(20)

Programme: Bachelor of Arts (Journalism& Mass Communication)
Semester-VI

Course Title: Video Electronic Film Production

Course Code: BJML-6314

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. Write a detailed note on the process of film production?
2. Explain in detail the importance of pre production stage in filmmaking.

Section B

3. Explain in detail the importance of director in film production?
4. Write a detailed note on the work involved in production stage.

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Section C

5. Write a note on the importance of Editing?
6. Explain in detail the role of special effects in video editing?

Section D

7. Explain in detail the importance of Film Marketing in today's scenario?
8. Explain in detail the basics of sound mixing.

Exam Code: 108706   Paper Code: 6142
(20)

Programme: Bachelor of Arts (Journalism& Mass Communication)
Semester-VI

Course Title: Specialized Reporting

Course Code: BJML-6315

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 the concept and relevance of specialized reporting in the field of Journalism'?

2. Page 3 reporting has become very popular among young generation. Account its growing popularity

SECTION-B

3. Discuss the duties and responsibilities of investigative Journalist.

---

4. write a short note on:
   a) Tabloid Journalism
   b) Specialized Reporting

SECTION-C

5. Discuss the role of the media in creating environmental awareness?

6. Discuss the history and characteristics of New Journalism?

SECTION-D

7. Write a short note on:
   a) Embedded Journalism
   b) Video Game Journalism

8. News about environment and other social problems should get more importance in news media. What is your opinion?

Exam Code: 107506   Paper Code: 6143
(30)

Programme: Bachelor of Arts (Honours) English
Semester-VI

Course Title: Post-War Poetry

Course Code: BOEL-6211 ✓

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

SECTION A

Note: Answer the following questions in about 100 words. Each question carries 4 marks.

1. a. Would you consider Sylvia Plath's 'Daddy' to be an expression against the vice of patriarchy?

   OR

   b. Give the central idea of poem 'The Lazarus' by Sylvia Plath.

2. a. What does the poem 'The Landscape near an Aerodrome' by Stephen Spender symbolize?

   OR

   b. What is the central idea of poem 'I Think Continually' by Stephen Spender?

3. a. What is Ted Hughes' 'Wind' about?

   OR

b. What does fox symbolize in the poem 'The Fox' by Ted Hughes?

4. a. What is Tenor?

OR

b. What is Confessional Poetry?   (4x4=16)

Note:- Attempt one question out of the sections B,C and D Each question carries 8 marks.

Section-B

5. What is the message of the poem Express by Stephen Spender?

QR

6. How can you say that Stephen Spender was a poet of Melancholic Vision and Social Conscience?

Section-D

7. How does Ted Hughes make use of Animal Imagery in his poems?

8. How does Ted Hughes make use of words and images to present striking effect in The second Glance at Jaguar?

Section-E

9. Critically analyse "The Bee Meeting' by Sylvia Plath.

10. Should Sylvia Plath be considered a confessional poet or does her work challenge her designation?

(For Reappear Candidates (Session- 2021-22))

Exam Code: 107506   Paper Code: 9606

Bachelor of Arts (Honours) English (Semester-VI)
Course Title: European Drama
Course Code: BOEL-6212

Time Allowed: 3 Hours   Max. Marks: 40

Section -A

1. Attempt all four of the following questions in about 100 words.

I a) Comment on the role of Frosine in *The Miser.*

or

   b) How does Harpagon maintain a tight hold on his domestic expenses?

II a) How has corruption been portrayed in the play *The Caucasian Chalk Circle*?

or

   b) Comment on the role of Azdak in *The Caucasian Chalk Circle*.

III a) What nicknames does Torvald call Nora in *The Doll's House* and why?

or

   b) Comment on the significance of the title *The Doll's House.*

IV a) Write a brief note on Protagonist.

or

   b) Write a note on Chorus.   (4x4=16)

Section -B

Attempt either of the two questions in about 600 words.

2. Write a note on the theme of love in the play *The Miser.*

or

3. Moliere has exposed the theme of obsessive greed through satirical comedy in *The Miser*. Comment.   (1x8=8)

Section -C

Attempt either of the two questions in about 600 words.

4. Brecht's *The Caucasian Chalk Circle* has its roots ideology of Communism. Explain.

or

5. Critically examine the epic theatre technique adopted by Brecht in *The Caucasian Chalk Circle.*   (1x8=8)

Section -D

Attempt either of the two questions in about 600 words.

6. Evaluate the ending of Ibsen's play *The Doll's House.*

or

7. Characters and situations in *The Doll's House* appear to be different from what they are. Do you agree?   (1x8=8)

Lib

KMV-II

12/5/23 (MOR)

Exam Code: 107506   Paper Code: 6224
(30)

**Programme: Bachelor of Arts (Honours) English
Semester-VI**

Course Title: European Drama

Course Code: BOEL-6212

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

SECTION A

Answer the following questions. Each question carries four marks. The answer to each question should be in about 100 words.

1. a. How did Cleante save Marianne? Where did this event happen?

   OR

   b. Write a brief note on the character sketch of Valere.

2. a. Why is it called The Caucasian Chalk Circle? Discuss.

   OR

   b. What is the message of The Caucasian Chalk Circle?

3. a. Why did Nora need to borrow money?

   OR

   b. Write a brief note on Nora and Mrs. Linde relationship.

4. Write a brief note on any one of the literary terms.

OR

b. Epic/Farce

Note: - Attempt one question from each of the section B,C and D. Each question carries 8 marks.

SECTION B

5. What kinds of techniques does Moliere rely on to create humor in this play? Are they effective? Give specific examples to support your answer which should be in about 600 words.

6. Write a critical evaluation on the major themes of Moliere's play 'The Miser. The answer should be in about 600 words.

SECTION C

7. What are the major themes of Bertolt Brecht's play 'The Caucasian Chalk Circle'? Give the answer in about 600 words.

8. Write a detailed note on the plot and structure of 'The Caucasian Chalk Circle'. The answer should be in about 600 words.

Section- D

9. Discuss A Doll's House as a feminist play in about 600 words.

10. Write a detailed critical evaluation on Husband-Wife relationship in Henrik Ibsen's play 'A Doll's House'. The answer should be in about 600 words.

Exam Code: 107506   Paper Code: 6144

Programme: Bachelor of Arts (Honours) English (Semester – VI)

Course Title: History of English Language - II

Course Code: BOEL-6213

Time Allowed: 3 Hours   Maximum Marks: 40

Section A

I. Attempt the following questions in about 100 words each. Each question carries 4 marks.   (4*4=16)

1a) Write a short note on changing conditions of the modern period.

Or

1b) Discuss the changes that took place from Middle to modern English.

2a) What do you mean by "temper of the 18th century"?

Or

2b) Explain " Ascertainment".

3a) What do you mean by "Prescriptive Grammar"?

Or

3b) What were the weaknesses of the early Grammarians?

4a) How are new words formed by using prefixes?

Or

4b) What is meant by " Coinages "?

Section B

II. Attempt any 1 question in about 600 words.   (1*8=8)

a) What were the " Problems of refining the language "?

b) Discuss the works of grammarians and rhetorician s.

Section C

III. Attempt any 1 question in about 600.   (1*8=8)

a) How were attempts made to reform vocabulary?

b) Discuss language as a mirror of progress.

Section D

IV. Attempt any 1 question in about 600 words.   (1*8=8)

a) Write a note on "borrowings" as the source of new words.

b) Discuss how old words acquire new meanings.

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Exam Code: 107506   Paper Code: 6145
(30)

**Programme: Bachelor of Arts (Honours) English
Semester-VI**

Course Title: Indian Literature in Translation

Course Code: BOEL-6214

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

SECTION A

Note: Attempt the following questions in about 100 words each . Each question carries 4 marks.

1. a. Give a detailed summary of the hymn As pieces of metal Others how to see.

   Or

   b. Why according to Guru Nanak does service to Almighty not consist in worldly rituals and ceremonies?

2. a. Describe the relationship between the postmaster and Ratan

   Or

   b. Compare Phatik's life in the village to his life in city.

3. a. Describe the trail against Miss Leela Benare that depicts her as an immoral woman?

   Or

b) Write a note on Benare last speech in Silence! The Court Is In Session?

4. a. What do you understand by the term Exemplum? Explain by giving examples?

Or

b) What is a hymn in literature?   4x4=16

Attempt one question each from section B,C and D. Each question carries 8 marks.

SECTION B

5. Based on the hymns studied by you, account for Guru Nanak Dev's philosophy.

6. Comment on the symbolism in the hymns of Guru Nanak.   1x8=8

SECTION C

7. Justify the title of the story The Homecoming by Rabindranath Tagore.

8. Discuss the theme of the short story Vision by Rabindranath.   1x8=8

SECTION D

9. How do you relate Silence! The Court Is In Session with contemporary situation?

10. Discuss Vijay Tendulkar's art of characterization with special reference to the play Silence! The Court Is In Session.   1x8=8

Exam Code: 107306

Paper Code: 6146

Bachelor of Arts (Honours) English (Semester- VI)

Course Title: Reading, Writing and Critical Thinking

Course Code: BOEL-6215

Time Allowed - 3 Hours

Maximum Marks: 40

Section-A

Attempt any Four of the following questions in about 100 words. Each question carries 4 marks.

A. Compare and contrast the points that Rothenberg and Cumin's make about the relative value of library and internet sources for writing a research paper.

Or

Summarize the views of David Gelernter on the role of computers in human life as expressed in "Computers and the Pursuit of happiness."

B. What according to Lisa Davis is the language of space?

Or

Summarize Times Talks with an accent by Robert Levine.

C. Bring out the main point Leonard makes in the essay "We have got Mail" - Always

Or

Why do Barbara Kantrowitz and Claudia Kalb in their writing 'Boys will be Boys' maintain that "while girls horizons have been expanding, boys have narrowed"

D. According to Wall Jasper, in "Our Schedulers our selves', what are the major factors contributing to people's increasingly hectic lifestyles."

Or

Define the new American Dreamer as elaborated by Ruth sidel in her article.

Note: All questions in the following sections have to be answered in about 600 words and carry 8 marks.

Section-B

List the multiple Intelligence and emotional intelligence mentioned by DM Sadkar and MP Sadkar in their article.

Or

Why does the educational theorist John Holt Say that " School is bad for children" and how does he propose to improve it.

Section-C

What according to MC Cubbin and Barbara Blum Dahl is the destruction between sex roles and "gender identity" Which major social, cultural and biological factors determine sex roles?

Or

What is the main point Leonard makes in the reading "We have got Mail- Always" Summarize in your own words.

Section-D

What is the difference in the communication of male and female gender according to Deborah Tannen in "Sex, Sighs and Conversation'.

Or

Michael Ventura's 'Someone is stealing, Your life' is a moving and accurate description of most Americans' experience in the workplace, Discuss.

Exam Code: 107506   Paper Code: 6147

Bachelor of Arts (Honours) English (Semester-VI)
Course Title: Media Writing
Course Code: BOEL-6216

Time Allowed: 3hrs   Max. Marks: 40

Section-A

Q1: Attempt the following questions in about 100 words each: **(4×4=16)**

   A. Which things should be kept in mind while writing for Mass media?

            Or

       How does Image play an important role in Mass Media?

   B. What is the role of Stylebook in news writing?

            Or

       What is the importance of 5Ws and 1H in news writing?

   C. What is Feature Writing?

            Or

       What are the 6Cs of Broadcast Writing?

   D. Discuss the concept of report writing in Mass Media.

            Or

       Which things should be kept in mind while writing for advertisement?

Note: Attempt any one question from Section B, C and D in about 600 words.   **(1×8=8)**

Section-B

Q2: What are the various sources of news?

            Or

Q3: What are the various elements of news?

Section-C

Q4: What are the main characteristics of Feature Writing?

            Or

Q5: What are the rules of writing for Broadcasting Media?

Section-D

Q6: Write a news story on any topic of your choice.

            Or

Q7: Give a detailed explanation of the rules of writing for advertisement?

2053   30

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Exam Code: 107506   Paper Code: 6148
(30)

Programme: Bachelor of Arts (Honours) English
Semester-VI

Course Title: History of England (1939-1995)

Course Code: BOEL-6277

Time Allowed: 3 Hours   Max Marks: 40

Section A- Attempt any 4 questions in 100 words approximately. Each question carry 4 marks. (4x4=16)
Section B, C, D- Attempt one question from each section. Each question shall carry 8 marks and will have to be answered in 600 words approximately (3x8=24)

Section A

1. Write a brief note on any four
   a. Naville Chamberlain
   b. Battle of Buldge
   c. Commonwealth
   d. Winston Churchill
   e. Concept of Affluent Society
   f. Thatcherism

Section B

2. Critically examine the War aims of Britain.
3. Discuss Britain's Balance Sheet during the Second World War

Section C

4. Which policies were adopted by Britain to recover from the economic crisis after the war?
5. Discuss Economic Revival between 1951-56.

Section D

6. Critically evaluate the years of reform between 1964-70
7. Write a note on the condition of Brilain after Thatcher.

Exam Code: 107506   Paper Code: 6149
(30)

Programme: Bachelor of Arts (Honours) English
Semester-VI

Course Title: Social Thought-B

Course Code: BOEL-6478

Time Allowed: 3 Hours   Max Marks: 40

Section A

Attempt four question in all selecting at least one question from each unit. Each question carries 4 marks. Answer in 100 words.

1. i) Elaborate the types of Authority given by Weber ?
   ii) Discuss the concept of Social Action ?
   iii) Explain the concept of Sucide as given by Durkheim ?
   iv) How is Durkheim's Division of Labour applicable in social system ?
   v) Briefly explain Logical action ?
   vi) Write a note on Elites?

Note : Attempt one question from each section B,C and D. Each question carries 8 marks. Answer in 600 words.

Section B

2. Give the bio-sketch of Weber ? What was his concept of Authority ?
3. How has Weber connected Capitalism with Religion ?

Section C

4. Discuss Division of Labour as highlighted by Durkheim ?
5. Write a note on Social Facts ?

Section D

6. How has Pareto explained Logical action ?
7. Explain Circulation of Elites as given by Pareto

Exam Code: 112416   Paper Code: 6174
     (30)

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

Course Title: Complex Analysis

Course Code: BOML-6331

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-A

1   (a) Prove that the function $f(z) = u + iv$, where $f(z) = \frac{x^3(1+i)-y^3(1-i)}{x^2+y^2}$,   08

$z \neq 0, f(0) = 0$ is continuous and that u and v satisfies Cauchy-riemann

equations at the origin; yet $f'(z) =$ does not exist there.

08

(b)If $u + v = \frac{2sin2x}{e^{2y}+e^{-2y}-2cos2x}$ and $f(z) = u + iv$ is analytic function of

$z = x + iy$, find $f(z)$ in terms of z.

2   (a) Derive Cauchy-Riemann equations for an analytic function in polar   08

form.

(b) If $w = f(z) = u + iv$ is an analytic function, find $\frac{aw}{dz}$ in polar form.   08

SECTION-B

10

3   (a) State and prove Morera's theorem for integration.   •

(b) Using Cauchy's integral formula, calculate $\int_C \frac{e^{az}}{z-\pi i} dz$, where C is the

06

ellipse $|z - 2| + |z + 2| = 6$.

10

4   (a) Derive Poisson Integral formula.

(b) Using the integral $\int_C \frac{dz}{z+2}$, where C is the circle $|z| = 1$, show that   06

$\int_0^\pi \frac{1+2cos\theta}{5+4cos\theta} d\theta = 0$.

SECTION-C

5   (a) State and prove Laurent's theorem.   10

(b) find the zeros and poles of $(\frac{z+1}{z^2+1})^2$.   06

6   (a) Find different developments of $\frac{1}{((z-1)(z-3))}$ in powers of z, according   08

to the position of the point in $z - plane$. Expand the function in Taylor's

series about $z = 2$ and indicate the circle of convergence.

(b) The only singularities of a single valued function $f(z)$ are poles of   08

order 2 and 1 at $z = 1$ and $z = 2$, with residues of these poles 1 and 3,

respectively. If $f(0) = \frac{3}{2}$ and $f(-1) = 1$, determine the function.

SECTION-D

7   (a) State and prove Rouche's theorem.   10

(b) Find the fixed point and the normal form of the bilinear

transformation $w = \frac{z-1}{z+1}$.   06

8   (a) State and prove fundamental theorem of algebra.   08

08

(b) Use the transformation $w = \frac{1}{z}$, find the image of $|z - 2i| = 2$. Also

show that the image of the hyperbola $x^2 - y^2 = 1$ is the lemniscates

$\rho^2 = 2cos\varphi$.

Exam Code: 112416   Paper Code: 6175
     (30)

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

Course Title: Analytical Skills

Course Code: BOML-6332

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. (i) and (ii) part of each question carries 5 marks and (iii) part of each question carries 6 marks. Thus each question carries 5+5+6=16 marks.

SECTION A

1. (i) When the time is 3.25, find the angle between the hour- hand and the minute- hand of a clock.

   (ii) Monday falls on 6th march 2005, what was the day of the week on the 6th march 2004?

   (iii) Select the related word from the given alternative-

   (A) DARE:ADER::REEK:?

      (a) EEKR (b) EKER (c) ERKE (d) EERK

   (B) King : Throne : : Rider : ?'

      (b) Chair (b) Horse (c) Seat (d) Belt

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2. Find out the odd term of the series-

(i) 6, 15, 21, 26, 33, 39.

(ii) 2, 4, 8, 16, 48, 64, 128, 256.

(iii) a. Fill the question mark term from the following table-

	6	
2	48	?
	36	

(iii) b. Complete the series 2,9,28,65,?.

SECTION B

3. (i) The LCM of two numbers is 7700 and their HCF is ll. If one number is 275, determine the other number.

(ii) Divide Rs 7700 among A, B and C in the ratio 5 : 4 : 2. find the shares of A, B and C.

(iii) Calculate the HCF of $\frac{10}{81}, \frac{16}{27}, \frac{2}{3}, \frac{8}{9}$

4. (i) If $(397)^{3589} + 5$ is divided by 398, find the remainder.

(ii) Solve 3 X 0.3 X 0.03 X 0.0003 X 30 = ?

(iii) The average of three numbers is 24. If two of the numbers are 26 and 10, find the third number.

SECTION C

5. (i) The average age of a man and his daughter is 40 years. The ratio of their ages is 11 : 5 respectively, what is the daughter's age?

(ii) If a : b :: 3 : 2, find the ratio (4a+5b) : (4a-5b).

(iii) A son's present age is two- fifths of the age of his father. After 8 years, he will be One- half of the age of his father. How old is his father at present?

6. (i) Evaluate 70 % of 320 + 95 % of 240.

(ii) Calculate the simple interest on Rs 68000 at $16\frac{2}{3}$ % per annum for 9 months.

(iii) After getting two successive discounts, a book with a price list of Rs 150 is available at Rs 105. If the second discount is 12.5%. Find the first discount.

SECTION D

7. Study the pie chart given below and answer the following questions

Total population in 1991 = 40,000   Total population in 2001 = 1,20,000
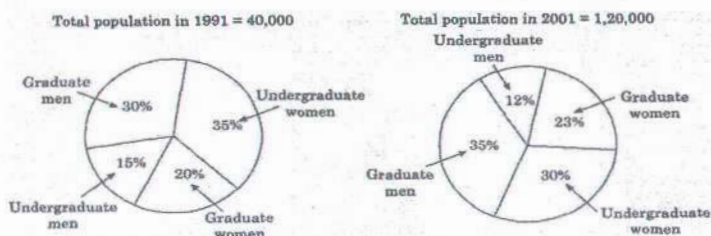
(i) What is the total number of graduate men in 2001?

(ii) What is the percentage increase of graduate men to total population from 1991 to 2001?

(iii) Calculate the ratio between graduate men in 1991 to that in 2001.

8. Answer the questions from the following graph.
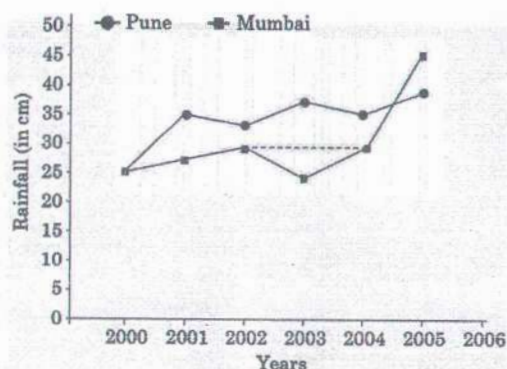
(i) What is the average rainfall in the city of Mumbai over the years?

(ii) What is the ratio of rainfall in the city of Mumbai to that in Pune in 2002?

(iii) The rainfall in the city of Pune in 2001 is approximately, what percent of the rainfall over the given years in the same city?

Exam Code: 112416   Paper Code: 6176
(30)

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

Course Title: Numerical Analysis

Course Code: BOML-6333

Time Allowed: 3 Hours   Max Marks: 80

Note: Student are required to attempt five question. selecting to least one question from each section. Each question carries 16 marks. Use of Non-Programmable and Non-Storage Type calculator is allowed.

Section-A

1. (a) If $R=10x^3\, y^2\, z^2$ and errors in x, y, z are 0.03, 0.01 and 0.02 respectively at $x = 3, y = 1, z = 2$. Calculate absolute and relative errors in evaluating R.

    (8)

   (b). Discuss order of convergence of secant method.

    (8)

2. Use Muller's method to find roots of the equation $x^3 - 3x - 5 = 0$ which lies betwccn 2 and 3.   (16)

Section-B

3. (a) Solve the system of equations by Gauss Seidel method:

$$20x + y - 2Z = 17; \quad 3x + 20y - 2z = -18;$$
$$2x - 3y + 20z = 25. \hspace{4cm} (8)$$

(b) Stale and prove Newton Gregory formula and for backward interpolation. (8)

4. Derive Lagrange's interpolation formula and hence use it to express the function $\dfrac{x^2 + x - 3}{x^3 - 2x^3 - x + 2}$ as sum of partial fractions. (16)

Section-C

5. (a) Given a table

X	2.5	3.0	3.5	4.0	4.5	5.0
y	24.145	22.043	20.255	18.644	17.262	16.047

Evaluate y (3.75) using Gauss's forward formula.

(8)

(b) Give geometrical interpretation of Simpson 1/3 Rule.

(8)

6. (a) Calculate the first and second order derivative at x=0.3 from the following: (8)

X	0	0.1	0.2	0.3	0.4	0.5	0.6
Y	30.13	31.62	32.87	33.64	33.95	33.81	33.24

(b). Derive Gauss two point and three point quadrature formulas (8)

Section-D

7. Explain Euler's method for solving ordinary differential equations and hence use it to solve the differential equation $\frac{dy}{dx} = \frac{y-x}{y+x}$ for x=0.1 With 5 steps. Initial condition is y (0)=1. (16)

---

8. (a) Find the value of y at x=0.1 and x=0.2 from differential equation $\frac{dy}{dx} = x^2y-1$ given y(0)=l using Taylor's series method. (8)

(b) Explain Runga -Kutta fourth order method. (8)

Exam Code: 112416   Paper Code: 6177
     (30)

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

Course Title: Special Functions

Course Code: BOML-6334 ✓

Time Allowed: 3 Hours   Max 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 sixteen marks

Section-A

1(a) Prove that $F(\alpha,\beta;\gamma;x) = \frac{1}{B(\beta,\gamma-\beta)} \int_0^1 u^{\beta-1}(1-u)^{\gamma-\beta-1}(1-xu)^{-\alpha}du$ where $\gamma > \beta > 0$.

(b) Prove that $(a-b)F(a,b;c;x) = a\,F_{a+} - bF_{b+}$ [8,8]

2. If 2b is neither zero nor a negative integer and if $|x| < 1$ and $\left|\frac{4x}{(1+x)^2}\right| < 1$, then

$$(1+x)^{-2a} F\left(a,b;2b;\frac{4x}{(1+x)^2}\right) = F\left(a, a-b+\frac{1}{2}; b+\frac{1}{2}; x^2\right)$$ [16]

Section-B

3(a) Show that $J_n(x) = \frac{1}{\pi}\int_0^\pi \cos(n\varphi - x\sin\varphi)d\varphi$, where n is a positive integer.

(b) Prove that $xJ_n{}'(x) = xJ_{n-1}(x) - nJ_n(x)$ [8,8]

4(a) Prove that $[J_{1/2}(x)]^2 + [J_{-1/2}(x)]^2 = \frac{2}{\pi x}$

(b) Prove that $\frac{1}{u-z} = O_0(u)J_0(z) + 2\sum_{n=1}^\infty O_n(u)J_n(z)$ where $O_n(u)$ are Neumann Polynomials. [8,8]

Section-C

5(a) Prove that $P_n(x)$ is the coefficient of z^n in the expansion of $(1-2xz+z^2)^{-\frac{1}{2}}$ in ascending powers
of z.

(b)Prove that $(2n+1)(x^2-1)P_n{}' = n(n+1)(P_{n+1}- P_{n-1})$ [8,8]

6. State and Prove Rodrigue's formula for $P_n(x)$. Hence evaluate $P_3(x)$ and $P_4(x)$.   [16]

Section-D

7(a) Prove that $xH_n'(x) = nH_{n-1}'(x) + nH_n(x)$
(b) Express $H(x) = x^4 + 2x^3 + 2x^2 - x - 3$ in terms of Hermite's Polynomials.   [8,8]
8(a) Evaluate $\int_{-\infty}^\infty x\,e^{-x^2} H_n(x)H_m(x)dx$
(b) Prove that $H_n(x) = (-1)^n e^{x^2} \frac{d^n}{dx^n}(e^{-x^2})$ [8,8]

Exam Code: 112416   Paper Code: 6178
   (30)

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

Course Title: Differential Geometry

Course Code: BOML-6335

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 8 marks.

Section A

1. (a) Derive the equation of osculating plane in terms of arc length.   8

   (b) Find the unit tangent vector to a given curve.   8

2. (a) Find the equation of rectifying plane and normal plane to a curve at a given point in vector and Cartesian form.   8

   (b) Discuss binormal and principal normal vectors in detail.   8

Section B

3. (a) Show that for the curve $\vec{r} = a(3t - t^3)\hat{\imath} + 3at^2\hat{\jmath} + a(3t + t^3)\,\hat{k}$ the curvature equals torsion.   8

(b) Derive First Serret Fernet Formula. 8

4. (a) Show that necessary and sufficient condition that a curve be a helix is that

$$[t', t'', t'''] = k^5 \frac{d}{ds}\left[\frac{\tau}{k}\right]$$ 8

(b) Find the centre and radius of circle of curvature. 8

Section C

5. (a) Prove that the curve itself is the edge of regression of the osculating developable. 8

(b) Find the fundamental magnitudes and normal to the surface $x = u\cos v, y = u \sin v, z = cv.$ 8

6. (a) Find the curvature and torsion of the involute. 8

(b) Prove that the tangent plane to the surface $xyz = a^3$ and the co-ordinate planes, bound a tetrahedron of constant volume. 8

Section D

7. (a) Prove that the law of transformation for a contravariant vector is transitive. 8

(b) A covariant tensor has components xy, $2y - z^2, xz$ in rectangular Cartesian coordinates. Determine its components in spherical coordinates. 8

8. (a) Find the metric of a Euclidean space referred to spherical coordinates. 8

(b) Define Quotient Law, Mixed tensor of type(r, s) and contraction of a tensor with examples. 8

Exam Code: 171806   Paper Code: 6179

Programme: Bachelor of Science (Honours) Physics
(Semester: VI)
Course Title: Radiation and Particle Physics
Course Code: BOPL-6391

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

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

SECTION A

Q.1   Derive the mathematical expression for the loss of energy of a heavy charged particle passing through matter.   (12)

Q.2   (a) Describe the process of photoelectric effect and pair production.   (8)

(b) Why pair production cannot take place in vacuum?   (4)

SECTION B

Q.3 (a) Discuss the principle, construction and working of a semiconductor detector.   (10)

(b) What is the resolution of a detector? Write its mathematical formula.   (2)

Q.4 Using suitable diagrams, explain the principle of the following detectors:
   (i) Cherenkov detector   (ii) Bubble chamber   (6+6)

SECTION C

Q5.   Describe the principle, construction and working of a betatron.   (12)

Q6.   Discuss in detail the process of particle acceleration in a linear accelerator.   (12)

SECTION D

Q7.   Discuss various properties of quarks and antiquarks. Write the quark content of K^+, proton and neutron.   (12)

Q.8.   (a) Discuss with an example the conservation law of lepton number, strangeness and linear momentum.   (9)

(b) Which conservation law is violated in the following interaction?

(i) $e^+ + e^+ \rightarrow \mu^+ + \mu^+$ (ii) $\Lambda^0 \rightarrow \pi^0 + \pi^0$

(iii) $n \rightarrow p + \gamma$ (3)

2053   30

Exam Code: 171806   Paper Code: 6180

Bachelor of Science (Honours) Physics, Semester –VI
Course Title: Condensed Matter Physics-II
Course Code: BOPL-6392

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

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. Use of log tables and scientific calculator is allowed.

SECTION A

1. Derive the dispersion relation for one dimensional lattice of atoms with assumptions. Also show it graphically. How does the medium behave under low and high frequencies?   12

2. What are assumptions of Einstein's theory of specific heat capacity. Derive relation for lattice heat capacity with this model, Discuss the relation at very high and very low temperature. Why is it not capable of giving correct behaviour of specific heat at low temperature?   12

SECTION B

3. What is isotope effect? Discuss BCS theory of superconductors. Show that this theory gives proper explanation of superconducting stage.   12

4. Derive London's equation for superconductors. Also deduce Meissner's effect from it. What is penetration depth in a superconductor?   12

SECTION C

5. What do you mean by polarization of dielectrics? Find the expression for the local field that is responsible for polarizing atoms or molecules of the dielectric.   12

6. Define electronic and ionic polarizabilities. Discuss frequency dependence of electronic, ionic and total polarizability.   12

SECTION D

7. What are nano materials? Which are their main properties which differ from the bulk materials. Give one method of their fabrication of top to bottom technique.   12

8. What is a Atomic Force Microscope? What is its principle, construction and working?   12

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16/5/23 (Mol)

Exam Code: 171806   KMV-II   **Paper Code: 6181**

Programme: Bachelor of Science (Honours) Physics, Semester-VI
Course Title: Molecular Spectroscopy and Laser
Course code: BOPL-6393

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

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

Section A

1.a) Explain briefly the rotational spectra of diatomic molecules as a rigid rotator. Show that in rotational spectrum of molecules, the lines are equally spaced in frequency.   (10)

   b) Why do all molecules not show rotational spectra.   (2)

2. (a) What do you mean by Born Approximation?   (4)

   (b) Explain the effect of isotropic substitution.   (6)

   (c) The force constant of HF^{19} molecule is 966N/m. Find the frequency of vibration of the molecule.   (2)

Section B

3. a) Describe the salient features of the Raman spectrum of a hetronuclear diatomic molecule and explain it. In what ways it differs from the fluorescence spectrum?   (9)

   b) Band heads are generally formed in the electronic spectrum of a diatomic molecule, while no such feature is observed in the infrared spectrum. (3)

4. a) Explain the principle features of the electronic band spectrum of a diatomic molecule. Discuss the instrumentation of electronic spectroscopy.   (10)

   b) With exciting line 4358A° , a sample gives stokes line at 4458 A°. Deduce the wavelength of anti Stokes line.   (2)

Section C

5. In what ways does the laser light differ from the light from a filament lamp? Derive Schawlow – Townes condition for laser oscillations. (12)

6. a) What are Einstein co-efficient ? Show that they are related as

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

(9)

b) Can we obtain light amplification in the absence of stimulated emission.

(3)

Section D

7. What is holography? Explain the recording and reconstruction process in holography. How a holography is different from a photography? (12)

8. Explain the principle , construction and working of a He-Ne laser. How is it different from Ruby Laser? (12)

4b (20/5/23) (M) KMV-11

Exam Code: 101806   **Paper Code: 6182**
Programme: Bachelor of Science (Honours) Physics
(Semester: VI)
Course Title: Digital Electronics and Applications
Course Code: BOPL–6394

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 12 marks.

SECTION A

1. Discuss different types of I.C's and also mention the advantages and disadvantages of I.C's.   (12)
2. (a) Discuss in detail about A/D Conversion method.   (6)
   (b) Convert the following:
      (i) $(11011)_2$ to an equivalent decimal number
      (ii) $(735)_8$ to an equivalent decimal number
      (iii) $(2A5B)_{16}$ to a decimal equivalent.   (6)

SECTION B

3. Write a note on each of the following:
   (i)   Parity Checkers   (ii) DeMorgan's theorem
   (iii)   Three variable K map   (12)
4. Simplify the following function using K maps
   (i) $F(ABC) = \Sigma m(1,3,4,5,7)$
   (ii) $f(WXY) = \Sigma m(3,5,6,7)$
   (iii) $Y(ABCD) = \Sigma m(0,2,4,5,6,7,8,10,12,14)$.   (12)

SECTION C

5. Explain the following with logic circuit:
   (a) Full Subtractor   (b) Full Adder   (c) Comparator circuit   (12)
6. Discuss in detail each of the following:
   (a) Multiplexer and De Multiplexer   (b) JK Flip Flops
   (c) Edge triggered Flip Flops.   (12)

SECTION D

7. (a)   What are Shift registers? Discuss in detail about its various type. (6)
   (b)   Explain each of the following:
      (i) Ring Counter   (ii) Decade Counter.   (6)
8 (a)   Explain the working of the following:
      (i) Synchronous Counter   (ii) Astable Multi Vibrator   (6)
   (b) Discuss in detail each of the following:
      (i) R.O.M   (ii) R.A.M.   (iii) E.P.R.O.M   (6)

2053   30

Exam Code: 103306   Paper Code: 6157
(30)

Programme: Bachelor of Science
Semester-VI

Course Title: Botany (Ecology)

Course Code: BSMM-6075 (I)

Time Allowed: 3 Hours   Max Marks: 30

The candidates are required to attempt one question from each section . The fifth question may be attempted from any section. Each question carries 6 marks.

Section A

1. Write a note on:
   a. Vernalization
   b. Soil profile
   c. Photoperiodism
2. Discuss the morphological, anatomical and physiological responses of xerophytes

Section B

3. Write a note on:
   a. Life forms
   b. Importance value index
   c. Ecological succession
4. Write a note on: -

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a. Ecological succession
b. Indices of alpha, beta and gamma diversity

Section C

5. Write a note on:
   a. Growth curves
   b. Ecads and ecotypes
6. Write a note on:
   a. Phosphorus cycle
   b. Nitrogen cycle

Section D

7. Give a general account of grassland vegetation in India.
8. Discuss the effect of patch size and shape on biodiversity.

7/6/23 (M·P) Lib

Exam Code: 103306   Paper Code: 6158
(30)

Programme: Bachelor of Science
Semester-VI

Course Title: Botany (Economic Botany)

Course Code: BSMM-6075 (II)

Time Allowed: 3 Hours   Max Marks: 30

The candidates are required to attempt one question from each section . The fifth question may be attempted from any section. Each question carries 6 marks.

SECTION A

1. Discuss the botanical name, family, morphology and economic importance of Rice and Sugarcane.
2. Discuss the botanical name, family, morphology and economic importance of Coconut and cotton.

SECTION B

3. Discuss the botanical name, family, morphology and economic importance of Cardamum and Turmeric.
4. Write a note on:
   a. Curcuma longa

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b. Eugenia caryophyllum

SECTION C

5. Write a note on:
    a. Poppy
    b. Neem
6. Discuss the botanical name, family, morphology and economic importance of Harar and Bahera.

SECTION D

7. Discuss the botanical name, family, morphology, processing and uses of Tea and Coffee.
8. Write a note on:
    a. Timber and bamboos
    b. Processing of natural rubber

Code: 103306   Paper Code: 6153

Programme: Bachelor of Science (Semester-VI)
Course Title: Chemistry (Molecular Spectroscopy)
Course Code: BSMM/BSNM-6084(I)

3 Hours   Max Marks: 30

pt five questions in all, selecting at least one question from each section. The fifth question may be attempted
any Section. Each question carries six marks.

SECTION-I

(a) Discuss various electronic transitions observed in UV spectroscopy citing relevant examples.   (4)
(b) Azobenzene is orange red coloured compound but hydrazo-benzene is colourless. Explain.   (2)
(a) Discuss Frank Condon Principle with potential energy curves?   (4)
(b) State and explain Lambert Beer's law.   (2)

SECTION-II

(a) Explain the effect of hydrogen bonding and electronic effect on the position of absorption band in IR
spectra.   (4)
(b) How will you distinguish between the two compounds in each of the following pairs on the basis of IR
Spectroscopy? CH_3COCl and CH_3COOH (2)
(a) State and explain Hooke's Law along with the factors that determine vibrational frequency and explain the
concept of Fermi Resonance.   (4)
(b) Calculate λ_{max} for the following: (2)
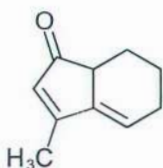
SECTION-III

(a) What do you mean by spin-spin splitting. Predict the number of signals and splitting pattern of each signal
in the spectrum of following organic compound.

(4)
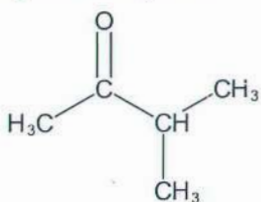
(b) Why TMS is preferred internal standard in NMR Spectroscopy. Which compound is used as an internal
standard for water soluble compounds.   (2)
(a) Discuss the principle of NMR spectroscopy and explain the working of CW-NMR Spectrometer with
suitable diagram.   (4)
(b) What is chemical shift. How it is measured.   (2)

SECTION-IV

(a)Discuss with example Retro-Diels Alder reaction citing its relevance in structure determination of organic
compounds in mass spectroscopy?   (4)
(b) Explain the typical fragmentation pattern in benzyl methyl ether.   (2)
(a) How will you distinguish between the isomeric alcohols with molecular formula $C_4H_{10}O$ by mass
spectroscopy?   (4)
(b) Describe the importance of metastable peaks in mass spectroscopy.   (2)

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

Exam Code: 103306   **Paper Code: 9601**

Bachelor of Science (Semester-VI)
**Course Title: Chemistry (Organic Chemistry)**
Course Code: BSMM/BSNM-6084 (I)

Time: 3Hrs   **Max marks: 30**

Note: -- Attempt **Five** Questions in all, selecting at least **one** question from each Section. The fifth question can be attempted from any Section. Each question carries equal marks (6) each.

SECTION-A

1. (a) Why TMS is chosen as Reference compound. Predict the number of signals and splitting pattern of each signal in the spectrum of the following:

   (3)
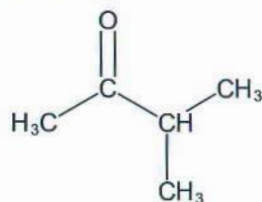
   (b) Discuss various electronic transitions in UV spectroscopy? (3)

2. (a) Write a short note on (i) Bathochromic effect (ii) Auxochrome (3)

   (b) Acetylene protons are shielded whereas benzene protons are deshielded. Explain. (3)

SECTION-B

3. (a) How will you distinguish between maleic acid and fumaric acid on the basis of IR spectroscopy. (3)

   (b) A compound having the molecular formula $C_{10}H_{14}$ gave the following PMR data:

   (i) Singlet, τ 9.12 (δ 0.88), 9H.

   (ii) Singlet, τ 2.72 (δ 7.28), 5H

   Assign a structure to the compound on the basis of the above data. (3)

4. (a) How can you prepare methyl phenyl thioether from bromobenezne. (3)

   (b) Discuss any two factors influencing vibrational frequency. (3)

SECTION-C

5. (a) Discuss the mechanism of anionic addition polymerization. (3)

   (b) Write the Claisen condensation reaction to prepare ethyl acetoacetate. Give its mechanism. (3)

6. (a) What is condensation polymerization. Discuss the preparation of nylon-66. (3)

   (b) How will you prepare : Acetyl acetone from ethyl acetoacetate. (3)

SECTION-D

7. (a) Why glucose and fructose give the same osazone? Discuss the modern mechanism of osazone formation. (3)

   (b) Write a short note on classification of monosaccharides. (3)

8. (a) Describe the Killiani Fischer synthesis for lengthening the carbon chain of aldoses by one carbon atom. (3)

   (b) Give a brief account on the double helix structure of DNA. (3)

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Paper Code: 6154

Programme	Exam Code	Course Code
Bachelor of Science (Medical)	103306	BSMM-6084 (II)
Bachelor of Science (Non-Medical)	103306	BSNM-6084 (II)

Course Title: Chemistry (Physical Chemistry)

Semester-VI

(60)

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. a. The work function of Sodium is 2.75 e V. Calculate the Kinetic energy of emitted electrons and the longest wavelength that can cause photoelectron ejection. 4

   b. What is Hamiltonian operator? Write Hamiltonian operator for particle in three-dimensional box with potential energy of V. 2

2. a. Derive Schrodinger wave equation for particle in three-dimensional box. 5

   b. What is Compton effect? 1

Section -B

3. a. Set up Schrodinger wave equation for Rigid Rotor. Solve the equation for wave function.   5

   b. What is Zero Point Energy?   1

4. a. Derive wave function for Hydrogen atom from Schrodinger wave equation in terms of Polar co-ordinates using separation of variables.   5

   b. Draw radial Probability distribution function for 2s and 2p.   1

Section C

5. a. Discuss various symmetry elements in crystal.   4

   b. Calculate the Miller indices of a crystal plane which cut through the axis at 2a, -3b, -3c.   2

6. a. Discuss Debye and Scherrer method of X-ray diffraction.   4

   b. The second order reflection from a crystal of KCl (fcc) occurs at 29°22'. Calculate the distance between successive 100 planes.   2

Section - D

7. a. Draw and discuss Jablonski Diagram with description of Internal Conversion, Intersystem crossing, Fluorescence and Phosphorescence.   5

   b. Define Beer-Lambert's law.   1

8. a. Differentiate between Thermal and Photochemical reactions.   4

   b. What is Quantum Yield? Give the reason of low quantum yield with example.   2

(Old Syllabus (2021-22))

Paper Code: 9602

Programme	Exam Code	Course Code
Bachelor of Science (Medical)	103306	**BSML-6212**
Bachelor of Science (Non-Medical)	103306	**BSNL-6212**
Bachelor of Science (Computer Science)	103306	**BCSL-6212**

(Semester: VI)

Course Title: ENGLISH (COMPULSORY)

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

Section-A

I. Attempt any five questions in about 50 words each. (5x2=10)

1. What is the significance of the title of the novel *"Train to Pakistan."*
2. Who saved the train in the novel *"Train to Pakistan?"*
3. Write a short note on the role of Nooran in the novel *"Train to Pakistan."*
4. Describe the mental state of the Whites after the death of their son? (The Monkey's Paw)
5. Why does Mrs Meldon kill Prof.Corrie ? (Progress)
6. What is Phillip Ross's complaint against his son and daughter? (The Will)

Section-B

II. Attempt any two questions in about 250 words each. (2x5=10)

1. Describe briefly *"Train to Pakistan"* as a historical novel.
2. What role do religious figures like Meet Singh and Imam Baksh play in the novel *"Train to Pakistan?"*
3. Write a note on the role of Hukam Chand.
4. How did the story in Train to Pakistan end? Who was the man that was run over by the train? Did the train successfully move towards Pakistan without any passenger being killed?

Section-C

III. Attempt any two questions in about 250 words each. (2x5=10)

1. Describe briefly the character of Mrs Meldon.
2. Describe a few factors that contribute to the atmosphere of horror and mystery in the play "The Monkeys Paw."
3. Write the summary of the play "The Will."
4. Write the character sketch of Gaston.

Section-D

IV. Attempt any one Essay in about 300 words. (1x6=6)

Contribution of Technology in Education.

Or

A Trip to the Museum.

V. Attempt any one Report in about 200 words. (1x4=4)

Write a report on Blood Donation camp your college.

Or

Write a report on Teacher's Day celebration in your college.

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Exam Code: 103306   Paper Code: 6160
      (20)

Programme: Bachelor of Science
Semester-VI

Course Title: Food Science and Quality Control (Vocational)
(Food Plant Layout and Management)

Course Code: BSMM-6255

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 A

1. Draw plant layout for any food industry.
2. What do you mean by planning of manufacturing process in plant layout?

Section B

3. What is the role of society in changing the food consumption pattern?
4. How food marketing strategies influence the psychology of a consumer?

Section C

5. Discuss various points to he considered in order to export a food product outside India

6. How society plays its role in new product innovations?

Section D

7. Discuss westernization of traditional foods.

8. Define quick cooking foods? Name various quick cooking foods available in market. What are the various factors that bring about the concept of quick cooking in Indian market.

Exam Code: 103306   Paper Code: 6152
        (20)

Programme: Bachelor of Science
Semester-VI

Course Title: Microbiology (Applied Microbiology-II)

Course Code: BSMM-6343

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 equal 12 marks.

Section A

1. a. Describe the fermentation process used for the production of fermented legume.   6

    b. Write a short note on fermented milk products.   6

2. a. Discuss the microbiology and process of production of Soya sauce.   6

    b. Explain the various steps involved in production of cheese.   6

Section B

3. a. Discuss the fermentation process involved in the production of acetone.   6

    b. Giving examples explain the production of bacterial single cell proteins.   6

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4. a. Briefly discuss the process involved in industrial production of acetic acid. 6

b. Discuss the different steps involved in mushroom faming. 6

Section C

5. a What are the raw substrates utilized for the production of beer and wine. 6

b Describe the role of microbes in production of amylases and proteases at industrial scale. 6

6. a Discuss the production of following alcoholic beverages: Vodka, Gin. 6

b Briefly explain the applications of immobilized enzymes. 6

Section D

7. a Explain how riboflavin (Vitamin B_2) is produced commercially . Describe the process involved. 6

b Discuss the uses of Glutamic acid. 6

8. a Briefly explain the different methods used for improvement of production of Penicillin at commercial scale. 6

b. Write a short note on microorganisms involved in production of Streptomycin. 6

Exam Code: 103306   Paper Code: 6150
(40)

Programme: Bachelor of Science
Semester-VI

Course Title: Zoology (Medical Zoology)

Course Code: BSMM-6483 (I)

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). Each question carries 6 marks. Write legibly and Draw well labeled diagrams Wherever necessary.

Section-A

1. (a) Discuss the characteristics and mode of multiplication of Viruses.

   (b) Write a brief note on disease caused, Symptoms and Control of Head Louse. (3+3)

2. Discuss the life cycle of malarial parasite along with its pathogenicity, prophylaxis and treatment. (6)

Section-B

3. Describe the Life cycle and control measures of arthropod vector of Dengue haemorrhagic fever and Chickengunea. (6)
4. Write a brief note on Typhoid disease along with its eradication measures adopted. (6)

Section-C

5. Write short notes on-
   (a) Interferon
   (b) Surface Phagocytosis (3+3)
6. Discuss the components of Humoral and Cell mediated immune systems. (6)

Section-D

7. Explain the differences between the principle and methodolougy of ELISA and RIA. (6)
8. (a) Describe the principle of Vaccination.
   (b)Give the various types of Vaccines with examples. (3+3)

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Exam Code: 103306   Paper Code: 6151
(40)

Programme: Bachelor of Science
Semester-VI

Course Title: Zoology (Medical Laboratory Technology)

Course Code: BSMM-6483 (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). Each question carries 6 marks. Write legibly and Draw well labeled diagrams Wherever necessary.

Section-A

1. (a) Discuss the principle of Colorimetry. Give its significance in the laboratory investigations.
   (b) Write a brief note on Scanning and Transmission electron microscope.   (3+3)
2. Discuss the Laboratory safety rules, hazards and precautions during sample collection and laboratory investigations.   (6)

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Section-B

3. Write short notes on-

    (a) Romanowsky's stains

    (b) Merits and demerits of Anticoagulants

    (3+3)

4. Discuss the procedure for DLC. Give its role in hematological analysis for diseases. (6)

Section-C

5. Explain the methodology for AFB Staining and its significance. (6)

6. Describe the defined and synthetic bacterial culture media. (6)

Section-D

7. What are fixatives? Give the criteria to select a good fixative. Give examples. (6)

8. (a) Describe the principle of estimation of proteins and sugar in urine.

    (b) Give the various types of staining techniques along with their merits and demerits. (3+3)

Paper Code: 6223 B

Programme	Exam Code	Course Code
Bachelor of Science (Non-Medical)	103306	BSNL-6212
Bachelor of Science (Medical)		BSML-6212
Bachelor of Science (Economics)		BECL-6212
Bachelor of Science (Computer Science)		BCSL-6212
Bachelor of Commerce	108506	BCRL-6212
Bachelor of Business Administration	105406	BBRL-6212

Course Title: English (Compulsory)
Semester -VI
(170)

Time Allowed: 3 Hours   Max Marks: 40

Section A

I.   Attempt any 5 questions, in about 50 words each.

Each question carries 2 marks   (5*2= 10)

a) What is "the accurs'd thing"?

b) Why wasn't it a good time to sell the villa ?

c) How did Sergeant Morris get the monkey's paw?

d) Describe the village of Mano Majra as described at the beginning of the novel.

e) Write about the second ghost train.

f) What is the morning routine of Mano Majra in terms of the Muslim mosque and the Sikh temple?

Section B

II. Attempt any 2 questions in about 250 words each. Each question carries 5 marks   (2*5=10)

a) How does the story vin the novel " Train to Pakistan" end ?

b) Compare and contrast the characters of Jugga and Iqbal.

c) Discuss the main theme of the novel " Train to Pakistan ".

d) Write short character sketches of Haseena and Nooran

Section C

III. **Attempt any 2 questions in about 250 words each. Each question carries 5 marks** **(2*5=10)**

   a) " The play "The Will" presents a contrast between the attitudes of the young and the old". Discuss.

IV. b)Describe how Gaston outsmarts Mrs Al Smith, Juliette, and Jeanie.

   a) Write a character sketch of Professor Henry Corrie.

   b) "Fate rules over people". Explain the theme of the play " The Monkey's Paw" in the light of this statement.

Section D

V. **Attempt any 1 essay in about 200 words** **(1*6=6)**

   a) Value of discipline in every day life.

   b) Disadvantages of Internet

VI. Write a report on any 1 topic in about 200 words

(1*4=4)

    a) A city after a heavy rain and storm

    b) The blood donation camp held in your college.

Programme	Exam Code	Course Code
Bachelor of Science Non-Medical	103306	BSNM-6395 (I)
Bachelor of Science Computer Science	103306	BCSM-6395 (I)

Course Title: Physics(Nuclear Physics)
Semester-VI
(50)

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

Note: Attempt five questions, selecting at least one question from each section A, B, C & D. The fifth question may be attempted from any section. Each question carries six marks. Students can use Non-scientific calculators or logarithmic table.

SECTION A

1. (a) Define packing fraction. Sketch the variation of packing fraction with mass number. What is the

difference between mass defect and packing fraction.

(3)

(b) Discuss graphically the variation of average binding energy per nucleon with mass number and stability of the nucleus. (3)

2. (a) Why electron cannot exist in a nucleus? Explain.

(4)

(b) Define isomers and mirror nuclei. (2)

SECTION B

3. Define mean life of a radioactive substance. Derive an expression for it. (4)

(b) Define one Rutherford and one Curie. (2)

4. (a) Explain the experimental method of detection of neutrino. Why was their existence postulated? (4)

(b) Name the four radioactive series. Which series is generally nor considered? (2)

SECTION C

5. Define Q —value of a nuclear reaction. Derive an expression for Q-value of the reaction X (a,b)Y in terms of kinetic energies of the incident and product particles and masses of various particles and nuclei. Assume the target nucleus to be at rest in the laboratory. Discuss the Case when the product particle emerges at right angles to the incident direction. (6)

6. (a) What is Bohr's theory of compound nucleus? Explain the energy levels of the compound nucleus. (4)

   (b) Name the conservation laws of nuclear reactions.

   (2)

SECTION D

7. Obtain the expression for the binding energy for a nucleus on the basis of liquid drop model. (6)

8. (a) Give three experimental evidences of the nuclear magic numbers. (3)

(b) Using shell model predict the ground state angular momenta and parities of $^{27}_{13}$Al and $^{33}_{16}$S (3)

Programme	Exam Code	Course Code
Bachelor of Science Non-Medical	103306	BSNM-6395 (II)
Bachelor of Science Computer Science	103306	BCSM-6395 (II)

Course Title: Physics(Radiation and Particle Physics)
Semester-VI
(50)

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. Each question carries 6 marks.

SECTION A

1. a. How does a fast-moving electron lose energy on its passage through matter? Explain it.   (4)
   b. Explain the term Straggling of a charged particle.   (2)

2. What is Compton effect? Explain and derive an expression for Compton shift on the basis of quantum theory. Why visible light cannot be used to demonstrate Compton effect?   (6)

SECTION B

3. Describe the principle construction and working of G.M. counter. What do you mean by dead time, recovery time and efficiency of counting of G.M. counter? (6)
4. Write note on the following:
   (i) Bubble chamber (3)
   (ii) Semi-conductor detector (3)

SECTION C

5. Explain the principle, construction and working of linear accelerator. Deduce an expression for the energy of the particles attained. (6)
6. What is betatron? Derive the betatron condition. Briefly describe its principle, construction and working. (6)

SECTION D

7. (a) Explain the terms:
   (i) charge conjugation
   (ii) parity
   (iii) time invariance. (3)
   b. Give any three dissimilarities between a photon and a neutrino. (3)
8. Explain the following quantum numbers in connection with elementary particles
   (i) Iso-spin
   (ii) hypercharge
   (iii) strangeness.
   (iv) Baryon number (6)