

Course Title: Banking (Quantitative Aptitude- II)**Course Code: BARL/BECL-6026****Time Allowed: 2 Hours****Maximum Marks: 80**

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

Section-I

- 1) What decimal of an hour is a second?
 a) 0.0025 b) 0.0256 c) 0.00027 d) 0.000126
- 2) $(8.01)^2 + ? = (8.97)^2$ What will approximately come in place of question mark?
 a) 13 b) 14 c) 19 d) 16
- 3) Evaluate : $31.004 - 17.2386$
 a) 13.7654 b) 14.7564 c) 10.5746 d) 13.6745
- 4) $(0.4)^2 + (0.2)^2 = \sqrt{?}$
 a) 0.04 b) 0.4 c) 0.06 d) 0.2
- 5) Sum of squares of two numbers is 145. If square root of one number is 3, find the other number.
 a) 136 b) 9 c) 64 d) 8
- 6) Arrange the Fractions $\frac{3}{5}$, $\frac{4}{7}$, $\frac{8}{9}$ and $\frac{9}{11}$ in their descending order.
 a) $\frac{9}{11} > \frac{3}{5} > \frac{4}{7} > \frac{8}{9}$ b) $\frac{8}{9} > \frac{9}{11} > \frac{3}{5} > \frac{4}{7}$ c) $\frac{4}{7} > \frac{3}{5} > \frac{9}{11} > \frac{8}{9}$ d) $\frac{3}{5} > \frac{9}{11} > \frac{4}{7} > \frac{8}{9}$
- 7) The value of cube root of ${}^3\sqrt{0.000027 \times 0.008}$ is
 a) 0.0006 b) 0.06 c) 0.006 d) 0.6
- 8) Convert into vulgar fraction: 0.75
 a) $\frac{3}{4}$ b) $\frac{9}{4}$ c) $\frac{3}{2}$ d) $\frac{8}{4}$
- 9) $\sqrt{1.5625} = ?$
 a) 1.05 b) 1.25 c) 1.45 d) 1.55
- 10) What will be the value of $25.732^2 - 15.732^2$
 a) 212.35 b) 314.64 c) 414.64 d) 412.6
- 11) What least number should be multiplied with 384 to make it a perfect square?
 a) 3 b) 6 c) 2 d) 8
- 12) $\frac{0.009}{?} = 0.01$
 a) 0.0009 b) 0.09 c) 9 d) 0.9
- 13) What is 225^2 ?
 a) 50225 b) 50125 c) 55225 d) 50625
- 14) Evaluate $35 / .07$
 a) 400 b) 500 c) 505 d) None of these

15) What is cube root of (-21952) ?

a) 38

b) 27

c) -28

d) 34

Section-II

16) If $a:b=5:9$ and $b:c=4:7$ then find $a:b:c$

a) 20:63:36

b) 20:36:63

c) 10:20:30

d) 15:30:20

17) Express as a fraction: 56%

a) $15/25$ b) $26/52$ c) $14/25$ d) $18/52$

18) What is the fourth proportional to 4, 9, 12

a) 27

b) 20

c) 36

d) 40

19) Express as a decimal: 0.2%

a) 0.02

b) 0.2

c) 0.0002

d) 0.002

20) If $x:y=3:4$, find $(4x+5y):(5x-2y)$.a) $40/3$ b) $20/9$ c) $32/7$ d) $45/5$

21) Find the missing figure: 9% of ? = 63

a) 70

b) 80

c) 90

d) 60

22) A bag contains 50p, 25p and 10p coins in the ratio 5:9:4, amounting to Rs. 206. Find the number of coins of each type.

a) 200, 360, 160

b) 300, 150, 180

c) 90, 260, 180

d) 500, 170, 420

23) An inspector rejects 0.08% of the meters as defective. How many will he examine to reject 2?

a) 2500

b) 8000

c) 3500

d) 4000

24) Divide Rs. 672 in the ratio 5:3.

a) 422, 250

b) 189, 483

c) 200, 472

d) 420, 252

25) 28% of 450 + 45% of 280

a) 252

b) 250

c) 259

d) 257

26) The mean Proportional between 0.08 and 0.18

a) 0.12

b) 0.20

c) 0.18

d) 0.08

27) Express as rate percent: $6\frac{3}{4}$

a) 625%

b) 675%

c) 475%

d) 275%

28) If $x:y=2:1$, then $(x^2-y^2):(x^2+y^2)$ is:

a) 3:1

b) 5:3

c) 1:3

d) 3:5

29) Which is greatest in $16\frac{2}{3}\%$, $\frac{2}{15}$, 0.12 and 0.17a) $16\frac{2}{3}\%$ b) $\frac{2}{15}$

c) 0.17

d) 0.12

30) The third proportional to 16 and 36.

a) 81

b) 91

c) 21

d) 61

- a) 18 b) 18.50 c) 19 d) 19.50

Section-IV

- 46) Evaluate: $\frac{30!}{28!}$
a) 570 b) 470 c) 870 d) 670
- 47) In a throw of a coin, find the probability of getting a head.
a) $1/2$ b) $1/3$ c) $3/4$ d) $2/3$
- 48) How many words can be formed by using all letters of the word BIHAR?
a) 120 b) 720 c) 180 d) 90
- 49) Two unbiased coins are tossed. What is the probability of getting at most one head?
a) $1/3$ b) $3/4$ c) $1/2$ d) $5/3$
- 50) Find the value of ${}_{50}C_{50}$
a) 10 b) 50 c) 100 d) 1
- 51) A bag contains 6 white and 4 black balls. Two balls are drawn at random. Find the probability that they are of the same colour.
a) $7/45$ b) $8/29$ c) $7/15$ d) $2/13$
- 52) How many permutations of the letter APPLE are there?
a) 600 b) 120 c) 240 d) 60
- 53) In a simultaneous throw of pair of dice, find the probability of getting a total more than 7.
a) $6/36$ b) $7/12$ c) $5/12$ d) $2/36$
- 54) The number of ways in which 8 students can be seated in a line is
a) 5040 b) 50400 c) 40230 d) 40320
- 55) An unbiased die is tossed. Find the probability of getting a multiple of 3.
a) $1/3$ b) $3/4$ c) $1/2$ d) $5/3$
- 56) The number of ways 4 boys and 3 girls can be seated in a row so that they are alternate is
a) 12 b) 104 c) 144 d) 256
- 57) Two dice are thrown together. What is the probability that the sum of the numbers on the two faces is divisible by 4 or 6?
a) $5/17$ b) $9/15$ c) $4/18$ d) $7/18$
- 58) Using all the letters of the word GIFT how many distinct words can be formed?
a) 22 words b) 24 words c) 256 words d) 200 words
- 59) Two cards are drawn at random from a pack of 52 cards. What is the probability that either both are black or both are queens?
a) $55/221$ b) $33/112$ c) $12/121$ d) $18/357$
- 60) Find out how many distinct three-digit numbers can be formed using all the digits of 1, 2, and 3.
a) 4 b) 5 c) 6 d) 7

Paper Code: 6102

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

Semester-VI**Course Title: Basic Punjabi****(50)****Time Allowed: 3 Hours****Max Marks: 40**

ਨੋਟ:- ਕੁੱਲ ਪੰਜ ਪ੍ਰਸ਼ਨ ਕਰੋ। ਹਰੇਕ ਭਾਗ ਵਿੱਚੋਂ ਇੱਕ ਪ੍ਰਸ਼ਨ ਲਾਜ਼ਮੀ ਹੈ। ਪੰਜਵਾਂ ਪ੍ਰਸ਼ਨ ਕਿਸੇ ਵੀ ਭਾਗ ਵਿੱਚੋਂ ਕੀਤਾ ਜਾ ਸਕਦਾ ਹੈ। ਹਰ ਇੱਕ ਪ੍ਰਸ਼ਨ ਦੇ 8 ਨੰਬਰ ਹਨ।

ਭਾਗ ਏ

1. ਸਭਿਆਚਾਰ ਦੀ ਪਰਿਭਾਸ਼ਾ ਦਿੰਦੇ ਹੋਏ ਪੰਜਾਬੀ ਸਭਿਆਚਾਰ ਦੇ ਪਿਛੋਕੜ ਬਾਰੇ ਚਰਚਾ ਕਰੋ।
2. ਪੰਜਾਬੀ ਸਭਿਆਚਾਰ ਦੇ ਨਿਖੜਵੇਂ ਲੱਛਣਾਂ ਬਾਰੇ ਜਾਣਕਾਰੀ ਦਿਓ।

ਭਾਗ-ਬੀ

3. ਪੰਜਾਬ ਵਿੱਚ ਮਨਾਏ ਜਾਣ ਵਾਲੇ ਪ੍ਰਮੁੱਖ ਤਿਉਹਾਰਾਂ ਸੰਬੰਧੀ ਆਪਣੇ ਵਿਚਾਰ ਸਪਸ਼ਟ ਕਰੋ।
4. ਪੰਜਾਬ ਦੇ ਪ੍ਰਮੁੱਖ ਪੰਜ ਧਾਰਮਿਕ ਸਥਾਨਾਂ ਬਾਰੇ ਵਿਸਥਾਰ ਸਹਿਤ ਰੋਸ਼ਨੀ ਪਾਓ।

ਭਾਗ-ਸੀ

5. ਵਿਆਹ ਪ੍ਰਬੰਧ ਨਾਲ ਸੰਬੰਧਤ ਮੁੱਖ ਰੀਤਾਂ-ਰਸਮਾਂ ਬਾਰੇ ਨੋਟ ਲਿਖੋ।
6. ਜਨਮ ਉਪਰੰਤ ਹੋਣ ਵਾਲੀ ਪਹਿਲੀ ਰਸਮ ਬਾਰੇ ਆਪਣੇ ਵਿਚਾਰ ਪ੍ਰਗਟ ਕਰੋ।

ਭਾਗ-ਡੀ

7. ਪਹਿਰਾਵੇ ਤੋਂ ਕੀ ਭਾਵ ਹੈ? ਪੰਜਾਬ ਦੇ ਲੋਕ-ਪਹਿਰਾਵੇ ਬਾਰੇ ਜਾਣਕਾਰੀ ਦਿਓ।
8. ਪੰਜਾਬੀ ਖਾਣ-ਪੀਣ ਦੇ ਸ਼ੋਕੀਨ ਹਨ ਇਸ ਕਥਨ ਨੂੰ ਸਨਮੁਖ ਰੱਖਦੇ ਹੋਏ ਪੰਜਾਬ ਦੇ ਪ੍ਰਮੁੱਖ ਖਾਣਿਆਂ ਬਾਰੇ ਨੋਟ ਲਿਖੋ।

Paper Code: 6109

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

Semester-VI

Course Title: Economics

(Quantitative Methods for Economists)

(50)

Time Allowed: 3 Hours

Max Marks: 80

Note: The paper consists of four sections - A, B, C and D. Candidates are required to attempt five questions selecting at least one question from each Section. The fifth question may be attempted from any section. Each question carries 16 marks. The use of the calculator is allowed.

Section-A

1. Find the inverse of a matrix

$$A = \begin{pmatrix} 4 & 3 & 6 \\ 2 & 1 & 3 \\ 7 & 5 & 8 \end{pmatrix}$$

16

2. a) Find the derivative of the following function

$$Y = (X^2 + 3X + 1)(X + 1)^5$$

8

- b) Minimise the following function

$$f(x) = X^2 - 4X + 20$$

8

Section-B

3. a) Find the median from the following data

Marks	0-10	0-20	0-30	0-40	0-50	0-60
No.of students	4	8	13	20	24	30

8

- b) Find the mode from the following data

X	0-10	10-20	20-30	30-40	40-50
F	8	12	20	14	9

8

4. a) Find the mean deviation from the median

Pocket Money	100	200	300	400	500	600
No.of students	5	8	12	20	10	5

8

- b) Discuss the merits and demerits of standard deviation. 8

Section-C

5. Find the skewness in the distribution

X	0-10	10-20	20-30	30-40	40-50
F	4	8	12	6	4

16

6. a) Discuss the properties of the correlation coefficient. 8

b) $3X+2Y = 13$

$2X+4Y=14$

Find out b_{xy} , b_{yx} and r . 8

Section-D

7. Construct Index no. by using Fisher's method and prove that it satisfies the time and factor reversal tests.

Commodities	Price 2011	Value 2011	Price 2021	Value 2021
A	8	40	10	90
B	7	49	12	120
C	4	36	8	72
D	6	48	8	64

16

8. a) Explain the assumptions of interpolation

8

- b) Find the production for the year 2015

Year	2012	2014	2017	2020
Output (Rs. Crores)	8	12	20	26

8

Exam Code: 103206
(40)

Paper Code: 6129

Programme: Bachelor of Arts
Semester--VI

Course Title: English (Elective)

Course Code: BARL-6198

Time Allowed: 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. Interior monologue
 - b. Essay
 - c. Stream of consciousness
 - d. Biography
 - e. Criticism

(3x4=12)

SECTION-B

2. Write phonetic transcription of any 12 words out of the given 16 words.
 - a. Label
 - b. Journey
 - c. Identity

- d. Reclaim
- e. Kindly
- f. Obedient
- g. Parasite
- h. Lament
- i. Harvest
- j. Summary
- k. Stone
- l. Between
- m. Morning
- n. Justice
- o. Vision
- p. Brother

(12x1=12)

SECTION-C

3. Attempt any one Reference to Context in about 300 words approximately.
 - a. "Meet me at eight o'clock this evening, if you can, at the Ring on the Badmouth road. The place is easy to find. I can say no more now. The news upsets me almost. The girl seems to be in ignorance. Keep her so till I have seen you. M. H." He said nothing about the enclosure of five guineas. The amount was significant; it may tacitly have said to her that he bought her back again.

- b. "If anybody will tell me how to turn grown wheat into wholesome wheat I'll take it back with pleasure. But it can't be done. (1x8=8)
4. Attempt any two questions (each to be answered in 500 words approximately) out of the given three.
- a. Give a detailed note on the themes of the novel The Mayor of Casterbridge?
- b. Write a character sketch of Donald Farfre?
- c. Discuss the portrayal of the women characters in The Mayor of Casterbridge. (2x10=20)

SECTION-D

5. Attempt any one Reference to Context in about 300 words approximately.
- a. Yes, Dr Kapoor. I am happy to hear that.... Indeed she is a very lucky girl...Yes. As soon as possible. Well, after what she has been through so far... Anyway, she will be glad. She won't have to go for her dialysis after the surgery.
- b. It took us further ten days just for planning. We couldn't afford to make any miscalculations. There would be separate teams for each twin. Two operation tables were to be joined together. When the separation was done the tables would be pushed apart and each twin was to receive individual attention. (1 x8=8)

6. Attempt any two questions (each to be answered in 500 words approximately) out of the given three.

- a. Write a detailed note on the role of Tara.
- b. Do you think Mahesh Dattani raises the question of social bias against girl child? Discuss with relevant examples.
- c. Give a detailed note on the theme of relation in the play Tara.

(2x10=20)

EXAM CODE:103206

PAPER CODE:6130

BACHELOR OF ARTS
SEMESTER- VI
COURSE TITLE : PUNJABI (ELECTIVE)
COURSE CODE- BARL-6208

Time Allowed : 3 Hours

Max- Marks- 80

Note: ਹੇਠ ਲਿਖਿਆਂ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚੋਂ ਕੋਈ ਪੰਜ ਪ੍ਰਸ਼ਨ ਕਰੋ। ਹਰ ਸੈਕਸ਼ਨ ਵਿਚੋਂ ਇੱਕ ਪ੍ਰਸ਼ਨ ਕਰਨਾ ਲਾਜ਼ਮੀ ਹੈ। ਪੰਜਵਾਂ ਪ੍ਰਸ਼ਨ ਕਿਸੇ ਵੀ ਸੈਕਸ਼ਨ ਵਿਚੋਂ ਕੀਤਾ ਜਾ ਸਕਦਾ ਹੈ। ਹਰ ਪ੍ਰਸ਼ਨ ਦੇ 16 ਅੰਕ ਹਨ।

ਸੈਕਸ਼ਨ A

1. ਨਾਨਕ ਕਾਲ ਦੇ ਗੁਰਮਤਿ ਕਾਵਿਧਾਰਾ ਤੇ ਨੋਟ ਲਿਖੋ।
2. ਪੂਰਵ ਨਾਨਕ ਕਾਲ ਵਿੱਚ ਮਿਲਦੇ ਵੀਰ ਕਾਵਿ ਬਾਰੇ ਜਾਣਕਾਰੀ ਦਿਓ।

ਸੈਕਸ਼ਨ B

3. ਸਾਹਿਤ ਅਤੇ ਸਮਾਜ ਦੇ ਨੋਟ ਲਿਖੋ।
4. ਸਾਹਿਤ ਅਤੇ ਆਲੋਚਨਾ ਤੇ ਵਿਚਾਰ ਚਰਚਾ ਕਰੋ।

ਸੈਕਸ਼ਨ C

5. ਦੇਹਰਾ ਅਤੇ ਬੈਂਤ ਛੰਦ ਦੀ ਪਰਿਭਾਸ਼ਾ ਦੱਸ ਕੇ ਲੱਛਣ ਲਿਖੋ।
6. ਨਾਟਕ ਦੀ ਪਰਿਭਾਸ਼ਾ ਦੱਸ ਕੇ ਤੱਤ ਲਿਖੋ।

ਸੈਕਸ਼ਨ D

7. ਵਿਹਾਰਕ ਆਲੋਚਨਾ ਦੇ ਸਿਧਾਂਤਿਕ ਪੱਖ ਤੇ ਨੋਟ ਲਿਖੋ।
8. ਹੇਠ ਲਿਖੀ ਕਵਿਤਾ ਦੀ ਵਿਹਾਰਕ ਆਲੋਚਨਾ ਕਰੋ।

ਡਾਲੀ ਨਾਲੋਂ ਤੋੜ ਨਾ ਸਾਨੂੰ,
ਅਸਾਂ ਹੱਟ ਮਹਿਕ ਦੀ ਲਾਈ।
ਲੱਖਾਂ ਗਾਹਕ ਜੇ ਸੁੰਘੇ ਆ ਕੇ,
ਖਾਲੀ ਇੱਕ ਨਾ ਜਾਈ।
ਜੇ ਤੂੰ ਇੱਕ ਤੋੜ ਕੇ ਲੈ ਗਿਓ
ਇੱਕ ਜੋਗਾ ਰਹਿ ਜਾਸਾਂ।
ਉਹ ਵੀ ਪਲਕ ਝਲਕ ਦਾ ਮੇਲਾ,
ਰੂਪ ਮਹਿਕ ਨ ਸਜ

Paper Code: 6104

Programme	Exam Code	Course Code
Bachelor of Arts	103206	BARL-6212
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

Semester-VI
Course Title: English (Compulsory)
(200)

Time Allowed: 3 Hours**Max Marks: 40****Section-A**

1. Answer any five questions, each carrying 2 marks (50 Words each).

(i) What do you know about Lala Ram Lal?

- (ii) Why did Iqbal have to give clarification with his personal details?
- (iii) How, according to Meet Singh, was Jugga different from his forefathers?
- (iv) Describe the mental state of the whites after the death of their son.
- (v) Illustrate Corrie's materialistic attitude.
- (vi) What are Gaston's apprehensions about the villa Jeanne wants to buy?

5*2=10

Section-B

2. Attempt any two questions, each carrying 5 marks.
(250 words each)

- (i) Justify the appropriateness of the title of the novel Train to Pakistan.
- (ii) Compare and contrast the characters of Jugga and Iqbal.
- (iii) Discuss in detail the plot of Train to Pakistan.
- (iv) Despite their corrupt actions, the subinspector and Hukum Chand ultimately try to save the Mano Majra Muslims. DO their ends justify their means? Discuss.

(2*5=10)

Section-C

3. Attempt any two questions, each carrying 5 marks (250 words each).

- (i) The play 'The Will' presents a contrast between the attitudes of the young and the old. Discuss.
- (ii) What do you want to say about the structure of the play 'Villa for Sale'?
- (iii) Comment on the significance of the title of the play 'Progress'.
- (iv) Explain the role of supernatural elements in the play 'The Monkey's Paw'.

(2*5=10)

Section-D

4. Write an essay on any one of the following topics: (words limit- 300 words)

- (i) Pleasure of Reading
- (ii) Discipline

(1*6=6)

5. Write a press report for a newspaper about the seminar on 'Rising Prices' held in your College. (word limit 200 words)

Or

Write a report on the fun and festivities in the Diwali mela organized in your town/ village.

(1*4=4)

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

Exam Code: 103206

Paper Code: 9602

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 five questions each carrying two marks in about 50 words each. (5x2=10)**

- What role does the partition of India play in the story *Train to Pakistan*?
- Briefly describe the opening scene of the novel *Train to Pakistan*.
- What efforts are made by the authorities to maintain order in Mano Majra?
- Why is Gaston not interested in buying the villa in the beginning?
- What was special about the monkey's paw?
- Comment on the title *The Will*.

Section-B**II. Attempt any two questions each carrying five marks in about 250 words each. (2x5=10)**

- What is the significance of the train in the novel *Train to Pakistan*?
- How does the character of Iqbal change throughout the novel?
- Who are the main characters in the novel, and how do they contribute to the story?
- Analyze the character of Hukum Chand, the local magistrate.

Section-C**III. Attempt any two questions each carrying five marks in about 250 words each. (2x5=10)**

- Explain the theme of the play *The Monkey's Paw*.
- Give character sketch of Al Smith.
- Sketch briefly the character of Devizes Senior
- Comment on the title of the play *Progress*.

Section-D**IV. Attempt any one essay in about 300 words. (1x6=6)**

- Role of media in society
- Value of games

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

- Write a report on the increasing level of global warming for your college magazine.
- Independence Day was celebrated in your college. Write a report on the function describing all the activities that took place.

Exam Code: 103206
(80)

Paper Code: 6112

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

Unit-I

1. Discuss the Central Administration of Maharaja Ranjit Singh? 16
2. Discuss the Political condition of Punjab in 1790? 16

Unit-II

3. Discuss the cause and results of First Anglo Sikh War? 16
4. Discuss the contribution of the Singh Sabha Movement? 16

Unit-III

5. Evaluate the Contribution of the Gadhar Movement in the Freedom struggle? 16

6. Describe the causes of the factors that lead to rise of Communal Politics and partition of India? 16

Unit-IV

7. (COMPULSORY UNIT/ ATTEMPT BOTH QUESTIONS)

Answer any Eight questions in 20 to 25 words Each question will carry 2 marks. 16

- a. Write a note on Gadhar?
 - b. Give two causes of Non-Cooperation Movement in Punjab?
 - c. What is Chauri-Chaura incident?
 - d. Write a note on Khilafat Movement?
 - e. Name two Revolutionary leaders in Punjab?
 - f. Write a note on HSRA (Hindustan Socialist Republican Army)
 - g. What was the aim of Gadhar party?
 - h. Give two causes of the Jallianwala Bagh Tragedy?
 - i. Give two causes for the Gurudwara Reform Movement?
 - j. Write a note on Jaito Morcha?
 - k. Give two causes for the partition of India?
 - l. Write two measures taken by the Government of India for the Rehabilitation of Refuges?
8. Locate any four places on the political map of India and explain their importance in 5 lines. (16 marks.)
Lahore, Amritsar, Peshawar, Kashmir, Ramnagar, Gujrat, Chilanwala, Kasoor, *Multan, Kalanau*

Hindi version

लगभग 1200 शब्दों में पहली तीन इकाइयों में से एक प्रश्न का चयन करते हुए तीन प्रश्नों का उत्तर लिखो 1 इकाई 4 से दोनों प्रश्नों को हल करें। प्रत्येक प्रश्न 16 अंक का होगा।

इकाई—I

1. महाराजा रणजीत सिंह के केन्द्रीय प्रशासन की चर्चा कीजिए।
2. 1790 में पंजाब की राजनीतिक स्थिति की चर्चा कीजिए।

इकाई—II

3. प्रथम आंग्लो सिख युद्ध के कारण एवं परिणामों की चर्चा कीजिए।
4. सिंह सभा आंदोलन के योगदान की चर्चा कीजिए।

इकाई—III

5. स्वतंत्रता संग्राम में गदर आंदोलन के योगदान का मूल्यांकन कीजिए।
6. साम्प्रदायिक राजनीति के उदय तथा भारत के विभाजन के कारणों का वर्णन कीजिए।

इकाई—IV

7. अनिवार्य इकाई/ दोनों प्रश्नों के उत्तर दें।
किन्हीं आठ प्रश्नों के उत्तर 20 से 25 शब्दों में दीजिए। प्रत्येक प्रश्न 2 अंक का होगा।
 1. गधर पर एक टिप्पणी लिखिए।
 2. पंजाब में असहयोग आंदोलन के दो कारण बताइए?
 3. चौरी-चौरा कांड क्या है?

4. खिलाफत आंदोलन पर एक टिप्पणी लिखिए?
5. पंजाब के दो क्रांतिकारी नेताओं के नाम बताएं?
6. एच.एस.आर.ए. हिंदुस्तान सोशलिस्ट रिपब्लिकन आर्मी पर एक टिप्पणी लिखिए।
7. गदर पार्टी का उद्देश्य क्या था?
8. जलियांवाला बाग त्रासदी के दो कारण बताइए?
9. गुरुद्वारा सुधार आन्दोलन के दो कारण बताइए?
10. जैतो मोर्चा पर एक नोट लिखें?
11. भारत विभाजन के दो कारण बताएं?
12. शरणार्थियों के पुनर्वास के लिए भारत सरकार द्वारा किए गए दो उपायों को लिखें?
8. भारत के राजनीतिक मानचित्र पर किन्हीं चार स्थानों का पता लगाएँ और उनके महत्व को 5 पंक्तियों में समझाएँ स्पष्टीकरण के साथ प्रत्येक सही उत्तर के लिए 4 अंक होंगे।
लाहौर, अमृतसर, पेशावर, कश्मीर, रामनगर, गुजरात, चिलवाला, कसूर, मुलतान, कलानौर।

Punjabi version

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

ਯੂਨਿਟ-1

1. ਮਹਾਰਾਜਾ ਰਣਜੀਤ ਸਿੰਘ ਦੇ ਕੇਂਦਰੀ ਪ੍ਰਸ਼ਾਸਨ ਬਾਰੇ ਚਰਚਾ ਕਰੋ?
2. 1790 ਵਿੱਚ ਪੰਜਾਬ ਦੀ ਰਾਜਨੀਤਿਕ ਸਥਿਤੀ ਦੀ ਚਰਚਾ ਕਰੋ?

ਯੂਨਿਟ-2

3. ਪਹਿਲੀ ਐਗਲੋ ਸਿੱਖ ਜੰਗ ਦੇ ਕਾਰਨ ਅਤੇ ਨਤੀਜਿਆਂ ਬਾਰੇ ਚਰਚਾ ਕਰੋ?
4. ਸਿੰਘ ਸਭਾ ਲਹਿਰ ਦੇ ਯੋਗਦਾਨ ਦੀ ਚਰਚਾ ਕਰੋ?

ਯੂਨਿਟ-3

5. ਸੁਤੰਤਰਤਾ ਸੰਗਰਾਮ ਵਿੱਚ ਗਦਰ ਲਹਿਰ ਦੇ ਯੋਗਦਾਨ ਦਾ ਮੁਲਾਂਕਣ ਕਰੋ?
6. ਫਿਰਕੂ ਰਾਜਨੀਤੀ ਦੇ ਉਭਾਰ ਅਤੇ ਭਾਰਤ ਦੀ ਵੰਡ ਦੇ ਕਾਰਨਾਂ ਦਾ ਵਰਣਨ ਕਰੋ?

ਯੂਨਿਟ-4

(ਲਾਜ਼ਮੀ ਯੂਨਿਟ/ ਦੋਵੇਂ ਸਵਾਲਾਂ ਦੀ ਕੋਸ਼ਿਸ਼)

7. ਕਿਸੇ ਵੀ ਅੱਠ ਸਵਾਲਾਂ ਦੇ ਜਵਾਬ 20 ਤੋਂ 25 ਸ਼ਬਦਾਂ ਵਿੱਚ ਦਿਓ ਹਰ ਸਵਾਲ ਦੇ 2 ਅੰਕ ਹੋਣਗੇ।
1. ਗਦਰ 'ਤੇ ਇੱਕ ਨੋਟ ਲਿਖੋ?
2. ਪੰਜਾਬ ਵਿੱਚ ਅਸਹਿਯੋਗ ਅੰਦੋਲਨ ਦੇ ਦੋ ਕਾਰਨ ਦੱਸੋ?
3. ਚੌਰੀ ਚੌਰਾ ਘਟਨਾ ਕੀ ਹੈ?
4. ਖ਼ਿਲਾਫ਼ਤ ਲਹਿਰ ਬਾਰੇ ਇੱਕ ਨੋਟ ਲਿਖੋ?

5. ਪੰਜਾਬ ਦੇ ਦੋ ਇਨਕਲਾਬੀ ਆਗੂਆਂ ਦੇ ਨਾਂ ਦੱਸੋ?
6. HSRA (ਹਿੰਦੁਸਤਾਨ ਸੋਸ਼ਲਿਸਟ ਰਿਪਬਲਿਕਨ ਆਰਮੀ) 'ਤੇ ਇੱਕ ਨੋਟ ਲਿਖੋ।
7. ਗਦਰ ਪਾਰਟੀ ਦਾ ਉਦੇਸ਼ ਕੀ ਸੀ?
8. ਜਲ੍ਹਿਆਂਵਾਲਾ ਬਾਗ ਦੁਖਾਂਤ ਦੇ ਦੋ ਕਾਰਨ ਦੱਸੋ?
9. ਗੁਰਦੁਆਰਾ ਸੁਧਾਰ ਲਹਿਰ ਦੇ ਦੋ ਕਾਰਨ ਦੱਸੋ?
10. ਜੈਤੋ ਦੇ ਮੋਰਚੇ ਬਾਰੇ ਨੋਟ ਲਿਖੋ?
11. ਭਾਰਤ ਦੀ ਵੰਡ ਦੇ ਦੋ ਕਾਰਨ ਦੱਸੋ?
12. ਭਾਰਤ ਸਰਕਾਰ ਦੁਆਰਾ ਸ਼ਰਨਾਰਥੀਆਂ ਦੇ ਪੁਨਰਵਾਸ ਲਈ ਚੁੱਕੇ ਗਏ ਦੋ ਉਪਾਅ ਲਿਖੋ?

8. ਭਾਰਤ ਦੇ ਰਾਜਨੀਤਿਕ ਨਕਸ਼ੇ 'ਤੇ ਕਿਸੇ ਵੀ ਚਾਰ ਸਥਾਨ ਲੱਭੋ ਅਤੇ ਉਨ੍ਹਾਂ ਦੀ ਮਹੱਤਤਾ ਨੂੰ 5 ਲਾਈਨਾਂ ਵਿੱਚ ਸਮਝਾਓ।

(ਵਿਆਖਿਆ ਦੇ ਨਾਲ ਹਰੇਕ ਸਹੀ ਉੱਤਰ ਵਿੱਚ 4 ਅੰਕ ਹੋਣਗੇ।)

ਲਾਹੌਰ, ਅੰਮ੍ਰਿਤਸਰ, ਪੇਸ਼ਾਵਰ, ਕਸ਼ਮੀਰ, ਰਾਮਨਗਰ, ਗੁਜਰਾਤ, ਚਿਲਾਂਵਾਲਾ, ਕਸੂਰ, ਮੁਲਤਾਨ, ਕਲਾਨੌਰ।

Exam Code: 103206

Paper Code: 6120

(20)

**Programme: Bachelor of Arts
Semester-VI**

Course Title: Human Rights (Women Rights)

Course Code: BARL-6295

Time Allowed: 3 Hours

Max Marks: 80

Note: Candidates are required to attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any section. Each question will carry 16 marks.

Section-A

1. Elucidate the meaning, nature and scope of women rights.
2. Write down the evolution of women right with special reference to India.

Section-B

3. What are the main provisions of women rights in international instruments?
4. Write a detailed note on Rights and Protection given to women by the Constitution of India.

Section-C

5. Discuss about various type of violence faced by women in India.
6. Explain the various reasons for under representation of women in Indian Politics with special focus on Gender Sensitization.

Section-D

7. Define women empowerment. Explain its impact on social structure in India.
8. Write about some of the initiative of Government of India for welfare and empowering the women.

Hindi Version

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

खंड ऐ

1. महिला अधिकारों के अर्थ, प्रकृति और कार्यक्षेत्र को स्पष्ट कीजिए।
2. भारत के विशेष संदर्भ में महिला अधिकारों के विकास को लिखिए।

खंड बी

3. अंतर्राष्ट्रीय प्रपत्रों में महिला अधिकारों के मुख्य प्रावधान क्या हैं?
4. भारत के संविधान द्वारा महिलाओं को दिए गए अधिकारों और संरक्षण पर एक विस्तृत टिप्पणी लिखिए।

खंड सी

5. भारत में महिलाओं द्वारा सामना की जाने वाली विभिन्न प्रकार की हिंसा के बारे में चर्चा कीजिए।
6. लैंगिक संवेदनशीलता पर विशेष ध्यान देते हुए भारतीय राजीनीति में महिलाओं के कम प्रतिनिधित्व के विभिन्न कारणों की व्याख्या कीजिए।

खंड डी

7. महिला सशक्तिकरण को परिभाषित कीजिए। भारत में सामाजिक संरचना पर इसके प्रभाव की व्याख्या कीजिए।
8. महिलाओं के कल्याण और सशक्तिकरण के लिए भारत सरकार की कुछ पहलों के बारे में लिखें।

Exam Code: 103206
(30)

Paper Code: 6125

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: 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. Give introduction and Explain salient Features of Indian Philosophy. (16)
2. Describe Indian Heterodox and Orthodox schools of Philosophy. (16)

Section- B

3. Describe the nature and Characteristics of Purusa and Prakirti in Samkhya darsan. (16)
4. What is the concept of Atman in Upanishads and explain its characteristics. (16)

Section-C

5. Explain Nyaya theory of Knowledge and four Pramanas. (16)
6. Describe Vaisesika Darsan and its six categories. (16)

Section- D

7. Explain the concept of Akal Purakh and Jagat Rachna in Sikh philosophy. (16)
8. Explain nature of Citta and Samadhi in Yoga philosophy. (16)

Hindi Version

Programme : B.A. Sem. VI

Course Title: Political Science (International Relations)

Course Code: BARL-6406

Time Allowed: 3 Hours

Maximum Marks – 80

ध्यान दें: - अभ्यर्थियों को प्रत्येक अनुभाग से कम से कम एक प्रश्न का चयन करते हुए पांच प्रश्नों का उत्तर देना होगा। पांचवें प्रश्न को किसी भी अनुभाग से हल किया जा सकता है। प्रत्येक प्रश्न सोलह अंक का होगा।

अनुभाग-ए

1. अंतर्राष्ट्रीय राजनीति को परिभाषित करें। इसकी प्रकृति एवं कार्यक्षेत्र पर चर्चा करें।
2. अंतर्राष्ट्रीय राजनीति के आदर्शवादी दृष्टिकोण का विश्लेषण करें? इसकी विशेषताएँ लिखिए।

अनुभाग-बी

3. राष्ट्रीय शक्ति क्या है? राष्ट्रीय शक्ति की प्रकृति एवं सीमाओं की व्याख्या करें।
4. संयुक्त राष्ट्र के अंतर्गत सामूहिक सुरक्षा की विशेषताओं एवं कार्यप्रणाली पर चर्चा करें।

अनुभाग-सी

5. अंतर्राष्ट्रीय संबंधों में बहु-ध्रुवीयता की स्थापना के लिए जिम्मेदार कारकों की चर्चा करें।
6. आतंकवाद को परिभाषित करें और अंतर्राष्ट्रीय आतंकवाद के उद्भव पर चर्चा करें।

अनुभाग-डी

7. संयुक्त राष्ट्र के उद्देश्यों, उपलब्धियों और सीमाओं पर चर्चा करें।
8. यूरोपीय संघ के उद्देश्यों, संरचना और चुनौतियों का वर्णन करें।

Exam Code: 103206

Paper Code: 6121

Programme: B.A. Sem. 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 equal marks (16 marks)

SECTION –A

1. Define International Politics. Discuss its nature and scope.
2. Analyze the Idealist Approach of International Politics? Write down its characteristics.

SECTION –B

3. What is National Power? Explain the nature and limitations of National Power.
4. Discuss the features and working of Collective Security under United Nations.

SECTION –C

5. Discuss the factors responsible for the establishment of Multi-Polarity in International Relations.
6. Define Terrorism and discuss the emergence of International Terrorism.

SECTION-D

7. Discuss the objectives, achievements and limitations of the United Nations.
8. Explain the objectives, structure and recent challenges faced by the European Union.

Exam Code: 103206
(20)

Paper Code: 6115

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 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. Write Meaning and Discuss about Nature of Development Administration? 16
2. Write Features and Discuss about Importance of Development Administration? 16

Section-B

3. Write a Note on Niti Aayog? 16
4. Write a note on National Development Council? 16

Section-C

- 5. Write About Evolution and Expansion of Public Sector?
16
- 6. Discuss About Parliamentary Control Over Public Sector?
16

Section-D

- 7. Discuss About Social Welfare and Development?
16
- 8. Discuss About Welfare of Scheduled Caste?
16

Hindi Version

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

खंड एक

1. विकास प्रशासन की प्रकृति के बारे में अर्थ लिखें और चर्चा करें? 16
2. विकास प्रशासन के महत्व की विशेषताएं लिखिए तथा चर्चा कीजिए। 16

खंड दो

3. नीति आयोग पर एक नोट लिखें? 16
4. राष्ट्रीय विकास परिषद पर एक टिप्पणी लिखिए। 16

खंड तीन

5. सार्वजनिक क्षेत्र के विकास और विस्तार के बारे में लिखें? 16
6. सार्वजनिक क्षेत्र पर संसदीय नियंत्रण की चर्चा कीजिए। 16

खंड चार

7. समाज कल्याण और विकास के बारे में चर्चा करें?

16

8. अनुसूचित जाति के कल्याण के बारे में चर्चा करें?

16

Paper Code: 6101

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

Semester-VI
Course Title: Punjabi (Compulsory)
(200)

Time Allowed: 3 Hours

Max Marks: 40

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

ਭਾਗ ਏ

- ਹੇਠ ਲਿਖੀਆਂ ਕਾਵਿ-ਸਤਰਾਂ ਦੀ ਪ੍ਰਸੰਗ ਸਹਿਤ ਵਿਆਖਿਆ ਕਰੋ:
ਮਿਹਰਵਾਨੁ ਸਾਹਿਬੁ ਮਿਹਰਵਾਨੁ॥ ਸਾਹਿਬੁ ਮੇਰਾ ਮਿਹਰਵਾਨੁ॥
ਜੀਅ ਸਗਲ ਕਉ ਦੇਇ ਦਾਨੁ॥ ਰਹਾਉ॥

ਤੂੰ ਕਾਹੇ ਡੋਲਹਿ ਪ੍ਰਾਣੀਆ ਤੁਧੁ ਰਾਖੇਗਾ ਸਿਰਜਣਹਾਰੁ ॥

ਜਿਨਿ ਪੈਦਾਇਸਿ ਤੂੰ ਕੀਆ ਸੋਈ ਦੇਇ ਆਧਾਰੁ ॥੧॥

ਜਿਨਿ ਉਪਾਈ ਮੇਦਨੀ ਸੋਈ ਕਰਦਾ ਸਾਰ ॥

ਘਟਿ ਘਟਿ ਮਾਲਕੁ ਦਿਲਾ ਕਾ ਸਚਾ ਪਰਵਦਗਾਰੁ ॥੨॥

2. ਹਰੀ ਦਾ ਮਿਹਰਬਾਨ ਹੋਣਾ ਕਾਵਿ-ਬੰਦ ਦਾ ਸਾਰ ਆਪਣੇ ਸ਼ਬਦਾਂ ਵਿੱਚ ਲਿਖੋ।

ਭਾਗ-ਬੀ

3. ਬਰਜਿੰਦਰ ਸਿੰਘ ਦੀ ਰਚਨਾ ਧਰਤੀਆਂ ਦੇ ਗੀਤ' ਦੀ ਇੱਕ ਸਫ਼ਰਨਾਮੇ ਵਜੋਂ ਪਰਖ ਕਰੋ।
4. ਧਰਤੀਆਂ ਦੇ ਗੀਤ' ਸਫ਼ਰਨਾਮੇ ਦੇ ਸਮਾਜ-ਸਭਿਆਚਾਰਕ ਪਰਿਪੇਖ ਦਾ ਮੁਲਾਂਕਣ ਕਰੋ।

ਭਾਗ-ਸੀ

5. ਹੇਠ ਲਿਖਿਆਂ ਵਿੱਚੋਂ ਕਿਸੇ ਇੱਕ ਵਿਸ਼ੇ 'ਤੇ ਲੇਖ ਲਿਖੋ:
 ਓ) ਪੰਜਾਬੀ ਨੌਜਵਾਨਾਂ ਵਿੱਚ ਪਰਵਾਸ ਦਾ ਰੁਝਾਨ
 ਅ) ਸੋਸ਼ਲ ਮੀਡੀਆ : ਵਰ ਜਾਂ ਸਰਾਪ
 ਅ) ਮਾਂ-ਬੋਲੀ ਦਾ ਮਹੱਤਵ
6. ਸਾਹਿਤ ਰੂਪ ਕਹਾਣੀ' ਦੀ ਪਰਿਭਾਸ਼ਾ ਦਿੰਦੇ ਹੋਏ ਇਸ ਦੇ ਤੱਤਾਂ ਬਾਰੇ ਜਾਣਕਾਰੀ ਦਿਓ।

ਭਾਗ-ਡੀ

7. ਵਚਨ ਦੀ ਪਰਿਭਾਸ਼ਾ ਕਰਦੇ ਹੋਏ ਇਸ ਦੀਆਂ ਕਿਸਮਾਂ ਅਤੇ ਵਚਨ ਬਦਲੀ ਦੇ ਨਿਯਮਾਂ ਸੰਬੰਧੀ ਜਾਣਕਾਰੀ ਦਿਓ।
8. ਕਾਰਕ ਦੀ ਪਰਿਭਾਸ਼ਾ ਦਿੰਦੇ ਹੋਏ ਇਸ ਦੀਆਂ ਕਿਸਮਾਂ ਸੰਬੰਧੀ ਉਦਾਹਰਣਾਂ ਸਹਿਤ ਜਾਣਕਾਰੀ ਦਿਓ।

Paper Code: 6103

Exam Code: BA: 103206/B.SC Med: 103306/B. Sc Non Med: 103306/

B.Sc: 103306/B.Sc Eco: 103306/B. Com.: 108506/BBA: 105406

**Programme: Bachelor of Arts / Bachelor of Science (Medical) /
Bachelor of Science (Non-Medical) / Bachelor of Science
(Computer Science) / Bachelor of Science (Economics) / Bachelor
of Commerce / Bachelor of Business Administration**

SEMESTER VI

**COURSE TITLE: Punjab History and Culture (1947- 2000 A.D.)
(Special paper in lieu of Punjabi Compulsory)**

(For those students who are not domicile of Punjab)

**COURSE CODE: BARL-6431/BSML-6431/BSNL-6431/BCSL-
6431/BECL-6431/BCRL-6431/BBRL-6431**

Time: 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. Discuss the circumstances leading to the partition of Punjab in 1947.
2. Describe the problems of the rehabilitation of people after the partition of India?

Section B

3. Write a note on the Punjabi Suba.
4. Discuss the impact and Causes of Green Revolution.

Section C

5. What were the causes of Indian Diaspora to Canada?
6. Briefly describe the development of education in Punjab since 1947.

Section D

7. Critically discuss the problem of female foeticide in the Punjab.
8. Write a note on the development of Punjabi literature.

Hindi Translation

Section A

1. उन परिस्थितियों की चर्चा कीजिए जिनके कारण 1947 में पंजाब का विभाजन हुआ।
2. भारत विभाजन के बाद लोगों के पुनर्वास की समस्याओं का वर्णन कीजिए।

Section B

3. पंजाबी सूबे पर एक टिप्पणी लिखिए।
4. हरित क्रांति के प्रभाव और कारणों की चर्चा कीजिए।

Section C

5. कनाडा में भारतीय प्रवासियों के प्रवेश के क्या कारण थे?
6. 1947 से पंजाब में शिक्षा के विकास का संक्षेप में वर्णन कीजिए।

Section D

7. पंजाब में कन्या भ्रूण हत्या की समस्या पर समालोचनात्मक चर्चा कीजिए।
8. पंजाबी साहित्य के विकास पर एक टिप्पणी लिखिए।

Punjabi Translation

Section A

1. 1947 ਵਿਚ ਪੰਜਾਬ ਦੀ ਵੰਡ ਦੇ ਕਾਰਨਾਂ ਦੀ ਚਰਚਾ ਕਰੋ।
2. ਭਾਰਤ ਦੀ ਵੰਡ ਤੋਂ ਬਾਅਦ ਲੋਕਾਂ ਦੇ ਮੁੜ ਵਸੇਬੇ ਦੀਆਂ ਸਮੱਸਿਆਵਾਂ ਦਾ ਵਰਣਨ ਕਰੋ?

Section B

3. ਪੰਜਾਬੀ ਸੂਬੇ ਬਾਰੇ ਨੋਟ ਲਿਖੋ।
4. ਹਰੀ ਕ੍ਰਾਂਤੀ ਦੇ ਪ੍ਰਭਾਵਾਂ ਅਤੇ ਕਾਰਨਾਂ ਬਾਰੇ ਚਰਚਾ ਕਰੋ।

Section C

5. ਭਾਰਤੀ ਡਾਇਸਪੋਰਾ ਦੇ ਕੈਨੇਡਾ ਜਾਣ ਦੇ ਕੀ ਕਾਰਨ ਸਨ?
6. 1947 ਤੋਂ ਬਾਅਦ ਪੰਜਾਬ ਵਿੱਚ ਸਿੱਖਿਆ ਦੇ ਵਿਕਾਸ ਦਾ ਸੰਖੇਪ ਵਰਣਨ ਕਰੋ।

Section D

7. ਪੰਜਾਬ ਵਿੱਚ ਭਰੂਣ ਹੱਤਿਆ ਦੀ ਸਮੱਸਿਆ ਬਾਰੇ ਆਲੋਚਨਾਤਮਕ ਚਰਚਾ ਕਰੋ।
8. ਪੰਜਾਬੀ ਸਾਹਿਤ ਦੇ ਵਿਕਾਸ ਬਾਰੇ ਇੱਕ ਨੋਟ ਲਿਖੋ।

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.

Section A

1. What are the steps of Scientific Method?

ਵਿਗਿਆਨਕ ਵਿਧੀ ਦੇ ਕਦਮ ਕੀ ਹਨ?

वैज्ञानिक विधि के चरण क्या हैं?

2. Discuss the utility of social research?

ਸਮਾਜਿਕ ਖੋਜ ਦੀ ਉਪਯੋਗਤਾ ਬਾਰੇ ਚਰਚਾ ਕਰੋ?

सामाजिक अनुसंधान की उपयोगिता पर चर्चा करें?

Section B

3. Discuss the types of research design?

ਖੋਜ ਡਿਜ਼ਾਈਨ ਦੀਆਂ ਕਿਸਮਾਂ ਬਾਰੇ ਚਰਚਾ ਕਰੋ?

शोध डिज़ाइन के प्रकारों पर चर्चा करें?

4. What is Random sampling method?

ਰੈਂਡਮ ਸੈਂਪਲਿੰਗ ਵਿਧੀ ਕੀ ਹੈ?

यादृच्छिक प्रतिचयन विधि क्या है?

Section C

5. What is the technique of Interviewing?

ਇੰਟਰਵਿਊ ਦੀ ਤਕਨੀਕ ਕੀ ਹੈ?

ਸਾक्षात्कार की तकनीक क्या है?

6. Discuss the characteristics of a good questionnaire?

ਇੱਕ ਚੰਗੀ ਪ੍ਰਸ਼ਨਾਵਲੀ ਦੀਆਂ ਵਿਸ਼ੇਸ਼ਤਾਵਾਂ ਬਾਰੇ ਚਰਚਾ ਕਰੋ?

एक अच्छी प्रश्नावली की विशेषताओं पर चर्चा करें?

Section D

7. What are the steps involved in report writing?

ਰਿਪੋਰਟ ਲਿਖਣ ਵਿੱਚ ਕਿਹੜੇ ਕਦਮ ਸ਼ਾਮਲ ਹਨ?

रिपोर्ट लेखन में कौन से चरण शामिल हैं?

8. Describe data analysis?

ਡੇਟਾ ਵਿਸ਼ਲੇਸ਼ਣ ਦਾ ਵਰਣਨ ਕਰੋ?

डेटा विश्लेषण का वर्णन करें?

Exam Code: 103206
(30)

Paper Code: 6132

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. How is Macbeth a victim of his own character? What factors do you think contributed to his downfall?
2. Describe the character of Lady Macbeth and her slow drive to insanity.

Section—B

3. Write about the prominent themes in Pinter's play The Birthday Party.

4. How does Pinter merge the comic with the tragic in the play *The Birthday Party*?

Section-C

5. Justify the title of the play *Justice*.
6. What effect did the imprisonment have on Falder's state of mind? Was the sentence justified?

Section—D

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

Exam Code: 103206
(30)

Paper Code: 6133

Programme: Bachelor of Arts
Semester- VI

Course Title: Hindi (Honours): Bhartiya Kavya Shashtra
Evam Adhunik Alochna ki Pravrittiyan

Course Code: BARL-6569

Time Allowed: 3 Hours

Max 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 भागों से करें। कुल पांच प्रश्नों के उत्तर दें। सभी प्रश्नों के समान अंक हैं।

भाग—क

1. निम्नलिखित प्रश्नों में से किन्हीं 4 प्रश्नों के उत्तर दें।
 1. भारतीय काव्यशास्त्र की रूपरेखा स्पष्ट करें।
 2. रस के अंगों की व्याख्या करें।
 3. अलंकार संप्रदाय की स्थापनाओं पर विचार करें।
 4. विशिष्ट पद रचना रीति: पंक्ति का भाव स्पष्ट करें।
 5. काव्य रचना में ध्वनि का अर्थ व स्वरूप स्पष्ट करें।
 6. रस के संबंध में आचार्य भारतमुनि की क्या देन है, अपने विचार दें।

भाग—ख

2. आधुनिक हिन्दी समीक्षा का अर्थ और स्वरूप स्पष्ट करें।
3. आधुनिक हिन्दी आलोचना के भेद व प्रकार पर प्रकाश डालें।

16

भाग—ग

4. प्रतीक का अर्थ स्पष्ट करते हुए इसके प्रकार बताएं।
5. काव्य में बिम्ब के महत्व को रेखांकित करें।

16

भाग—घ

6. सम्पर्क भाषा क्या है? सम्पर्क भाषा की विशेषताओं पर प्रकाश डालें।
7. "हिन्दी भारत की राजभाषा है।" उपरोक्त कथन पर अपने विचार दें।

16

Exam Code: 103206
(30)

Paper Code: 6134

Programme: Bachelor of Arts
Semester- VI

Course Title: Punjabi (Honours)

Course Code: BARL-6579

Time Allowed: 3 Hours

Max Marks: 80

ਨੋਟ:- ਕੁੱਲ 5 ਪ੍ਰਸ਼ਨ ਕਰਨੇ ਹਨ। ਹਰ ਸੈਕਸ਼ਨ ਵਿੱਚੋਂ ਇੱਕ ਪ੍ਰਸ਼ਨ ਲਾਜ਼ਮੀ ਹੈ। ਪੰਜਵਾਂ ਪ੍ਰਸ਼ਨ ਕਿਸੇ ਵੀ ਸੈਕਸ਼ਨ ਵਿੱਚੋਂ ਕੀਤਾ ਜਾ ਸਕਦਾ ਹੈ।

ਸੈਕਸ਼ਨ-ਏ

1. ਤ੍ਰਾਸਦੀ ਦੇ ਸੰਕਲਪ ਦਾ ਵਿਵੇਚਨ ਕਰੋ। ਇਸਦੇ ਅੰਗਾਂ ਉੱਤੇ ਵਿਸਤਾਰਪੂਰਬਕ ਨੋਟ ਲਿਖੋ। 16
2. ਰੂਪਵਾਦ ਦੀ ਪਰਿਭਾਸ਼ਾ ਅਤੇ ਲੱਛਣਾਂ ਨੂੰ ਦਰਸਾਉਂਦੇ ਹੋਏ ਰੂਪਵਾਦੀ ਆਲੋਚਨਾ ਵਿਧੀ ਦਾ ਵਿਵੇਚਨ ਕਰੋ। 16

ਸੈਕਸ਼ਨ-ਬੀ

3. ਚਿੰਨ੍ਹ ਕੀ ਹੈ? ਕੀ ਚਿੰਨ੍ਹ ਤੇ ਚਿੰਨ੍ਹਕ ਦਾ ਸੰਬੰਧ ਕੁਦਰਤੀ ਹੈ ਜਾਂ ਆਪਮੁਹਾਰਾ? ਇਸ ਸੰਬੰਧੀ ਉਦਾਹਰਨਾਂ ਸਹਿਤ ਵਰਣਨ ਕਰੋ। 16
4. ਲੜੀਦਾਰ ਅਤੇ ਕੜੀਦਾਰ ਸੰਬੰਧਾਂ ਦਾ ਵਿਸਤਾਰਪੂਰਬਕ ਵਰਣਨ ਕਰੋ। 16

ਸੈਕਸ਼ਨ-ਸੀ

5. ਹੇਠ ਲਿਖਿਆਂ ਦਾ ਸਿਧਾਂਤਕ ਵਿਵਰਣ ਦਿਓ:-
ਓ. ਭਾਸ਼ਾਈ ਯੋਗਤਾ
ਅ. ਭਾਸ਼ਾਈ ਨਿਭਾਅ 16
6. ਹੇਠ ਲਿਖਿਆਂ ਵਿੱਚੋਂ ਦੋ ਉੱਤੇ ਭਰਪੂਰ ਨੋਟ ਲਿਖੋ:-
ਓ. ਅਗਰਭੂਰਾਨ
ਅ. ਪ੍ਰਸੰਗ ਸਥਿਤੀ
ੲ. ਰੂਪਾਵਲੀ
ਸ. ਸੰਰਚਨਾ 16

ਸੈਕਸ਼ਨ-ਡੀ

7. ਪੂਰਕ ਵੰਡ ਅਤੇ ਪ੍ਰਕਾਰਜ ਵੰਡ ਦਾ ਵਿਸਥਾਰ ਸਹਿਤ ਵਰਣਨ ਕਰੋ। 16
8. ਹੇਠ ਲਿਖਿਆਂ ਵਿੱਚੋਂ ਕਿਸੇ ਦੋ ਉੱਤੇ ਭਰਪੂਰ ਨੋਟ ਲਿਖੋ:-
1. ਪਾਠ
2. ਪ੍ਰਵਚਨ
3. ਸੱਭਿਆਚਾਰ ਚਿੰਨ੍ਹ
4. ਖੁੱਲ੍ਹੇ ਬਦਲ। 16

BACHELOR OF ARTS**Semester-VI**

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

Course Code - BARL-6589

Examination Time: 3 Hours

Theory: 80

Note: Attempt five questions in 1200, selecting at least one question from each section. The fifth question may be attempted from any section. Each question carries 16 marks.

ਨੋਟ: ਪ੍ਰਤੀਕ ਇਕਾਈ ਤੋਂ ਕਮ ਤੋਂ ਕਮ ਏਕ ਪ੍ਰਸ਼ਨ ਚੁਨਕਰ, 1200 ਸ਼ਬਦਾਂ ਤੋਂ ਕੋਈ ਭੀ 5 ਪ੍ਰਸ਼ਨ ਹਲ ਕਰੋ ਅਤੇ 5ਵਾਂ ਪ੍ਰਸ਼ਨ ਚਾਰ ਇਕਾਈਆਂ ਤੋਂ ਤੋਂ ਕਿਸੀ ਏਕ ਤੋਂ ਹਲ ਕੀਯਾ ਜਾ ਸਕਤਾ ਹੈ। ਪ੍ਰਤੀਕ ਪ੍ਰਸ਼ਨ 16 ਅੰਕ ਕਾ ਹੈ।

ਨੋਟ: 1200 ਸ਼ਬਦਾਂ ਵਿੱਚ ਕੋਈ ਵੀ 5 ਸਵਾਲ ਕਰਨ ਦੀ ਕੋਸ਼ਿਸ਼ ਕਰੋ, ਹਰ ਇਕਾਈ ਵਿੱਚੋਂ ਘੱਟੋ-ਘੱਟ ਇੱਕ ਪ੍ਰਸ਼ਨ ਚੁਣ ਕੇ ਅਤੇ 5ਵਾਂ ਪ੍ਰਸ਼ਨ ਚਾਰਾਂ ਵਿੱਚੋਂ ਕਿਸੇ ਵੀ ਇਕਾਈ ਤੋਂ ਕਰਨ ਦੀ ਕੋਸ਼ਿਸ਼ ਕੀਤੀ ਜਾ ਸਕਦੀ ਹੈ। ਹਰੇਕ ਸਵਾਲ ਵਿੱਚ 16 ਅੰਕ ਹੁੰਦੇ ਹਨ।

Section A

1. Discuss the causes of the February Revolution?

ਫਰਵਰੀ ਕ੍ਰਾਂਤੀ ਦੇ ਕਾਰਨਾਂ ਦੀ ਵਿਵੇਚਨਾ ਕੀਜ਼ਿਏ।
ਫਰਵਰੀ ਇਨਕਲਾਬ ਦੇ ਕਾਰਨਾਂ ਦੀ ਚਰਚਾ ਕਰੋ?

2. Discuss the factors leading to the Bolsheviks Revolution?

ਬੋਲਸ਼ੇਵਿਕ ਕ੍ਰਾਂਤੀ ਕੋ ਪ੍ਰਭਾਵਿਤ ਕਰਨੇ ਵਾਲੇ ਕਾਰਕਾਂ ਦੀ ਵਿਵੇਚਨਾ ਕੀਜ਼ਿਏ।
ਬੋਲਸ਼ੇਵਿਕ ਇਨਕਲਾਬ ਵੱਲ ਅਗਵਾਈ ਕਰਨ ਵਾਲੇ ਕਾਰਕਾਂ ਦੀ ਚਰਚਾ ਕਰੋ?

Section B

3. How did the Bolsheviks consolidate their regime?

ਬੋਲਸ਼ੇਵਿਕਾਂ ਨੇ ਅਪਨੇ ਸ਼ਾਸਨ ਕੋ ਕਿਸ ਪ੍ਰਕਾਰ ਸੁਢ੍ਰਫ਼ ਕੀਯਾ?

ਬੋਲਸ਼ੇਵਿਕਾਂ ਨੇ ਆਪਣੇ ਸ਼ਾਸਨ ਨੂੰ ਕਿਵੇਂ ਮਜ਼ਬੂਤ ਕੀਤਾ?

4. What were the causes of Civil War in Russia?

ਰੂਸ में गृह युद्ध के क्या कारण थे?

ਰੂਸ ਵਿਚ ਘਰੇਲੂ ਯੁੱਧ ਦੇ ਕਾਰਨ ਕੀ ਸਨ?

Section C

5. Evaluate the impact of the Russian Revolution.

ਰੂਸੀ ਕ्रांति के प्रभाव का मूल्यांकन कीजिए।

ਰੂਸੀ ਕ੍ਰਾਂਤੀ ਦੇ ਪ੍ਰਭਾਵ ਦਾ ਮੁਲਾਂਕਣ ਕਰੋ।

6. What do you understand by War Communism?

युद्धसाम्यवाद से आप क्या समझते हैं?

Section D

7. Discuss the New Economic Policy introduced in Russia.

रूस में लागू की गई नई आर्थिक नीति की चर्चा कीजिए।

ਤੁਸੀਂ ਯੁੱਧ ਕਮਿਊਨਿਜ਼ਮ ਦੁਆਰਾ ਕੀ ਸਮਝਦੇ ਹੋ?

8. Discuss the changes that took place in Russian society after the Revolution.

क्रांति के बाद रूसी समाज में हुए परिवर्तनों की चर्चा कीजिए।

ਇਨਕਲਾਬ ਤੋਂ ਬਾਅਦ ਰੂਸੀ ਸਮਾਜ ਵਿੱਚ ਆਈਆਂ ਤਬਦੀਲੀਆਂ ਦੀ ਚਰਚਾ ਕਰੋ।

**Exam Code: 103206
(30)**

Paper Code: 6136

**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: 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 Sixteen marks.

Section-A

1. Discuss the ideas of Swami Vivekananda as prescribed under Indian philosophy. 16
2. Evaluate the contribution of Raja Ram Mohan Roy in the field of social reforms. 16

Section-B

3. Describe the ideas of Rabindra Nath Tagore on nationalism. 16
4. Elaborate in detail the overall contribution of Veer Savarkar as a social reformer. 16

Section-C

5. Examine the political ideas of M. N.Roy on Radical Humanism and Democracy. 16
6. Examine the theory of revolution as propounded by Mao Ze Dong. 16

Section-D

7. Analyze the theory of Justice as propounded by John Rawls. 16
8. Write down the overall contribution of Deen Dayal Upadhayay. 16

Hindi Version

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

खंड—ए

1. भारतीय दर्शन में निर्धारित स्वामी विवेकानन्द के विचारों की विवेचना कीजिए। 16
2. समाज सुधार के क्षेत्र में राजा राम मोहन राय के योगदान का मूल्यांकन कीजिए। 16

खंड—बी

3. राष्ट्रवाद पर रवीन्द्र नाथ टैगोर के विचारों का वर्णन कीजिए। 16
4. एक समाज सुधारक के रूप में वीर सावरकर के समग्र योगदान का विस्तार से वर्णन कीजिए। 16

खंड—सी

5. उग्र मानवतावाद और लोकतंत्र पर एम.एन.रॉय के राजनीतिक विचारों का परीक्षण कीजिए। 16
6. माओत्से डोंग द्वारा प्रतिपादित क्रांति के सिद्धांत का परीक्षण कीजिए। 16

खंड-डी

- ✓
7. जॉन रॉल्स द्वारा प्रतिपादित न्याय सिद्धांत का विश्लेषण कीजिए। 16
 8. दीनदयाल उपाध्याय का समग्र योगदान लिखिए। 16

Exam Code: BA- 103205
BSc- 103305

Paper Code: 6137

Bachelor of Arts/ Bachelor of Science (Economics)
SEMESTER-VI
SESSION 2023-2024
COURSE CODE : BARL-6609/ BECL-6607 (OPT--II)
Economics (Honours): Public Finance

Examination Time : 3 Hours

Theory: 80

NOTE: Candidates are required to attempt five questions, selecting at least one from each section. The fifth question may be attempted from any section. Each question carries 16 marks.

SECTION-A

- Q1. Explain Public and private goods with the help of diagrams. 16
Q2. Explain the different types of Public Expenditure? 16

SECTION-B

- Q3. Explain the different theories of Public Revenue. 16
Q4. Discuss the Effects of Public Expenditure. 16

SECTION-C

- Q5. Write a short note on.
a) Income Tax
b) Excise duties and Sales Tax. 16
Q6. What is Public Debt. Explain its Role. 16

SECTION-D

- Q7. Elaborate Center - State Financial Relation. 16
Q8. Explain the various types of Budget. 16

Exam Code: 103206
(30)

Paper Code: 6138

Programme: Bachelor of Arts
Semester- VI

Course Title: Psychology (Honours): Applied Psychology

Course Code: BARL-6619

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 equal marks.

SECTION — A

1. Write a detailed note on Special Education for Exceptional Children. 16
2. How can disciplining and communication be done for effective classroom management? 16

SECTION — B

3. Write a short note on the following:
 - a. Characteristics of effective counselors
 - b. School Counseling 8,8
4. Write a note on the ethical issues of counseling. 16

SECTION — C

5. What is Work Stress? Explain the ways through which it can be managed. 16
6. Explain the concept of Work Environment. How can one adapt to the work environment? 16

SECTION — D

7. What is Health Psychology? Discuss its Nature and Development. 16
8. What is the role of a psychologist to deal with Cardiovascular diseases? Discuss in detail. 16

Paper Code: 6108

Programme	Exam Code	Course Code
Bachelor of Arts	103206	BARM-6124
Bachelor of Science (Economics)	103306	BECM-6124

Semester-VI

**Course Title: Computer Applications (Vocational) (Business
Data Processing)
(40)**

Time Allowed: 3 Hours

Max Marks: 50

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 10 marks.

(Section-A)

1. What do you mean by Data Processing? Explain the various characteristics of data processing for any business organization. 10
2. Discuss the various needs of computers in business. Explain the role of computer in banks and educational institutions. 10

(Section-B)

3. What do you mean by Batch Processing and how it is different from real-time data processing system? Justify your answer with suitable example. 10
4. Explain File Organization and its types. Also explain how files are accessed using Serial, Sequential, Indexed Sequential, Direct access methods with suitable examples. 10

(Section-C)

5. Explain the various applications of spreadsheet and How you can print any spreadsheet. 10
6. Explain Pivot Table and how can you add and remove data from Pivot Table. 10

(Section-D)

7. Explain the role of functions in any spreadsheet. Also explain any 5 statistical functions with examples. 10
8. Explain the following:
 - a) Trigonometric and Mathematical functions.
 - b) Data analytics tools- sort, filter, fill, and query5x2=10

Paper Code: 6107

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

Semester-VI

Course Title: Computer Science (Information Technology)
(40)

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

Note :-Attempt five questions in all, selecting at least one question from each section. Fifth question can be attempted from any section. Each question carries equal 10 marks. Student can use only non-programmable and non-storage type calculator.

Section -A

1. Explain Communication media: Twisted pair, Coaxial. Fiber optics with example. 10
2. What are the Different Types of Network Topology? 10

Section -B

3. Explain TPS, MIS and DSS in detail. 10

4. Explain Information technology with component in detail. 10

Section -C

5. Describe what a search engine is using at least three different instances. 10
6. What is Facebook. How it works. Explain in details. 10

Section -D

7. Explain how to upload, alter, and download YouTube videos. 10
8. Explain the concept of blog domain in detail. 10

Exam Code: 103206
(20)

Paper Code: 6128

Programme: Bachelor of Arts
Semester--VI

Course Title: Cosmetology (Vocational)

Course Code: BARM-6147

Time Allowed: 3 Hours

Max Marks: 40

NOTE: Attempt five question in all selecting at least ONE question from each unit. The fifth question may be attempted from any unit. All question carry equal marks.

UNIT-I

1. What is the planning of salon? Which points should be kept in mind while planning of salon?
2. What is salon ownership and explain its types.

UNIT-II

3. Describe the proper maintenance of record keeping.
4. Define professional ethics. Give example of professional ethics towards employers and operator.

UNIT-III

5. Explain accidents due to electric equipments in salon
6. Why is it important to keep first aid in salon? What should be done in emergency?

UNIT-IV

7. Briefly describe permanent waving and why porosity test is necessary before waving.
8. Explain all the techniques of hair colour.

Exam Code: 103206	Paper Code: 6127
<p>Programme: Bachelor of Arts Semester: VI Course Title: Fashion Designing and Garment Construction (Vocational) (Historic Costumes of India-II) Course Code: BARM 6237</p>	
Time Allowed :3 hours	Maximum Marks: 30

Serial no.	Students are required to attempt five questions in all by selecting one question from each section and fifth question from any section. Each question carries equal marks (6) SUPPORT YOUR ANSWERS WITH SUITABLE DIAGRAMS	Marks
	<p style="text-align: center;">SECTION-A</p> <p>Q1. Discuss the traditional costumes of male of Punjab in detail. 6</p> <p>Q2. Discuss the traditional costumes of female of Haryana in detail. 6</p> <p style="text-align: center;">SECTION-B</p> <p>Q3. Explain footwear and accessories of people of Kashmir. 6</p> <p>Q4. Describe the head dress and accessories used in costumes of Rajasthan. 6</p> <p style="text-align: center;">SECTION-C</p> <p>Q5. Discuss the headdress and accessories worn by the people of Manipur. 6</p> <p>Q6. Discuss the traditional costumes of Bengal in detail. 6</p> <p style="text-align: center;">SECTION-D</p> <p>Q7. Discuss the traditional costumes of female of Karnataka in detail. 6</p> <p>Q8. Discuss the jewelry and accessories worn by the people of Kerala. 6</p>	

Exam Code: 103206

Paper Code: 6119

PROGRAMME: Bachelor of Arts

Semester: VI

Course Title- Fine Arts (Drawing ^{and} Painting)

Course Code: - BARM-6245

Time Allowed: 3 hrs

Max Marks: 40

Note :- Attempt Five Questions selecting at least one from each section. Fifth Question may be attempted from any section. All Questions carry Equal Marks. (8)

SECTION-A

Q1. Write a detailed note on Kalighat Paintings.

Q1. ਕਾਲੀਘਾਟ ਪੇਂਟਿੰਗਾਂ 'ਤੇ ਵਿਸਤ੍ਰਿਤ ਨੋਟ ਲਿਖੋ।

Q2. Explain Company School.

Q2. ਕੰਪਨੀ ਸਕੂਲ ਦੀ ਵਿਆਖਿਆ ਕਰੋ।

SECTION-B

Q3. Give an essay on Bengal school.

Q3. ਬੰਗਾਲ ਸਕੂਲ 'ਤੇ ਇੱਕ ਲੇਖ ਦਿਓ।

Q4. What do you know about Nandlal Bose and his art.

Q4. ਤੁਸੀਂ ਨੰਦਲਾਲ ਬੋਸ ਅਤੇ ਉਸਦੀ ਕਲਾ ਬਾਰੇ ਕੀ ਜਾਣਦੇ ਹੋ?

SECTION-C

Q5. Throw light on works on Amrita Sher Gill.

Q5. ਅੰਮ੍ਰਿਤਾ ਸ਼ੇਰ ਗਿੱਲ ਦੀਆਂ ਰਚਨਾਵਾਂ 'ਤੇ ਚਾਨਣਾ ਪਾਇਆ।

Q6. Give an detailed account on Raja Ravi Verma's Painting.

Q6. ਰਾਜਾ ਰਵੀ ਵਰਮਾ ਦੀ ਪੇਂਟਿੰਗ ਬਾਰੇ ਵਿਸਥਾਰਪੂਰਵਕ ਜਾਣਕਾਰੀ ਦਿਓ।

SECTION-D

Q7. Explain S.G.Thakur Singh an a Landscape Painter.

Q7. S.G. ਠਾਕੁਰ ਸਿੰਘ ਇੱਕ ਲੈਂਡਸਕੇਪ ਪੇਂਟਰ ਬਾਰੇ ਦੱਸੋ।

Q8. Explain in about thousand words about Sobha Singh as a Portrait artist.

Q8. ਪੇਰਟਰੇਟ ਕਲਾਕਾਰ ਵਜੋਂ ਸੋਭਾ ਸਿੰਘ ਬਾਰੇ ਹਜ਼ਾਰਾਂ ਸ਼ਬਦਾਂ ਵਿੱਚ ਵਿਆਖਿਆ ਕਰੋ।

(8*5 = 40)

Exam Code: 103206
(20)

Paper Code: 6131

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

यह प्रश्न—पत्र चार भागों में विभाजित है। प्रथम भाग अनिवार्य है। प्रत्येक भाग में से एक प्रश्न करना जरूरी है। पाँचवा प्रश्न व्याख्या भाग को छोड़कर शेष किसी भी भाग में से किया जा सकता है। सभी प्रश्न 12—12 अंक के हैं।

भाग—क

1. निम्नलिखित पद्यांशों में से किन्हीं तीन की सप्रसंग व्याख्या कीजिए।
 - i. "नयी कला, नूतन रचनाएँ, नयी सूझ, नूतन साधन, नये भाव, नूतन उमंग से, वीर बने रहते नूतन।"
 - ii. "समझकर द्रोण मन में भक्ति भरिये, पितामह की तरह सम्मान करिये। मनुजता का नया नेता उठा है, जगत् से ज्योति का जेता उठा है।"
 - iii. 'वह करतब है यह कि युद्ध में मारो और मरोतुम, पर, कुपथ में कभी जीत के लिए न पाँव धरोतुम।'
 - iv. "पत्थर—सी हो मास पेशियां, लोहे—से भुजदण्ड अभय नस—नस में हो लहर आग की, तभी जवानी पाती जय"
 - v. दुर्योधन वह भी दे न सका, आशिष समाज की न ले सका, उलटे, हरि को बाँधने चला जो था असाध्य, साधने चला
 - vi. "जय मिले बिना विश्राम नहीं, इस समय सन्धि का नाम नहीं, आशिष दीजिए, विजय कर रण, फिर देख सकूँ ये भव्य चरण।"

नोट: कुल चार प्रश्न करें। भाग दो, तीन चार में से एक—एक प्रश्न करते हुए चौथा प्रश्न किसी भी भाग में से करें।

भाग दो

2. 'रश्मिरथी' के नामकरण के औचित्य पर प्रकाश डालिए।
3. रामधारी सिंह दिनकर का साहित्यिक परिचय दीजिए।

भाग तीन

4. रश्मिरथी में भाग्य और पौरुष सम्बन्धी विचार स्पष्ट कीजिए।
5. 'रश्मिरथी' में महाभारत युगनि ज्वलंत समस्याओं को आधुनिक परिपेक्ष्य में देखने और समझने का प्रयास किया गया है— इस कथन की सत्यता पर प्रकाश डालिए।

भाग—चार

6. रश्मिरथी काव्य के आधार पर कुंती का चरित्र—चित्रण करें।
7. खण्डकाव्य की दृष्टि से रश्मिरथी का मूल्यांकन कीजिए।

Exam Code: 103206
(20)

Paper Code: 6116

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

Instructions: Students are required to attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any section. Each question is of 12 marks.

Section A

1. Define food. Classify the food based on five food groups.
2. Explain the principles of meal planning in detail.

Section B

3. List out the food items which should be included in the diet of adolescent boy and adult male (only moderate worker) from middle income group.

4. Plan the balanced diet of pregnant and lactating mother of middle income group.

Section C

5. What is therapeutic diet? Explain the principles of therapeutic diet.
6. Explain the therapeutic diet in the condition of fever and constipation.

Section D

7. Explain the social development, its stages and pattern of social development.
8. Write about the sign and symptoms of pregnancy along with care during pregnancy.

Hindi Version

खंड ऐ

1. भोजन को परिभाषित कीजिए। पाँच खाद्य समूहों के आधार पर भोजन का वर्गीकरण कीजिए।
2. भोजन नियोजन के सिद्धांतों को विस्तार से समझाइए।

खंड बी

3. उन खाद्य पदार्थों की सूची बनाएं जिन्हें मध्यम आय वर्ग के किशोर लड़के और वयस्क पुरुष केवल मध्यम कार्यकर्ता के आहार में शामिल किया जाना चाहिए।
4. मध्यम आय वर्ग की गर्भवती एवं धात्री माता के लिए संतुलित आहार की योजना बनाएं।

खंड सी

5. चिकित्सीय आहार क्या है? उपचारात्मक आहार के सिद्धांतों की व्याख्या कीजिए।
6. ज्वर तथा कब्ज की स्थिति में उपचारत्मक आहार की व्याख्या कीजिए।

खंड डी

7. सामाजिक विकास, इसके चरणों और सामाजिक विकास के पैटर्न की व्याख्या करें।
8. गर्भावस्था के लक्षण एवं गर्भावस्था के दौरान देखभाल के साथ-साथ लिखिए।

Punjabi Version

ਸੈਕਸ਼ਨ-ਏ

1. ਭੋਜਨ ਦੀ ਪਰਿਭਾਸ਼ਾ ਦਿਓ। ਭੋਜਨ ਨੂੰ ਪੰਜ ਭੋਜਨ ਸਮੂਹਾਂ ਦੇ ਆਧਾਰ ਤੇ ਸ਼੍ਰੇਣੀਬੱਧ ਕਰੋ।
2. ਭੋਜਨ ਦੀ ਯੋਜਨਾਬੰਦੀ ਦੇ ਸਿਧਾਂਤਾਂ ਨੂੰ ਵਿਸਥਾਰ ਵਿੱਚ ਸਮਝਾਓ।

ਸੈਕਸ਼ਨ-ਬੀ

3. ਮੱਧ ਆਮਦਨੀ ਸਮੂਹ ਦੇ ਕਿਸ਼ੋਰ ਲੜਕੇ ਅਤੇ ਬਾਲਗ ਪੁਰਸ਼ (ਸਿਰਫ ਮੱਧਮ ਕਾਮੇ) ਦੀ ਖੁਰਾਕ ਵਿੱਚ ਸ਼ਾਮਲ ਕੀਤੇ ਜਾਣ ਵਾਲੇ ਭੋਜਨ ਪਦਾਰਥਾਂ ਦੀ ਸੂਚੀ ਬਣਾਓ।
4. ਮੱਧ ਆਮਦਨੀ ਸਮੂਹ ਦੀ ਗਰਭਵਤੀ ਅਤੇ ਦੁੱਧ ਚੁੰਘਾਉਣ ਵਾਲੀ ਮਾਂ ਦੀ ਸੰਤੁਲਿਤ ਖੁਰਾਕ ਦੀ ਯੋਜਨਾ ਬਣਾਓ।

ਸੈਕਸ਼ਨ-ਸੀ

5. ਉਪਚਾਰਕ ਖੁਰਾਕ ਕੀ ਹੈ? ਉਪਚਾਰਕ ਖੁਰਾਕ ਦੇ ਸਿਧਾਂਤਾਂ ਦੀ ਵਿਆਖਿਆ ਕਰੋ।
6. ਬੁਖਾਰ ਅਤੇ ਕਬਜ਼ ਦੀ ਸਥਿਤੀ ਵਿੱਚ ਉਪਚਾਰਕ ਖੁਰਾਕ ਦੀ ਵਿਆਖਿਆ ਕਰੋ।

ਸੈਕਸ਼ਨ-ਡੀ

7. ਸਮਾਜਿਕ ਵਿਕਾਸ, ਇਸਦੇ ਪੜਾਵਾਂ ਅਤੇ ਸਮਾਜਿਕ ਵਿਕਾਸ ਦੇ ਪੈਟਰਨ ਦੀ ਵਿਆਖਿਆ ਕਰੋ।
8. ਗਰਭ ਅਵਸਥਾ ਦੌਰਾਨ ਦੇਖਭਾਲ ਦੇ ਨਾਲ-ਨਾਲ ਗਰਭ ਅਵਸਥਾ ਦੀਆਂ ਨਿਸ਼ਾਨੀਆਂ ਅਤੇ ਲੱਛਣਾਂ ਬਾਰੇ ਲਿਖੋ।

Exam Code: 103206

Paper Code: 6114

**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 equal marks. (12 each)

Section-A

1. Define Public Relations and also discuss its need in any organisation.
2. Explain PR practices in Public and Private Sectors.

Section-B

3. Draw difference between PR and Advertising
4. Discuss various step involved in organising a successful Press Conference.

Section-C

5. Which are the various tools for PR
6. Explain Codes of Ethics of PR.

Section-D

7. Discuss the role of PR in Crisis Management.
8. What do you know about Public Relations Society of India?

Paper Code: 6105

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)

Semester-VI**Course Title: Mathematics (Linear Algebra)****(70)****Time Allowed: 3 Hours****Max Marks: 40**

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

Section-A

Q1(a) Show that the set of rationals Q is a field under the composition $*$ and \cdot defined as $a*b = a+b-1$ and $a\cdot b = a+b-ab$ for all $a, b \in Q$. (4)

(b) Prove that the necessary and sufficient condition for a non-empty subset W of a vector space $V(F)$ to be a subspace of V is $\alpha x + \beta y \in W$ for all $\alpha, \beta \in F$ and $x, y \in W$. (4)

Q2(a) Let V be a vector space over the field F . Prove that the set S of non-zero vectors $v_1, v_2, \dots, v_n \in V$ is linearly dependent iff some of these vectors say $v_k, 2 \leq k \leq n$, can be expressed as the linear combination of the preceding vectors of set S . (4)

(b) Show that the vectors $v_1 = (1, 2, 0)$, $v_2 = (0, 3, 1)$, $v_3 = (-1, 0, 1)$ in $V_3(R)$ are linearly independent. (4)

Section-B

Q3 Prove that there exists a basis for each finite dimensional vector space. (8)

Q4 If V is finite dimensional and W is a subspace of V , then W is finite dimensional and

$$\dim(V/W) = \dim V - \dim W \quad (8)$$

Section- C

Q5(a) State and prove Rank- Nullity Theorem. (5)

(b) Let $T: R^3 \rightarrow R^3$ be defined by $T(x, y, z) = (3x, x-y, 2x+y+z)$. Prove that T is one-one, onto and invertible and find T^{-1} . (3)

Q6(a) Let V be a vector space over F and $T: V \rightarrow V$ be a linear operator. Prove that T is invertible iff T is one-one and onto. (5)

(b) Find a linear transformation $T: R^4 \rightarrow R^3$ whose null space is generated by $(2, 3, 4, 1)$ and $(1, 0, 1, 1)$

(3)

Section- D

Q7(a) If the matrix of a linear operator $T: \mathbb{R}^3 \rightarrow \mathbb{R}^3$ relative to the usual basis is $\begin{bmatrix} 0 & 1 & 1 \\ 1 & 0 & -1 \\ -1 & -1 & 0 \end{bmatrix}$

Find the matrix of T relative to the basis $B_1 = \{(0,1,-1), (-1,1,0), (1,-1,1)\}$ (4)

(b) Given a matrix $\begin{bmatrix} 1/2 & 1 \\ 2/3 & 4 \end{bmatrix}$ Find the corresponding linear operator T on \mathbb{R}^2 relative to the basis (4)

$B = \{(1,0), (1,1)\}$

Q8(a) Let $B = (v_1, v_2, \dots, v_n)$ be a basis for a vector space $V(F)$. Let $T: V \rightarrow V$ be a linear transformation. Prove that for any vector v in V $[T;B][v;B] = [T(v); B]$ (4)

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

Paper Code: 6106

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)

Semester-VI**Course Title: Mathematics (Numerical Analysis)****(70)****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. All question carries equal(8 marks each) marks. The students can use only Non programmable & Non Storage type calculator.

SECTION-A

Q1. (a) Find the order of convergence of Regula falsi method. [4 X 2=8]

(b) The numbers 1.237, 209.188, 78.6, 25.00 are correct to last digit. Find the product.

Q2 (a) Find the square root of 32 correct to four decimals using Newton-Raphson method.

(b) Find a root of equation $\cos x - xe^x = 0$ using secant method. [4 X 2=8]

SECTION-B

Q3. (a) Solve the following system of equations by Gauss Jacobi method (three iterations)

$20x + y - 2z = 17, 3x + 20y - z = -18, 2x - 3y + 20z = 25.$ [4 X 2=8]

(b) Solve the following system of equations by Gauss-Jordan method:

$10x + y + z = 12, x + 10y + z = 12, x + y + 10z = 12.$

Q4 (a) Given $f(1) = 1, f(2) = 5, f(4) = 59$, obtain $f(3)$. [4 X 2=8]

(b) Find the cubic polynomial which takes the following values $y(0)=1, y(1)=0, y(2)=1$ and $y(3)=10$. Hence or otherwise obtain $y(4)$.

SECTION-C

Q5. Use Romberg's methods to compute $I = \int_0^1 \frac{dx}{x^2+1}$ correct to three decimal places. [8]

Q6 (a) Find $I = \int_0^1 x dx$ by Gauss legendre three point formula. [4 X 2=8]

(b) Use Stirling's formula to evaluate $f'(1.22)$, given

x	1.0	1.1	1.2	1.3	1.4
f(x)	0.841	0.891	0.932	0.963	0.985

SECTION-D

Q7. Given $\frac{dy}{dx} = 1 + xy^2$ with $y(0) = 0$, $y(0.2) = 0.2027$, $y(0.4) = 0.4228$, $y(0.6) = 0.6841$, by Milne's method, compute $y(0.8)$. [8]

Q8. Apply Runge-Kutta fourth order method to find the solution of differential equation

$\frac{dy}{dx} = x^2 + y^2$ at $x=1.2$ in steps of 0.1 given that $y=1.5$ when $x=1$. [8]

Bachelor of Arts Semester VI

Music (Instrumental)

BARM- 6357

Time: 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 do you know about popular music culture? How does it impact our life?

ਤੁਸੀਂ ਪ੍ਰਸਿੱਧ ਸੰਗੀਤ ਸੱਭਿਆਚਾਰ ਬਾਰੇ ਕੀ ਜਾਣਦੇ ਹੋ? ਇਹ ਸਾਡੇ ਜੀਵਨ ਨੂੰ ਕਿਵੇਂ ਪ੍ਰਭਾਵਿਤ ਕਰਦਾ ਹੈ? (8)

2. Throw the light on classification of folk instruments of Punjab.

ਪੰਜਾਬ ਦੇ ਲੋਕ ਸਾਜ਼ਾਂ ਦੇ ਵਰਗੀਕਰਨ 'ਤੇ ਚਾਨਣਾ ਪਾਓ। (8)

Section- B

3. Pandit Niladri Kumar has made a notable contribution to the field of Indian music. Justify.

ਪੰਡਿਤ ਨੀਲਾਦਰੀ ਕੁਮਾਰ ਨੇ ਭਾਰਤੀ ਸੰਗੀਤ ਦੇ ਖੇਤਰ ਵਿੱਚ ਜ਼ਿਕਰਯੋਗ ਯੋਗਦਾਨ ਪਾਇਆ ਹੈ। ਜਾਇਜ਼ ਠਹਿਰਾਓ। (8)

4. What is the role of stage in performing classical Indian Music. ਕਲਾਸੀਕਲ ਭਾਰਤੀ ਸੰਗੀਤ ਦੇ ਪ੍ਰਦਰਸ਼ਨ ਵਿੱਚ ਸਟੇਜ ਦੀ ਕੀ ਭੂਮਿਕਾ ਹੈ। (8)

Section- C

5. What are string instruments? How many kinds of string instruments are there in Indian music?

ਸਟਰਿੰਗ ਯੰਤਰ ਕੀ ਹਨ? ਭਾਰਤੀ ਸੰਗੀਤ ਵਿੱਚ ਕਿੰਨੇ ਤਰ੍ਹਾਂ ਦੇ ਤਾਰਾਂ ਦੇ ਸਾਜ਼ ਹਨ? (8)

6. Write a description of musical instruments used in Bhakti Sangeet.

ਭਗਤੀ ਸੰਗੀਤ ਵਿੱਚ ਵਰਤੇ ਜਾਂਦੇ ਸਾਜ਼ਾਂ ਦਾ ਵਰਣਨ ਲਿਖੋ। (8)

Section- D

7. Give a brief description of Raag Baageshwari with four Toras and notation.

ਰਾਗ ਬਾਗੇਸ਼ਵਰੀ ਦਾ ਚਾਰ ਤੋਰਾਂ ਅਤੇ ਸੰਕੇਤਾਂ ਨਾਲ ਸੰਖੇਪ ਵਰਣਨ ਦਿਓ। (8)

8. Write down full description of Dhamaar Taal with Ek Gun, Do Gun and Chaar Gun layakaaris.

ਰਾਗ ਬਾਗੜੀ ਦਾ ਚਾਰਟਰਾਂ ਅਤੇ ਸੰਕੇਤਾਂ ਨਾਲ ਵਰਣਨ ਕਰੋ। (8)

Exam Code: 103206
(20)

Paper Code: 6123

Programme: Bachelor of Arts
Semester--VI

Course Title: Music (Vocal)

Course Code: BARM-6366

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 08 marks.

Section-A

1. Describe the Lakshan Geet and Raag Malika singing styles. 8
2. Write down biography of the following musician:
Girija Devi Ji
or
Ustad Faiyaz Khan 8

Section-B

3. What is Gamak? Define with its types. 8

4. Write a descriptive note on Gwalior and Patiala
Gharanas of Indian Classical Music. 8

Section-C

5. Discuss about the development of Music under the
Bhakti Lehar. 8
6. Describe the contribution of Shri Guru Gobind Singh Ji
toward Indian Classical Music. 8

Section-D

7. Write an essay on Raga and Rasa. 8
8. Write the notation of Sool Taal with its dugun layakari. 8

Hindi version

नोट:- प्रत्येक खंड में से कम से कम एक प्रश्न का चयन करते हुए, कुल मिलाकर कोई पांच प्रश्न कीजिए। पांचवां प्रश्न किसी भी खंड से किया जा सकता है। प्रत्येक प्रश्न 08 अंकों का है।

खंड एक

1. लक्षण गीत और राग मालिका गायन शैलिओं का वर्णन कीजिए। 8
2. निम्नलिखित संगीतज्ञ की जीवनी लिखिए:
गिरिजा देवी जी या उस्ताद फैयाज़ खां 8

खंड दो

3. गमक क्या है? परिभाषित करते हुए इसके प्रकारों का वर्णन करें। 8
4. भारतीय शास्त्रीय संगीत के ग्वालियर और पटियाला घरानों पर एक वर्णनात्मक टिप्पणी लिखिए। 8

खंड-तीन

5. भक्ति आन्दोलन के अंतर्गत संगीत कला के विकास की चर्चा कीजिए। 8
6. भारतीय शास्त्रीय संगीत में श्री गुरु गोबिंद सिंह जी के योगदान का वर्णन कीजिए। 8

खंड-चार

7. राग और रस पर एक निबंध लिखिए। 8
8. सूल ताल की लिपि उसकी दुगुन लयकारी से लिखिए। 8

Punjabi Version

ਨੋਟ:- ਹਰੇਕ ਭਾਗ ਵਿੱਚੋਂ ਘੱਟੋ-ਘੱਟ ਇੱਕ ਪ੍ਰਸ਼ਨ ਚੁਣ ਕੇ, ਕੁੱਲ ਮਿਲਾ ਕੇ ਕੋਈ ਵੀ ਪੰਜ ਪ੍ਰਸ਼ਨਾਂ ਦੇ ਉੱਤਰ ਲਿਖੋ। ਪੰਜਵਾਂ ਪ੍ਰਸ਼ਨ ਕਿਸੇ ਵੀ ਭਾਗ 'ਚੋਂ ਕੀਤਾ ਜਾ ਸਕਦਾ ਹੈ। ਹਰ ਪ੍ਰਸ਼ਨ 08 ਅੰਕਾਂ ਦਾ ਹੈ।

ਭਾਗ-ਇੱਕ

1. ਲਕਸ਼ਣ ਗੀਤ ਅਤੇ ਰਾਗ ਮਲਿਕਾ ਗਾਇਨ ਸ਼ੈਲੀਆਂ ਦਾ ਵਰਣਨ ਕਰੋ। 8
2. ਹੇਠਾਂ ਦਿੱਤੇ ਸੰਗੀਤਕਾਰ ਦੀ ਜੀਵਨੀ ਲਿਖੋ:
ਗਿਰਿਜਾ ਦੇਵੀ ਜੀ ਜਾਂ ਉਸਤਾਦ ਫੈਯਾਜ਼ ਖਾਂ। 8

ਭਾਗ-ਦੋ

3. ਗਮਕ ਕੀ ਹੈ? ਇਸ ਦੀਆਂ ਕਿਸਮਾਂ ਨਾਲ ਪਰਿਭਾਸ਼ਿਤ ਕਰੋ। 8
4. ਭਾਰਤੀ ਸ਼ਾਸਤਰੀ ਸੰਗੀਤ ਦੇ ਗਵਾਲੀਅਰ ਅਤੇ ਪਟਿਆਲਾ ਘਰਾਣਿਆਂ 'ਤੇ ਵਰਣਨਯੋਗ ਨੋਟ ਲਿਖੋ। 8

ਭਾਗ-ਤਿੰਨ

5. ਭਗਤੀ ਲਹਿਰ ਅਧੀਨ ਸੰਗੀਤ ਕਲਾ ਦੇ ਵਿਕਾਸ ਬਾਰੇ ਚਰਚਾ ਕਰੋ। 8
6. ਭਾਰਤੀ ਸ਼ਾਸਤਰੀ ਸੰਗੀਤ ਪ੍ਰਤੀ ਸ਼੍ਰੀ ਗੁਰੂ ਗੋਬਿੰਦ ਸਿੰਘ ਜੀ ਦੇ ਯੋਗਦਾਨ ਦਾ ਵਰਣਨ ਕਰੋ। 8

ਭਾਗ-ਚਾਰ

7. ਰਾਗ ਅਤੇ ਰਸ 'ਤੇ ਨਿਬੰਧ ਲਿਖੋ। 8
8. ਇੱਕਗੁਣ ਅਤੇ ਦੁਗੁਣ ਵਿਚ ਸੂਲ ਤਾਲ ਦੀ ਨੋਟੇਸ਼ਨ ਲਿਖੋ। 8

Exam Code: 103206

Paper Code: 6117

Programme: Bachelor of Arts (Semester – VI)

Course Title: Physical Education

Course Code: BARM-6384

Time Allowed: 3Hours

Max. Marks: 50

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

SECTION A

1. Write a detailed note on the following:

I. Sprain & Strain

II. Dislocation

III. Contusion

ਹੇਠਾਂ ਦਿੱਤੇ 'ਤੇ ਵਿਸਤ੍ਰਿਤ ਨੋਟ ਲਿਖੋ:

I. ਮੋਚ ਅਤੇ ਖਿਚਾਅ

II. ਡਿਸਲੋਕੇਸ਼ਨ

III. ਵਿਗਾੜ

ਨਿम्ਨਲਿਖਿਤ ਪਰ ਵਿਸਤ੍ਰਿਤ ਨੋਟ ਲਿਖੋ:

I. ਮੋਚ ਔਰ ਖਿੰਚਾਵ

II. ਵਿਸਥਾਪਨ ਤੁਰੀਯ

III. ਵਿਕ੍ਰਿਤਿ

2. Write in detail on Vital Capacity, Fatigue & Blood Pressure.

ਜੀਵਨਦਾਇਕ ਸਮਰੱਥਾ, ਥਕਾਵਟ ਅਤੇ ਬਲੱਡ ਪ੍ਰੈਸ਼ਰ ਬਾਰੇ ਵਿਸਥਾਰ ਵਿੱਚ ਲਿਖੋ।

जीवनदायक क्षमता, थकान एवं रक्तचाप के बारे में विस्तार से लिखिए।

SECTION B

3. What are Knock-out Tournaments? Explain in detail procedure to draw a fixture of 17 teams on single Knock-out basis.

ਨਾਕ-ਆਊਟ ਟੂਰਨਾਮੈਂਟ ਕੀ ਹਨ? ਸਿੰਗਲ ਨਾਕ-ਆਊਟ ਦੇ ਆਧਾਰ 'ਤੇ 17 ਟੀਮਾਂ ਦਾ

ਫਿਕਸਚਰ ਬਣਾਉਣ ਲਈ ਵਿਸਤਾਰਪੂਰਵਕ ਵਿਧੀ ਬਾਰੇ ਦੱਸੋ।

नॉक-आउट टूर्नामेंट क्या हैं? सिंगल नॉक-आउट आधार पर 17 टीमें

फिक्स्चर बनाने की विस्तृत प्रक्रिया बताएं।

4. Describe the qualifications and responsibilities of a good Coach.

ਚੰਗੇ ਕੋਚ ਦੀਆਂ ਯੋਗਤਾਵਾਂ ਅਤੇ ਜ਼ਿੰਮੇਵਾਰੀਆਂ ਦਾ ਵਰਣਨ ਕਰੋ।

एक अच्छे प्रशिक्षक के गुण एवं उत्तरदायित्वों का वर्णन करें।

SECTION C

5. What do you mean by term Kinesiology? Highlight its importance for sports arena.

ਕੀਨੇਸੀਓਲੋਜੀ ਸ਼ਬਦ ਤੋਂ ਤੁਹਾਡਾ ਕੀ ਮਤਲਬ ਹੈ? ਖੇਡਾਂ ਦੇ ਖੇਤਰ ਲਈ ਇਸਦੀ ਮਹੱਤਤਾ ਨੂੰ ਉਜਾਗਰ ਕਰੋ।

ਕਾਇਨੋਸੀਓਲੋਜੀ ਸ਼ਬਦ ਤੋਂ ਆਪ ਕੀ ਸਮਝਦੇ ਹੋ? ਖੇਡਾਂ ਦੇ ਖੇਤਰ ਵਿੱਚ ਇਸਦੀ ਮਹੱਤਤਾ ਨੂੰ ਉਜਾਗਰ ਕਰੋ।

6. Explain the role of biomechanics to help the sportspersons to enhance performance in various sports.

ਵੱਖ-ਵੱਖ ਖੇਡਾਂ ਵਿੱਚ ਪ੍ਰਦਰਸ਼ਨ ਨੂੰ ਵਧਾਉਣ ਵਿੱਚ ਬਾਇਓਮੈਕੈਨਿਕਸ ਦੀ ਮਦਦ ਕਰਨ ਲਈ ਬਾਇਓਮੈਕੈਨਿਕਸ ਦੀ ਭੂਮਿਕਾ ਬਾਰੇ ਦੱਸੋ।

ਵਿਭਿੰਨ ਖੇਡਾਂ ਵਿੱਚ ਪ੍ਰਦਰਸ਼ਨ ਨੂੰ ਵਧਾਉਣ ਵਿੱਚ ਬਾਇਓਮੈਕੈਨਿਕਸ ਦੀ ਭੂਮਿਕਾ ਬਾਰੇ ਦੱਸੋ।

SECTION D

7. What is Physical fitness? Elaborate the principles of Physical Fitness.

ਸਰੀਰਕ ਤੰਦਰੁਸਤੀ ਕੀ ਹੈ? ਸਰੀਰਕ ਤੰਦਰੁਸਤੀ ਦੇ ਸਿਧਾਂਤਾਂ ਦੀ ਵਿਆਖਿਆ ਕਰੋ।

ਸਰੀਰਕ ਸੁਰੱਖਿਅਤਾ ਕੀ ਹੈ? ਸਰੀਰਕ ਸੁਰੱਖਿਅਤਾ ਦੇ ਸਿਧਾਂਤਾਂ ਨੂੰ ਸਮਝਾਓ।

8. Define the Strength. Describe in detail the methods of development of various forms of Strength

ਤਾਕਤ ਦੀ ਪਰਿਭਾਸ਼ਾ ਦਿਓ। ਤਾਕਤ ਦੇ ਵੱਖ-ਵੱਖ ਰੂਪਾਂ ਦੇ ਸੁਧਾਰ ਦੇ ਤਰੀਕਿਆਂ ਦਾ ਵਿਸਥਾਰ ਨਾਲ ਵਰਣਨ ਕਰੋ।

ਤਾਕਤ ਨੂੰ ਪਰਿਭਾਸ਼ਿਤ ਕਰੋ। ਤਾਕਤ ਦੇ ਵਿਭਿੰਨ ਰੂਪਾਂ ਨੂੰ ਸੁਧਾਰ ਦੀ ਵਿਧੀਆਂ ਵਿਸਤਾਰ ਨਾਲ ਵਰਣਨ ਕਰੋ।

Exam Code: 103206
(40)

Paper Code: 6113

Programme: Bachelor of Arts
Semester—VI

Course Title: Psychology (Abnormal Psychology-II)

Course Code: BARM-6443

Time Allowed: 3 Hours

Max Marks: 60

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

Section A

1. Classify Somatoform disorders and explain the various explanations for these disorders. (12)
2. Differentiate between Obsessive compulsive Disorder and Generalized Anxiety Disorder. (12)

Section B

3. Explain in Detail the symptoms and etiology of Borderline Personality disorders. (12)

4. How people develop antisocial personality? What are the major characteristic traits of these people?
(12)

Section C

5. Discuss the various types of Mood disorders.
(12)
6. What are the various symptoms in Schizophrenia? Explain in detail the treatments given to patients suffering from this disorder.
(12)

Section D

7. Explain in detail the various therapeutic interventions given in behavioral therapy.
(12)
8. Explain how Cognitive behavioral therapy helps in treating various disorders?
(12)

Exam Code: 103206

Paper Code: 6124

Programme - Bachelor of Arts - ~~Sanskrit (Elective)~~

Semester - VI

Course Title - Sanskrit (Elective) (Kavya, Sahitya Tatha Nibandha)

Course Code -BARM-6466

Time Allowed - 3 Hours

Theory - 60 Marks

नोट - प्रश्नपत्र का माध्यम संस्कृत / हिन्दी होगा । उत्तर पूछे गए प्रश्नों के अनुसार संस्कृत / हिन्दी/ अंग्रेजी/ पंजाबी में हो सकते हैं ।

प्रश्नपत्र के चार सैक्शन हैं- A,B,C, D हैं । प्रत्येक सैक्शन में दो प्रश्न होंगे । इस प्रकार चार सैक्शन में कुल आठ प्रश्न होंगे । विद्यार्थी किसी एक सैक्शन से दोनों प्रश्न करेगा । शेष तीन सैक्शन से केवल एक एक प्रश्न करेगा । सभी प्रश्नों के अंक समान होंगे । (12)

सैक्शन - ए

प्रश्न - १. निम्नलिखित चार पद्यों की सप्रसंग व्याख्या कीजिए - 12

- (i) तं तथा कृपयाविष्टमश्रुपूर्णाकुलेक्षणम् ।
विषीदन्तमिदं वाक्यमुवाच मधुसूदनः ॥
- (ii) क्लैब्यं मा स्मः पार्थ नैतत्त्वय्युपपद्यते ।
क्षुद्रं हृदयदौर्बल्यं त्यक्तोत्तिष्ठ परंतपः ॥
- (iii) एवमुक्त्वा ऋषीकेशं गुडाकेशः परंतप ।
न योत्स्य इति गोविन्दमुक्त्वा तूष्णीं बभूव ह ।
- (iv) यं हि न व्यथयन्त्येते पुरुषं पुरुषर्षभ ।
समदुःखसुखं धीरं सोऽमृतत्वाय कल्पते ॥

प्रश्न - २. निम्नलिखित प्रश्नों के उत्तर दीजिए - 12

- (i) श्रीमद्भगवद्गीता के द्वितीय अध्याय के आधार पर स्थितप्रज्ञ का लक्षण बताइए ।
- (ii) श्रीमद्भगवद्गीता के आधार पर द्वितीय अध्याय का सार संस्कृत में श्लोकों की पुष्टि द्वारा लिखिए ।

सैक्शन - बी

प्रश्न - ३. निम्नलिखित चार पद्यों की सप्रसंग व्याख्या कीजिए - 12

- (i) सुखदुःखे समे कृत्वा लाभालाभौ जयाजयौ ।
ततो युद्धाय युज्यस्व नैवं पापमवाप्स्यसि ॥
- (ii) कर्मण्येवाधिकारस्ते मा फलेषु कदाचन ।
मा कर्मफलहेतुर्भूर्मा ते सङ्गोऽस्त्वकर्मणः ॥
- (iii) योगस्थः कुरु कर्माणि संगं त्यक्त्वा धनंजय ।
सिद्ध्यसिद्ध्योः समो भूत्वा समत्वं योग उच्यते ॥
- (iv) प्रजहाति यदा कामान्सर्वान्पार्थ मनोगतान् ।

आत्मन्येवात्मना तुष्टः स्थितप्रज्ञस्तदोच्यते ॥

प्रश्न - ४. - निम्नलिखित कृतियों का सामान्य परिचय दीजिए - 12

- (i) स्वप्नवासवदत्तम्
- (ii) अभिज्ञानशाकुन्तलम्

सैक्शन - सी

प्रश्न - ५. (i) निम्नलिखित समस्तपदों का विग्रह कीजिए - 12

- १. यथाशक्ति
- २. सचक्रम्
- ३. परोक्षम्
- ४. अध्यात्मम्
- ५. निर्जनम्
- ६. प्रत्येकम्

(i) निम्नलिखित विग्रहपदों को समस्तपद में लिखिए -

- १. चक्रेण युगपत्
- २. अर्थमर्थम् प्रति
- ३. विघ्नानाम् अभावः
- ४. गुरोः समीपम्
- ५. हरौ इति
- ६. पदस्य पश्चात्

प्रश्न - ६. निम्नलिखित कृतियों का सामान्य परिचय दीजिए - 12

- १. कुमारसम्भवम्
- २. शिशुपालवधम्

सैक्शन - डी

प्रश्न - ७. - प्रदत्त विषयों में से कोई एक निबन्ध संस्कृत में लिखिए - 12

- १. मम प्रियः कविः
- २. संस्कृतभाषायाः महत्त्वम्
- ३. आदर्शः छात्रः

प्रश्न - ८. निम्नलिखित चार अलंकारों का लक्षण, उदाहरण स्पष्टीकरण सहित लिखिए - 12

- १. अनुप्रास
- २. उपमा
- ३. व्यतिरेक
- ४. विशेषोक्ति

Exam Code: 105406
(30)

Paper Code: 6189

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 equal (8 each) marks.

Section -A

- I. What is Agricultural income? Explain Partly Agricultural Incomes.
- II. Following are the particulars of incomes of Mr. H.K. for the previous year ending on 31st March, 2022.
 - (i) Income from House Property in USA Rs. 1,00,000/ which was deposited in a bank there. Out of this Rs. 40,000/ were remitted to India.
 - (ii) Royalty received in India Rs. 2,40,000/
 - (iii) Income from a business in Bangladesh Rs. 2,50,000/ of which 1,50,000/ were received in India. Business is controlled from India.
 - (iv) Income from Investment in Paris Rs. 1,00,000/
 - (v) Interest received from Non-Resident Rs. 50,000/against a loan given to him to run a business in India.
 - (vi) Royalty received outside India from A, a resident, for technical services given to run a business outside India Rs. 2,00,000/
 - (vii) Income from a business in India Rs. 4,00,000/.
 - (viii) Income from sale of house Property in Gwalior Rs.3,00,000/

Compute the Gross Total Income of Mr. H.K. for the Assessment Year 2022-23, if he is (a) Ordinarily Resident, (b) Not-Ordinarily Resident, (c) Non - Resident in India.

Section -B

- III. Define 'annual value' and state the deductions that are allowed from the annual value in computing the income from house property.
- IV. Mr. Deepak is a Registered Medical Practitioner. He keeps his books on cash basis and for the year ended 31st March, 2022 his summerised Cash A/c is as under:

To opening balance	Rs. 2700	By Cost of Medicines	Rs. 20,000
To Bank Loan	Rs. 6,000	By Surgical Equipment	Rs. 6,000
To sale of Medicines	Rs. 30,500	By Motor Car	Rs. 12,000
To Consultation Fees	Rs. 10,000	By Car Expenses	Rs. 1800

To Visiting Fees	Rs. 8,000	By Salary	Rs. 1200
To Interest on Investments	Rs. 9000	By Rent of Dispensary	Rs. 1200
To Rent from Property	Rs. 7200	By General Expenses	Rs. 600
To sale of Building	Rs. 15,000	By Personal Expenses	Rs. 3600
To sale of Furniture	Rs. 5000	By LIC Premium	Rs. 2,000
		By Interest on Bank Loan	Rs. 360
		By Property Insurance	Rs. 400
		By Fixed Deposit in Bank	Rs. 30,400
		By closing Balance	Rs. 14,240
TOTAL	Rs. 93,400	TOTAL	93,400

Keeping in view the following additional information, compute his income from the profession for the previous year 2021-22:

- 1/3rd Car expenses are for personal use.
- Rate of Depreciation on the car and Surgical Equipment is 15%.

Section -C

- V. What do you understand by the term 'Capital Gains' used in the Income Tax Act? What are the rules regarding Exemption of Capital Gains?

- VI. The following Incomes are received by Mr. A during the financial year 2021-22:

Particulars	Amount(Rs.)
Director's Fees	6,000/-
Income from Agricultural Land in Pakistan	40,000/-
Interest from Post Office Savings Bank Account	1,500/-
Interest on Fixed Deposits in SBI	1,800/-
Winning from Lottery (Net)	35,000/-
Crossword Puzzles	2,500/-
Royalty in Books	20,000/-
(Expenses in this connection Rs. 4,000)	

Compute his Income from Other Sources.

Section -D

- VII. From the following information compute the total income of Mr. Z for the Assessment Year 2022-23:

Particulars	Amount (Rs.)
Salary	4,40,000/-
Pension	60,000/-
Income from House Property	1,00,000/-

Long –Term Capital Gains	60,000/
Short- Term Capital Gains U/S 111A	20,000/
Interest on Term deposits in a Bank(Gross)	25,000/
LIC Premium on a policy of Rs.1,00,000 on his own life (taken in 2016-17)	12,000/
Medical Insurance Premium for Mrs. Z paid by cheque	30,000/
Expenses on Medical Treatment of Disabled Dependent son	20,000/
Donation to Prime Minister's National Relief Fund by cheque	20,000/
Rent paid for furnished house (he is not receiving H.R.A. from employer)	8,000/p.m

VIII. What are the provisions of law regarding deduction of tax at source?

Exam Code: 105406
(30)

Paper Code: 6190

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 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. Discuss the functions of Capital Market? Outline the structure of capital Market?
2. Explain the various instruments which are traded in the Capital Market? Also explain the ADR's and GDR's working?

Section- B

3. Define Mutual Funds? Explain the various types of mutual funds?

4. Who are the Participants in Capital Market? Discuss various participants in detail?

Section- C

5. Define Stock Exchange. Discuss Stock exchanges in India.
6. Discuss SEBI guidelines on Stock Exchanges.

Section- D

7. "Stock market indices are the barometers of stock market". Discuss.
8. a. Discuss the procedure of listing of companies in stock exchange.
b. Discuss the powers of recognised stock exchange to make bye-laws.

24/5/24 (M)

Exam Code: 105406
(30)

Paper Code: 6191

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. Define Training. Discuss the process of training, its objectives along with merits and demerits.
2. Explain in detail the concept of Wages and Salary Administration.

SECTION-B

3. What is Training Needs Assessment? Explain it with the help of various approaches.

4. Discuss the various Methods used in Training Needs Assessment.

SECTION-C

5. Distinguish between Training and Development. Explain the various objectives of Development.
6. Summarize the advantages and disadvantages of the Case Study Method.

SECTION-D

7. What do you mean by Transaction Analysis? Describe its stages and benefits.
8. Discuss Business Games along with the merits and demerits.

**Exam Code: 105406
(30)**

Paper Code: 6192

**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 eight marks.

Section-A

1. Explain the concept of Human Resource Management. How Job Stress and Work Family Conflicts affect HRM.
(8)
2. Elaborate the purpose of Organizational Reward System. Also discuss various ethical considerations to be kept in mind for its successful implementation.
(8)

Section-B

3. How to design a performance management strategy. Discuss in detail. (8)
4. Write a detailed note on the various Psychological and Motivational theories affecting reward system of an organization. (8)

Section-C

5. Discuss the concept of Diversity Management with special emphasis on the improvement of this system. (8)
6. Discuss the various theories of work. Also explain the changing patterns of work. (8)

Section- D

7. How the concept of Human Resource Management has undergone a change in electronic era. Discuss in detail. (8)
8. Explain the role and future directions of HRM in 21st century. (8)

Exam Code: 107406
(30)

Paper Code: 6162

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

Course Title: rDNA Technology-II

Course Code: BBTM-6061

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. Explain the following:
 - (i) Linkers and adapters 3
 - (ii) Ti and Ri Plasmid 3
2. What is cDNA cloning? How it is different from genomic cloning? Explain self-priming and adapter/linker methods of cDNA cloning. 6

Section-B

3. How the host is selected with respect to promoters? 6

4. What are promoters? Explain expression vectors in concern to T5 and T7 promoters. 6

Section-C

5. What is PCR? How primers are designed? Discuss applications of PCR. 6
6. Write a note on following:
- (i) Melting temperature and annealing temperature 2
 - (ii) Random mutagenesis 2
 - (iii) Gene cloning 2

Section-D

7. Discuss phage display for selection of mutant peptides and yeast two hybrid system. 6
8. Write a note on following:
- (i) Sanger-Coulson Method 3
 - (ii) Illumina Solexa 3

Exam Code: 107406

Paper Code: 6162

Bachelor of Sciences (Bio-Technology) Semester: VI

Course Title: Animal Biotechnology-II

Course Code: BBTM-6062

Time: 3 Hours

Marks: 30

Note: Candidates are required to attempt 5 questions, selecting atleast one question from each section. The fifth question can be attempted from any section. Each question carries 6 marks.

Section-A

1. Write a detailed note on following:

- | | |
|-------------------------|---|
| (i) HEK-293 | 2 |
| (ii) HeLa | 2 |
| (iii) A 549 cell lines. | 2 |

2. Explain in detail about methods, advantages, and applications of histotypic cultures. 6

Section-B

3. What are expression vectors? Why it is necessary to express proteins in animal cells? 6

4. What is transfection? Describe calcium phosphate method and DEAE-Dextran Method in detail. 6

Section-C

5. Describe different types of bioreactors that are used for large scale culture of cells. 6

6. What are monoclonal antibodies? Discuss the methodology of production along with the applications. 6

Section-D

7. Explain in detail about the production of regulatory proteins. 6

8. What is animal cloning? Discuss "Embryo transfer technique" in detail. 6

Exam Code: 107406
(30)

Paper Code: 6164

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 selecting atleast one question from each section. The fifth question may be attempted from any section. All questions carry 6 marks

Section-I

1. A) Write a note on
A) Somatic embryogenesis?
B) Acclimatization of tissue culture raised plants
(3+3 marks)
2. What is Micropropagation? Discuss different stages and applications of micropropagation (6 marks)

Section-II

3. What is somaclonal variation? Write down the factors that affect the production of somaclonal variants and its applications? (6 marks)

4. A) What do you mean by Embryo culture?
B) Write a note on haploid plants produced through tissue culture? (3+3 marks)

Section-III

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) Somatic hybrids vs cybrids? (3+3 marks)

Section-IV

7. Explain the role of bioreactors in secondary metabolite production? (6 marks)
8. A) Explain Immobilized plant cell culture?
B) Briefly discuss the transgenic approaches in secondary metabolite production? (2+4 marks)

**Exam Code: 107406
(30)**

Paper Code: 6165

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

Course Title: Bioprocess Engineering-II with Training

Course Code: BBTM-6064

Time Allowed: 3 Hours

Max Marks: 30

Instructions for students: 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. Write a note on design of bioreactor? Give the structure, functioning and kinetics of Air loop bioreactor? 6 marks
2. Name and explain the construction, design and working of various types of bioreactors used for microbial cell culture in bioprocesses? 6 marks

Section - B

3. Write the name and types of various pH probes used in measurement of acidity/basicity of fermentation broth? Also design and working principles of these probes?
6 marks
4. Explain the various types of agitators used in a bioreactor? Also gave the agitation kinetics involved? How Power number and Reynold's number is related to the agitation intensity in a bioreactor?
6 marks

Section - C

5. What is the process of centrifugation? Explain the structure and functioning of various types of centrifuges used in industrial bioprocesses?
6 marks
6. A. Write a comprehensive and detailed note on aqueous two phase extraction system of downstream processing?
4 marks
B. Why do we need cell disruption for isolating or extracting metabolites from microbial cells. Name any two methods used for cell disruption in industrial bioprocesses?
2 marks

Section - D

7. What do you know about fermentation economics? What are the various factors and parameters which decide the economy of a bioprocess, explain these factors with suitable examples related to industrial bioprocesses studied by you? 6 marks
8. What do you know about the aerobic and anaerobic treatment processes for industrial effluent treatment? Explain the process of Anaerobic sludge digestion for the treatment of industrial wastewaters while giving details of acidogenic and methanogenic microorganisms involved in this process? 6 marks

Exam Code: 107406

Paper/Subject Code: 6167

(30)

Programme: Bachelor of Science (Biotechnology)

Semester-VI

Course Title: Biochemical and Biophysical Techniques-BT

Course Code: BBTM-6066

Time allowed: 3 hours

Maximum marks: 30

Note: Attempt five questions out of eight, selecting at least one question from each section. The fifth question may be attempted from any section. Each question carries equal (6) marks

Section A

1(a) Write the basic principle of electrophoresis.

(3)

(b) How many types of Electrophoresis used in biological studies?

(3)

2(a) Write the differences between SDS-PAGE and native-PAGE.

(3)

(b) What is the agarose gel electrophoresis, and its applications

(3)

Section B

3. Briefly describe about the 2D gel electrophoresis. (6)
- 4 (a) Write a short note on capillary electrophoresis (3)
4. (b) Write Applications of electrophoresis in biology? (3)

Section C

5. What are basic principles of ionization of protein ions? Also, write their applications in Mass Spectroscopy. (6)
6. (a) What is fluorescence phenomenon? Briefly describe about fluorescence spectroscopy. (3)
- (b) Explain the principles of MALDI-Q. (3)

Section D

7. (a) What are Radioactive materials? Describe in brief about safety guidelines used for radioactive studies (3)
- (b). What is principle of GM counter and its instrumentation. (3)
8. Mentioned differences between liquid and solid scintillation counters. (6)

L.C. 9/15/29 (M)
K.M.V - II

Exam Code: 107406
(30)

Paper Code: 6166

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

Course Title: Chemistry-III

Course Code: BBTM-6085

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. Use of non - scientific calculator is allowed.

Section - A

1. (a) Derive the expression for entropy change of ideal gas with change in pressure, volume and Temperature. (4)
(b) Explain the difference between isothermal and adiabatic process. (2)
2. (a) Derive thermodynamically Kirchoff's equation. (4)
(b) Explain the concept of activity and activity coefficient. (2)

Section -B

3. (a) Define Osmotic Pressure How it is determined by Berkeley and Hartley 's method? (4)
(b) Calculate the boiling point of a solution containing 0.4650g of camphor (mol.wt = 152) dissolved in 31.4 g of acetone (b.pt.= 56.30°C) if the molecular elevation per 100g of acetone is 17.2°C. (2)
4. (a) Derive the relation between elevation in boiling point and molecular weight of non volatile solute. (4)
(b) State and Explain the Law of Chemical Equilibrium. (2)

Section - C

5. (a) Discuss the kinetics of general acid catalysed reaction. (4)
(b) What is rate law? How does it differ from law of mass action? (2)
6. (a) Derive the expression for the rate constant for the second order reaction when both the reactants are different. (3)
(b) Explain the different methods for determining the order of the reaction. (3)

Section — D

7. (a) Explain how the conductometric titrations can be used for the titration of a salt of weak acid and a strong acid. (4)
(b) What do you mean transport number? How it is related to the velocity of ions? (2)
8. (a) What do you mean by hydrolysis of salts? Explain how different salts are classified according to their hydrolytic behavior. (4)
(b) What are buffer solutions? Explain buffer action in acidic buffer and basic buffer solution. (2)

Exam Code: 107206
(60)

Paper Code: 6193

Programme: Bachelor of Computer Applications
Semester-VI

Course Title: Computer Graphics

Course Code: BCAL-6111

Time Allowed: 3 Hours

Max Marks: 60

Note: There are eight questions of equal marks (12 marks each). Candidates are required to attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any section.

Section A

1. Explain the term Computer Graphics. Also explain its applications. (12)
2. a) Describe the working of CRT. (8)
b) Differentiate between Raster and Random scans technologies. (4)

Section B

3. Find the points to be plotted for drawing a line using Bresenham's line drawing algorithm whose end points are (2,3) and (8,6) (12)

4. Write algorithm of Mid point circle drawing along with its derivation. (12)

Section C

5. Consider the triangle A(0,0), B(2,0) and C(1,1), perform the following operations: (12)
 - a) Rotate the above triangle by 30° about the point P (1,-1).
 - b) Reduce the above triangle by half of its size by keeping C(1, 1) fixed.
6. Explain Cohen Sutherland line clipping algorithm with example. (12)

Section D

7. Explain various 3D transformations in detail. (12)
8. Explain the following
 - (a) Parallel VS Perspective projections
 - (b) View Confusion
 - (c) Vanishing points (3*4 = 12)

Exam Code: 107206
(60)

Paper Code: 6194

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 of equal marks (12 Mark).

Section A

1. What do you mean by Software? what are the characteristics of software? Explain different phases of software development life cycle. (12)
2. Explain Spiral Model in detail. What are the advantages of using spiral model? (12)

Section B

3. (a) Draw and explain Data Flow Diagram for the student management system, the student's complete information is being analyzed. It is picturized to have an

overview of faculty, courses, semester, and students showing the whole system as a single high-level process with its relationship to externalities including courses, attendance, timetable, etc.

(b) Explain SRS Document? What are the characteristics and components of a good SRS Document? (6X2)

4. Explain the following:

1. Coupling & Cohesion

2. Requirement Gathering Tools (6X2)

Section C

5. (a) Discuss the intermediate Constructive Cost Estimation Model. (5)

(b) A new project with estimate 500 kilo lines of code semi-detached system has to be developed. Project manager has a choice of hiring from 2 pools of developers first very highly capable with very little experience in programming language or Developer of low quality but a lot of programming language experience which is better? (7)

Cost Drivers	Very Low	Low	Nominal	High	Very High
Applications Experience	1.29	1.13	1.00	0.91	0.82
Programming language and tool experience	1.14	1.07	1.00	0.95	

Mode	a_i	b_i	c_i	d_i
Organic	3.2	1.05	2.5	0.38
Semi-Detached	3.0	1.12	2.5	0.35
Embedded	2.8	1.20	2.5	0.32

6. (a) Difference] between Line of Code and Functional Point metrics. (4)

(b) Explain the method of computing Function-Point Quality Metric when all the complexity adjustment factor and weighing factor are average Consider a project with the following functional units: (8)

Number of user inputs = 50

Number of user outputs = 40

Number of user enquiries = 35

Number of user files = 5

Number of external interfaces = 4

Measurement parameter	Weighting factor		
	Simpl e	Averag e	Comple x
Number of user inputs	3	4	6
Number of user outputs	4	5	7
Number of user inquiries	3	4	6
Number of files	7	10	15
Number of external interfaces	5	7	10

Section D

7. What are the Coding Standards and Guidelines? How to review the code? (12)
8. Explain:
 - (a) Black Box Testing
 - (b) System Testing (6X2)

Exam Code: 108506
(50)

Paper Code: 6184

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 :
Maximise $Z = 20X_1 + 10X_2$
Subject to:
 $X_1 + X_2 = 150$
 $X_1 \leq 40$
 $X_2 \leq 20$ Where $X_1, X_2 \geq 0$

(8)

SECTION B

- III. Solve the following transportation problem to maximize profits and test its optimality: (8)

	D ₁	D ₂	D ₃	D ₄	Capacity
P ₁	40	25	22	33	100
P ₂	44	35	30	30	30
P ₃	38	38	28	30	70
Requirement	40	20	60	30	

- IV. ABC has five plants each of which can manufacture any of the five products. Production costs and sales revenue differ from plant to plant. Which plant should produce which product so as to maximize the profits. (8)

Sales Revenue (Rs.)
Product

	1	2	3	4	5
A	65	78	83	60	95
B	85	52	59	44	73
C	83	56	69	64	78
D	49	80	85	84	73
E	59	63	83	74	83

Production Cost (Rs.)
Product

	1	2	3	4	5
A	33	40	43	32	45
B	45	28	31	23	37
C	42	29	36	29	41
D	27	42	44	38	37
E	30	35	43	39	44

SECTION C

- V. Solve the following game. (8)

Player B

Player A

	I	II	III
I	3	4	-2
II	-3	0	1
III	-1	-4	2

- 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	Optimistic Time	Pessimistic Time	Most Likely Time
1-2	1	7	1
1-3	1	7	4
1-4	2	8	2
2-5	1	1	1
3-5	2	14	5
4-6	2	8	5
5-6	3	15	6

- (i) Draw the network diagram.
- (ii) Find the expected project completion time.
- (iii) Calculate the floats of the activities.
- (iv) What is the probability of completing the project 4 weeks later than the expected time

(2,2,2,2)

Exam Code: 108506
(50)

Paper Code: 6185

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 may be attempted from any Section. Each question carries 8 marks.

Section- A

1. Explain the models of Corporate Governance
2. Explain in detail various business ethics theories.

Section- B

3. Briefly discuss the conceptual framework of Corporate Governance in India.
4. Discuss in detail the Scam of Maharashtra Cooperative Bank.

Section- C

5. Elaborate CACG guidelines for Corporate Governance in Common Wealth 1999.
6. Explain the common Governance problems noticed in various corporate failures.

Section- D

7. What are the provisions of Sarbanes-Oxley (Sox) Act on Corporate Governance?
8. Write a detailed note on Euro Shareholders Corporate Governance Guidelines, 2000.

Library - 23/5/24
m - K MV III

Exam Code: 108506
(50)

Paper Code: 6186

Programme: Bachelor of Commerce
Semester-VI

Course Title: Foreign Exchange Management

Course Code: BCRL-6095 Opt-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. Define Foreign exchange market. Who are the key players in foreign exchange market?
2. Define Law of one price. What is its relevance in international currency market?

Section B

3. 'Mexico has been the origin of global crisis twice'. What was the cause of global crisis in Mexico in 1980 and 1994?
4. Write in detail about the different types of futures available in the market.

Section C

5. Define Currency Swaps. Elaborate with Example the working of currency swaps.
6. Discuss the development of Swaps trading in India. Explain the regulatory framework setup for swaps in India

Section D

7. What are the key parameters and constraints faced by manager in exposure management?
8. Define Political risk. How can political risk be measured and managed?

Exam Code: 108506
(50)

Paper Code: 6187

Programme: Bachelor of Commerce
Semester-VI

Course Title: Risk Management and Insurance

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

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. 5*8=40

SECTION-A

1. "Define Risk Management? Discuss the various Objectives and Techniques of Risk Management.
2. What do you mean by Liability Insurance? Discuss its importance. Also explain different types of Liability Insurance. 8

SECTION —B

3. Explain in detail the IRDA guidelines on Workmen Compensation Insurance.

4. Explain the meaning of Home Owners Insurance Policy. What are the different types of Home Owners Insurance Policies?

SECTION —C

5. Discuss in brief the various types of annuity plans for retirement. Also discuss the factors you will consider in selecting the retirement annuity plan.
6. What do you mean by Estate Planning? Discuss its process in detail.

SECTION —D

7. Discuss in detail the functions and organization of Insurance Companies.
8. Who is an Insurance Intermediary? Discuss the various types of Insurance Intermediaries.

Exam Code: 108506
(50)

Paper Code: 6188

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 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 do you mean by Marketing? Explain the four elements in Marketing Mix along with their interrelationship in detail. 8
2. Explain the concept of distribution of banking services. What are the various channels for distribution of banking services? 8

Section B

3. What do you mean by Marketing Research? Explain its process in detail. 8

4. Discuss in detail the concept of Market Segmentation. What are the different criteria which can be used for market segmentation of a bank? 8

Section C

5. Differentiate between the following:
Fundamental and Augmented Products;
Product Item and Product Line; 8
6. What are the different pricing strategies which can be employed by a banking company? How would you select an appropriate pricing strategy? 8

Section D

7. Examine the significance of effective communication. Also explain the various steps in developing effective communication. 8
8. Define corporate clients. What are the special banking services needed by large corporate clients? 8

Exam Code: 103306
(20)

Paper Code: 6110

Programme: Bachelor of Science (Economics)
Semester-VI

**Course Title: Quantitative Techniques (Quantitative
Techniques-VI)**
Course Code: BECL-6453

Time Allowed: 3 Hours

Max Marks: 80

NOTE: Candidates are required to attempt five questions, selecting at least one from each section. The fifth question may be attempted from any section. All questions carry equal marks.

Section-I

1. What do you mean by Econometrics? Explain in detail methodology of Econometrics. 16
2. Using the following data estimate the values of the coefficients of the following model regression model $Y_t = b_0 + b_1 X_t + U_t$. 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-II

3. State and prove Gauss Markov Theorem. 16
4. What do you mean by goodness of fit? Derive the values of R^2 and adjusted R^2 . 16

Section-III

5. Explain the nature of problem of heteroscedasticity. Explain in detail the measure to resolve it. 16
6. What do you mean by specification bias? Explain various reasons for this bias. 16

Section-IV

7. What do you mean by autocorrelation? Explain methods to detect this problem. 16
8. What are dummy variable? Explain various applications of dummy variables. 16

Paper Code: 6212

(60)

Bachelor of Science (Fashion Designing) Semester-VI

Exam Code-108606

Course Code: BFDL-6231

**Bachelor of Vocation (Textile Design & Apparel
Technology) Semester-VI**

Exam Code-111206

Course Code: BVTL-6231

**Course Title: Fashion Industry, Marketing and
Management**

Time Allowed: 3 Hours

Max Marks: 60

**Note: Attempt five questions, selecting one question from
each section. Fifth question can be selected from any
section. All questions carry equal marks (12 marks)**

Section A

1. Write in detail about the scope of Indian fashion industry?
12
2. Discuss global fashion industry. Support your answer with
latest advancements and figures of fashion industry?
12

Section B

3. Which is the highest level of fashion industry? Write in detail about its working formats? 12
4. What do you know about 'pret-a-porter' level of Fashion Industry? 12

Section C

5. Define Marketing Mix? Also discuss 4 P's of Marketing? 12
6. Write in detail about all the steps involved in marketing research and its importance? 12

Section D

7. Discuss
 - a) Micro marketing environment
 - b) Macro marketing environment 2X6=12
8. What is marketing? Explain in detail the marketing concept? 12

Exam Code: 108206
(20)

Paper Code: 6173

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 carry total 5 marks.

Section-A

1. How the hydrolytic breakdown of proteins and essential amino acids occur in the body? (5)
2. What are Essential amino acids. What are the different biochemical functions performed in the human body? (5)

Section-B

3. What are the specific dynamic action of good stuffs in all categories? (5)

4. What is basal metabolic rate. What are the factors affecting basal metabolic rate? Calculate BMR (5)

Section-C

5. Define coenzymes ? Explain and classify enzymes? (5)
6. What are the different factors affecting enzymatic activity? (5)

Section-D

7. What are the chemical composition of urine. Give the physical characteristics of urine? (5)
8. How the Water and electrolyte loss occurs in the body. Give the replenishment effect of dehydration? (5)

Exam Code: 108206

Paper Code: 6168

Programme :Bachelor of Science (Home Science)

Semester : VI

Course Title :Behavioural Psychology

Course Code : BHSM-6281

Time Allowed : 3 Hours

Maximum 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

- Q1. Explain Personality and describe any one test to measure it in detail? 5
- Q2. Explain the concept of Intelligence. Describe a test used to measure Intelligence of Pre school children? 5

Section - B

- Q3. Define Behaviour disorders. Also explain the factors causing them? 5
- Q4. Define Disability. Also explain the various causes responsible for it? 5

Section - C

- Q5. Explain Visual impairment. Also classify it? 5
- Q6. Define Speech impairment. How will you identify, rehabilitate and give educational modification to these children? 5

Section - D

- Q7. Explain the following: 2.5
- (a) Stealing 2.5
- (b) Nail biting 5
- Q8. Write about Learning Disability in detail? 5

LIBRARY
KMV-II [N.S.B]
MOR. 10/05/2024

Exam Code: 108206
(20)

Paper Code: 6169

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

Course Title: Interior Decoration

Course Code: BHSM-6282

Time Allowed: 3 Hours

Max Marks: 60

Instructions: Students are required to attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any section. Each question is of 12 marks.

Section A

1. Explain different types of fixtures and different types of lighting effects in interior..
2. Explain different types of lights. Also explain the interior lighting of different areas.

Section B

3. Explain the treatment of problematic windows. Also explain the terms in describing the windows.
4. Explain the role and use of curtains, blinds and rollers in interior. Explain the importance of window accessories.

Section C

5. Explain the role and application of principles of design - Proportion and Balance in interior.
6. Explain the importance of flower arrangement and principles of ikebana.

Section D

7. Explain the importance, types and selection of different types of accessories.
8. Explain the selection of various household furnishings in detail.

LIBRARY
KMV-II [M.S.B]
MOR. 15.05.2024

Exam Code: 108206
(20)

Paper Code: 6170

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

Course Title: Community Nutrition

Course Code: BHSM-6283

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-I

- I. Explain the following-
 - a. Community
 - b. Health
 - c. Infant mortality
 - d. Nutritional status (3x4=12)
- II. Describe PEM, classification, prevention and nutritional management of PEM. (12)

Section-II

- III. Describe anthropometric measurement and use of growth chart in community. (12)
- IV. Explain clinical sign and symptoms of malnutrition and standard range of blood parameters. (12)

Section-III

- V. Define nutrition education and discuss different educational methods to disseminate knowledge in community. (12)
- VI. Explain national nutrition programme and discuss ICDS program in detail. (12)

Section-IV

- VII. Discuss role, objectives, thrust areas of ICMR in community Nutrition. (12)
- VIII. Discuss role, objectives, function and goal of FAO in community. (12)

**Exam Code: 108206
(20)**

Paper Code: 6171

**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

Instructions: Students are required to attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any section. Each question is of 12 marks.

Section A

1. What are the points to be mind while, selecting ready made garments and different kinds of fabric materials.
2. What are garment labels, explain their types, folds used in labelling and importance of care labels.

Section B

3. What are the points to be kept in mind while selecting clothing for the elderly and infants.
4. What do you mean by Anthropometry? Explain the types of body measurements with diagram.

Section -C

5. What is the importance and use of lines, color and texture in design.
6. What are the principles of Proportion and Emphasis. Explain with diagram their application in design.

Section D

7. Explain the principle of added fullness, dart manipulation and contouring
8. What do you mean by drafting and draping. Explain the difference between them.

KMV-II [N.S.B.]
MAR. 22/05/24

Exam Code: 108206
(20)

Paper Code: 6172

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

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- I

1. Explain the concept and process of Communication?
2. Define Communication. Also discuss its importance and scope?

Section- II

3. Explain Print Media and also give its uses?
4. Write in detail about the types of feedback in communication?

Section- III

5. What do you know about audio aids. Explain any one audio aid?
6. Write about the use and importance of posters, charts?

Section- IV

7. Discuss the format of program planning and also explain its importance?
8. Develop a suitable plan of work by selecting any one subject matter. Give example?

Section- III

5. What do you know about audio aids. Explain any one audio aid?
6. Write about the use and importance of posters, charts?

Section- IV

7. Discuss the format of program planning and also explain its importance?
8. Develop a suitable plan of work by selecting any one subject matter. Give example?

Exam Code: 105706
(20)

Paper Code: 6195

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. Each question carries equal marks. Candidate are required to attempt at least one question from each section and fifth question can be attempted from any section.

SECTION A

1. Define Computer Graphics. What are the types of Computer Graphics? Explain different application areas of Compute Graphics in detail. (12)
2. a. Difference between Raster Scan and Random Scan.
b. List different display devices? Explain the working of LCD monitor. (6+6)

SECTION B

3. What are the various line drawing algorithms? Explain the Bresenhem's Line drawing algorithm with an example. (12)

4. Write an algorithm to draw a circle using Midpoint Circle Drawing algorithm along with its derivation. Also plot a circle with centre (30,40) having radius 8 using circle midpoint method. (12)

SECTION C

5. a. What is the importance of homogeneous coordinates? Write matrices corresponding to various transformations in homogeneous coordinates.
b. Explain the transformation when a point R (x,y) is rotated by Q about a fixed point Q (h,k). Rotate a square A (1,1), B (3,1), C (3,3) and D (1,3) by an angle 45° keeping A as a fixed point. (6+6)
6. What is Clipping? Explain Cohen-Sutherland algorithm in detail with an example. (12)

SECTION D

7. Explain different types of 3D transformation in detail along with matrix representation. (12)
8. a. What is projection? Explain types of projection.
b. What is Vanishing point? Explain One point perspective projection, Two point perspective projection and Three point perspective projection. (6+6)

Exam Code: 105706
(20)

Paper Code: 6196

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

Course Title: Digital Marketing

Course Code: BITL-6112

Time Allowed: 3 Hours

Max Marks: 60

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

SECTION A

1. What is Marketing? Explain 4Ps of marketing. (12)
2. What is decision making process? Explain AIDAA model. (12)

SECTION B

3. What is Search Engine Optimization? Discuss working of SEO. (12)
4. Explain Search Engine Marketing Auction models. (12)

SECTION C

5. What are the factors affecting Social Media Marketing?
(12)
6. Explain B2B and B2C Social media platforms.
(12)

SECTION D

7. What do you know about Digital Analytics ?
(12)
8. What is Mobile Marketing? Discuss its working and types.
(12)

U.S. - (M)

20/8/24 Kmo III

Exam Code: 105706
(20)

Paper Code: 6197

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

Course Title: Data Mining Tool

Course Code: BITM-6115

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 — I

1. Explain Confusion Matrix, Precision and recall in Machine Learning 6
2. Explain the terms: preparing the dataset, ARFF Format, Plot Histogram. 6

Section — II

3. Explain various steps required for preprocessing of data. 6

4. Explain the steps to load various data steps into Weka and run aproroiri algorithm with different support and confidence values. 6

Section — III

5. Explain J48 classification algorithm with examples using Weka. 6
6. Explain the terms a. Entropy values b. Kappa Statistics. 6

Section — IV

7. Explore visualization features of Weka to visualize the clusters. 6
8. Explain clustering techniques available in Weka. 6

Exam Code: 108706
(20)

Paper Code: 6139

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-I

1. Write a detailed note on New York Times and The Washington Post.
2. Explain CNN and IBN international TV Channels.

Section-II

3. What do you know about the international news agencies AP and AFP.
4. Discuss the concept of Media Imperialism.

Section-III

5. Comment upon the role of Media in promoting Peace and Harmony around the World
6. Which are the various market forces affecting Media?

Section-IV

7. Write a note on Global Satellite System.
8. What do you mean by UNESCO Mass Media Declaration?

Exam Code: 108706

Paper Code: 6140

Programme: Bachelor of Arts (Journalism & Mass Communication)

Sem-VI

Course Title: Current Affairs: Contemporary Issue in Media-II

Course Code: BJML-6312

Time Allowed: 3 HOURS

Maximum Marks: 60

Attempt Five questions in all, selecting atleast one question from each Section. The fifth question can be attempted from any Section. Each question carries 12 marks

SECTION-A

1. Which political parties are part of I.N.D.I. alliance? Discuss its mode of campaign and impact on present elections.
2. What is voting behaviour? Discuss the factors determining voting behaviour of people.

SECTION-B

3. Discuss the challenges faced by educational institutes with special reference to NEP.
4. Discuss the challenges faced by India in maintaining internal security in current scenario.

SECTION-C

5. What are the causes of brain drain in India with particular reference of Punjab? Discuss its causes consequences.
6. What is the impact of Ukraine war on Indian economy? Discuss in detail.

SECTION-D

7. Discuss the policies of the present national government for the upliftment of weaker sections of societies, with special reference to women.
8. Explain how media can play a crucial role in educating people. Support your answer with suitable examples.

Exam Code: 108706
(20)

Paper Code: 6141

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
(20)**

Paper Code: 6142

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

Section-I

1. Discuss in detail the various phases of Film or video Production.
2. What do you mean by Indoor and Outdoor shooting? Explain the concepts with their merits and demerits?

Section-II

3. Explain single camera and multi camera shooting.
4. Discuss the role and responsibilities of Makeup Artist and Dress Designer in film production.

Section-III

5. Explain the concept of Editing and highlight its various types in detail.
6. What are Audio effects. Discuss their usage in any production.

Section-IV

7. Write a note on Film Review and Film Criticism.
8. What do you know about Film Distribution and Marketing?

Exam Code: 108706
(20)

Paper Code: 6143

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

Section-I

1. What is Specialised Reporting? Explain its relevance in the field of Journalism.
2. Which are the various areas for Specialised Reporting? Discuss with suitable examples.

Section-II

3. What do you mean by Investigative Journalism ? Discuss its Modern Techniques.

4. Explain Tabloid Journalism with the help of suitable examples.

Section-III

5. What is advocacy Journalism?
6. Write about the concept of Environment Journalism.

Section-IV

7. Comment upon Embedded Journalism.
8. What do you know about Video Game Journalism?

Exam Code: 107506
(20)

Paper Code: 6144

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

- I. **Note: Attempt the following questions in about 100 words each:** (4x4=16)

a. Define Consonance/Assonance with examples.

Or

Describe the term Tenor with examples.

b. What is the significance of the title of Sylvia Plath's poem "Bee Meeting"?

Or

Bring out the autobiographical element in the poem "Daddy".

c. In the poem "I Think Continually", what legacy do great people leave behind them?

Or

Write a short analysis of the poem "Thoughts During an Air Raid" by Stephen Spender?

d. What is the main theme of the poem "The Horses" by Ted Hughes?

Or

Write a note on the significance of the title of the poem "The Thought Fox" by Ted Hughes.

Section-B

II. Note: Attempt any one question in about 600 words:

(1x8=8)

Does "Hawk Roosting" by Ted Hughes depict violence and brutality? Give a brief appreciation of the poem in this context.

Or

Write a critical note on the animal poems of Ted Hughes with special reference to the poems prescribed to you.

Section-C

III. Note: Attempt any one question in about 600 words:

(1x8=8)

Comment on the attitude of Stephen Spender towards the forces of industry in his poem "The Express".

Or

Summarize the poem "Two Armies" by Stephen Spender.

Section—D

IV. Note: Attempt any one question in about 600 words:
(1x8=8)

Write a brief appreciation and discuss the symbolism and imagery in the poem "Lady Lazarus".

Or

Comment on the theme and critically analyse the poem "A Birthday Present" by Sylvia Plath.

Exam Code: 107506
(20)

Paper Code: 6145

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

1. **Attempt all four of the following questions in about 100 words.**
 - i) Discuss the role of servants in *The Miser*.
or
 - ii) Explain the classic conflict brought out through the plot of *The Miser*.
2.
 - i) What is the significance of songs in *The Caucasian Circle*?
or
 - ii) 'Terrible is the temptation to do good'. Discuss in the light of your study based on *The Caucasian Chalk Circle*.
3.
 - i) Attempt a character sketch of Mrs. Linde in the play *The Doll's House*.
or

- ii) What is the symbolic significance of Christmas tree in A Doll's House ?
4. i) Discuss the role of Chorus in drama.
or
ii) What do you understand by Persona?
- (4x4=16)

Section -B

Attempt either of the two questions in about 600 words.

5. Write a note on dramatic irony in the play The Miser.
or
6. Moliere has exposed the theme of obsessive greed through comedy in The Miser. Comment.
- (1x8=8)

Section -C

Attempt either of the two questions in about 600 words.

7. Attempt a detailed note on the technique used in The Caucasian Chalk Circle.
or
8. Brecht's Communist leanings find an expression in The Caucasian Chalk Circle. Discuss
- (1x8=8)

Section -D

Attempt either of the two questions in about 600 words.

9. Ibsen raises concerns about women' rights and individual freedom. Critically evaluate The Doll 's House.
or
10. Attempt a character sketch of the protagonist in The Doll 's House.

(1x8=8)

Exam Code: 107506
(20)

Paper Code: 6146

Programme: Bachelor of Arts (Honours) English
Semester-VI

Course Title: History of English Language-II

Course Code: BOEL-6213

Time Allowed: 3 Hours

Max Marks: 40

Section A

- I. Attempt the following questions in about 100 words each. Each question carries 4 marks (4*4=16)**

1a) How grammar and vocabulary changed from Middle English to Modern English?

Or

1b) What were the effects on grammar and vocabulary in the modern period?

2a) What was the attitude towards language in the 18th century?

Or

2b) What is "Ascertainment"?

3a) What were the weaknesses of the early grammarians?

Or

3b) What were the objections to foreign borrowings?

4a) How are new words formed by suffixes?

Or

4b) What are self- explaining compounds?

Section B

II. Attempt any 1 question in about 600 words (1*8=8)

5a) Write a note on Johnson's dictionary.

5b) What were the "aims" of the grammarians?

Section C

III. Attempt any 1 question in about 600 words (1*8=8)

6a) What were the objections to foreign borrowings?

6b) How can language be called the mirror of progress?

Section D

IV. Attempt any 1 question in about 600 words (1*8=8)

7a) Write a note on self- explaining compounds.

7b) How common words are formed from proper names?

**Exam Code: 107506
(20)**

Paper Code: 6147

**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: Answer the following questions in about 100 Words each. Each question carries 4 marks.

(4X4=16)

1. a) Why is Guru Nanak Dev against a luxurious life in palaces?
Or
b) How does Guru Nanak Dev underline the importance of a Guru?
2. a) How is loneliness depicted in the short story "The Postmaster" by Rabindranath Tagore.
Or
b) Describe briefly the character of Abhinash in the short story "Vision" by Rabindranath Tagore.
3. a) What is the climax of the play Silence! The Court Is In Session by Vijay Tendulkar.

Or

b) Write a brief note on the role of Samant in the play Silence! The Court Is In Session by Vijay Tendulkar.

4. a) Define the term Short Story with suitable examples.

Or

b) Define the term Folktale with suitable examples.

Section B

Answer any one question in about 600 words.

(1x8 =8)

5. a) What importance does Guru Nanak Dev assign to the four quarters of a day'?

Or

b) According to Guru Nanak Dev how does the body like a pitcher of soft clay fight the excesses of Maya and with what result?

Section C

Answer any one question in about 600 words.

(1x8 =8)

6. a) Write the theme of the short story " The Victory" by Rabindranath Tagore.

Or

b) Describe the special bond shared by Mini and the Cabuliwallah in the story "The Cabuliwallah."

Section D

Answer any one question in about 600 words.

(1x8 =8)

7. a) What are the social issues highlighted in the play Silence! The Court Is In Session by Vijay Tendulkar.
Or
b) Which dramatic technique is used by Tendulkar in the play Silence! The Court Is In Session. '

Exam Code: 107506

Paper Code:6148

BACHELOR OF ARTS (Honours) English
Semester VI
Course Title: Reading, Writing and Critical Thinking
Course Code: BOEL – 6215

Examination Time: 3 hrs.

Max marks: 40

Section A

Note: All questions in this section will have internal choice. Each question shall carry 4 marks and will have to be answered in 100 words approximately.

Q1. Bring out the central idea communicated by Althen in his article 'American Values and Assumptions'.

OR

What is the major cause of non-verbal conflicts described in 'Where do we stand' by Lisa Davis.

Q2. What are Rothenberg's major criticisms of students use of the World Wide Web in writing research papers?

OR

What major reforms in formal education does Holt discuss in "School Is Bad for Children" ?

Q3. What is the main point that Leonard makes in his writing 'We've got mail -Always'.

OR

Summarize the article 'Boys will be Boys by B. Kantrowtz and C. Kaib.

Q4. Who are the new American dreamers according to Ruth Sidel in the article titled 'The new American dreamers '.

OR

Summarize in your own words 'Someone is stealing your life by Michael Ventura'.

Note: Each question in the following sections shall carry 8 marks and has to be answered in 600 words.

SECTION B

Q5. Summarize Holt's major criticisms of formal education and his recommendations for improving the quality of schools.

OR

What are the three questions that Gelernter asks in his article "Computers and the Pursuit of Happiness" and how does he answer them.

SECTION C

Q6. List the seven propaganda techniques that are discussed in the article Propaganda Techniques in Today's Advertising by Ann McClintock.

OR

Elaborate on the main subject that the authors Hamilton and Barbara Blum Dahl make in the article "Sex Roles,".

SECTION D

Q7. What does Michael Ventura say about the American workspace in his essay titled 'Someone is stealing your life'. Summarize

OR

What is the difference between the conversation styles of men and women according to Deborah Tannen in her article titled, 'Sex, sighs and conversation'.

21/05/24
KMV-II [N.S.B.]
MOR 29.05.2024

Exam Code: 107506
(20)

Paper Code: 6149

Programme: Bachelor of Arts (Honours) English
Semester-VI

Course Title: Media Writing

Course Code: BOEL-6216

Time Allowed: 3 Hours

Max Marks: 40

Section—A

1. Note: Attempt the following questions in about 100 words each:

A. Explain briefly the Inverted Pyramid style of news writing.

Or

Discuss in brief the relationship between Text and Images.

B. What is the role of 5Ws and 1H in news writing?

Or

Write a short note on clarity and brevity in news writing.

C. What is the difference between Feature Writing and News Writing?

Or

What are the techniques of writing for Broadcasting Media?

D. Briefly explain the significance of Headline in news.

Or

Discuss the significance of report writing.

(4x4=16)

Section—B

2. **Attempt any one question in about 600 words :**

What are the various elements of news?

Or

Discuss the concept of accuracy, clarity and brevity.

(1x8=8)

Section—C

3. **Attempt any one question in about 600 words :**

What is Feature Writing and how it is different from news writing?

Or

Give a detailed explanation of the rules of writing for Broadcasting Media.

(1x8=8)

Section—D

4. **Attempt any one in about 600 words:**

Write a letter to the editor on any topic of your own choice.

Or

Which things should be kept in mind while writing for advertisement?

(1X8=8)

Exam Code: 107506

Paper Code: 6150

Programme: **BACHELOR OF ARTS (HONOURS) ENGLISH**

Semester: VI

Course Title: **HISTORY OF ENGLAND (1939-1995)**

Paper VI

Course Code: **BOEL-6277**

Time Allowed: 3 Hours

Theory: 40

SECTION –A

Attempt four questions selecting at least one question from each unit in about 100 words. Each question will carry four marks.

UNIT I

Q1: Immediate cause of Second world war

Q2: Chamberlain's Policy of Appeasement

UNIT II

Q3: Explain the five critical issues under Labour Politics (1946-51)

Q4: Reform Policy of Clement Atlee (1951-56)

UNIT III

Q5: Explain the term Affluent Society.

Q6: Explain Ombudsman'

Attempt one question from each unit in about 600 words. Each question will carry 8 marks

SECTION –B

UNIT I

Q7: How far it is true that the real cause of second world war was the injustice done at treaty of Versailles?

Q8: Describe briefly the causes of World War II.

SECTION-C

UNIT II

Q9: How did the Labour government address the 'Five Giants (1946-51) under welfare state after World War II

Q10: How the British economy was revived post World War II?

SECTION –D

UNIT III

Q11: Why the Falklands conflict in 1982 happened?

Q12: What is the main idea of Affluent Society? Explain.

Exam Code: 107506
(20)

Paper Code: 6151

Programme: Bachelor of Arts (Honours) English
Semester-VI

Course Title: Social Thought-B

Course Code: BOEL-6478

Time Allowed: 3 Hours

Max Marks: 40

Note: 1. Attempt any 4 questions from Section —A, selecting one from each unit in 100 Words. Attempt 1 question each from section B,C,D in 600 words.

SECTION-A

- I. 1. Life Sketch of Pareto
2. Features of social action
3. Life Sketch of Durkheim
4. Patterns of Circulation
5. Egoistic Suicide
6. Bureaucracy

4*4=16

SECTION- B

- II. Define Authority? Discuss its types?
- III. What is the difference between the values of Protestants and Catholics?

SECTION- C

- IV. Discuss Social facts?
- V. Elucidate Durkheim's theory Division of Labour?

SECTION- D

- VI. What are the types of action according to Pareto ?
- VII. Discuss Pareto's 'Circulation of Elites'?

3*8=24

Exam Code: 112416
(30)

Paper Code: 6175

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 in all, selecting at least one question from each section. The fifth question may be attempted from any section. Each question carries equal marks.

Section-A

1(a) Show that the function $\sqrt{|xy|}$ is not analytic at origin, although the Cauchy- Riemann equations are satisfied at that point.

(b) Obtain Cauchy –Riemann Equations for an analytic function in Cartesian form. (8,8)

2(a) Show that the function $|z|^2$ is continuous everywhere but differentiable at origin only.

(b) If $u - v = (x - y)(x^2 + 4xy + y^2)$ and $f(z) = u + iv$ is an analytic function of $z = x + iy$, find $f(z)$ in terms of z . (8,8)

Section-B

3(a) State and Prove Cauchy Integral formula in multi connected region.

(b) Evaluate $\int_C \frac{e^{2z}}{(z+1)^4} dz$ where C is the circle $|z|=3$ (8,8)

4(a) If a function $f(z)$ is analytic for all finite values of z and is bounded then prove that $f(z)$ is constant.

(b) State and prove Morera's theorem. (8,8)

Section-C

5 State and prove Laurent's theorem and Obtain Laurent's series for $\frac{1}{z(z^2-3z+2)}$ in $1 < |z| < 2$ (16)

6(a) Find the nature of singularities and residues of the function $f(z) = \frac{z}{1+z^4}$

(b) If a function $f(z)$ is analytic except at finite number of singularities (including at infinity), then prove that the sum of the residues of these singularities is zero. (8,8)

Section-D

7(a) Use Rouché's theorem to determine the number of roots of the equation $z^8 - 4z^5 + z^2 - 1 = 0$

(b) Use Rouché's theorem, prove that every polynomial of degree n has exactly n zeroes. (8,8)

8(a) Find the general bilinear transformation which transform the unit circular disc. $|z| \leq 1$ on to $|w| \leq 1$

(b) Prove that every bilinear transformation maps circle or straight line into a circle or straight line. (8,8)

Exam Code: 112416
(30)

Paper Code: 6176

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 in all, selecting at least one question from each section. Fifth question can be attempted from any section. Each section carries equal marks. (16 marks each)

Section-A

Q.1 (a) Find the wrong number from the series : 1,3,10,21,64,129,356,777

(b) Find the missing no. from the series : 165,195,255,285,345,_____

(c) In this question there is some relationship between the two terms to the left of :: and the same relationship holds between the two terms to its right . Find out this term

NOPQ: MLKJ ::HIJK: ?

(a) DEFG (b) EFGH (c) FEDC (d) GFED

(d) In this question there is some relationship between the two terms to the left of :: and the same relationship holds between the two terms to its right . Find out this term

583: 293:: 488: ?

(4,4,4,4)

Q.2 (a) What was the day of week on 28th may, 2006?

(b) At what time between 4 and 5 o'clock will the hands of a clock be at the right angles?

(c) Following question is based on the information given below :

$P \times Q$ means P is the father of Q, $P - Q$ means P is the sister of Q, "

$P + Q$ means P is the mother of Q, $P \div Q$ means "P is the brother of Q"

Then what " J is the son of F "represent ?

(5,6,5)

Section-B

Q.3 (a) Find the largest number which when subtracted from 10000, the remainder is divisible by 32,36,48 and 50 .

(b) Find the value of $\left[35.7 - \left(3 + \frac{1}{3+\frac{1}{3}} \right) - \left(2 + \frac{1}{2+\frac{1}{2}} \right) \right]$

(c) From a group of boys and girls , 15 girls leave. There are then left 2 boys for each girl . After this , 45 boys leave . There are then 5 girls for each boy. Find the number of girls in the beginning. (6,5,5)

Q.4 (a) The dimension of a rectangular room when increased by 4 metres, are in the ratio of 4:3 and when decreased by 4 metres , are in the ratio of 2:1 . Find the dimensions of the room.

(b) 2 men and 3 boys can do a piece of work in 10 days while 3 men and 2 boys can do the same work in 8 days . In how many days can 2 men and 1 boy do the work ?

- (c) By walking at $\frac{3}{4}$ of his usual speed, a man reaches his office 20 minutes later than his usual time. Find the usual time taken by him to reach his office. (5,5,6)

Section-C

Q.5 (a) A circular wire of diameter 42cm is bent in the form of a rectangle whose 4 sides are in ratio 6:5. Find the area of the rectangle.

(b) Find the volume, Curved surface area and total surface area of a cylinder with diameter of the base 7cm and height 40cm.

(c) How many spherical bullets can be made out of a lead cylinder 28cm high and with base radius 6cm, each bullet being 1.5cm in diameter? (5,5,6)

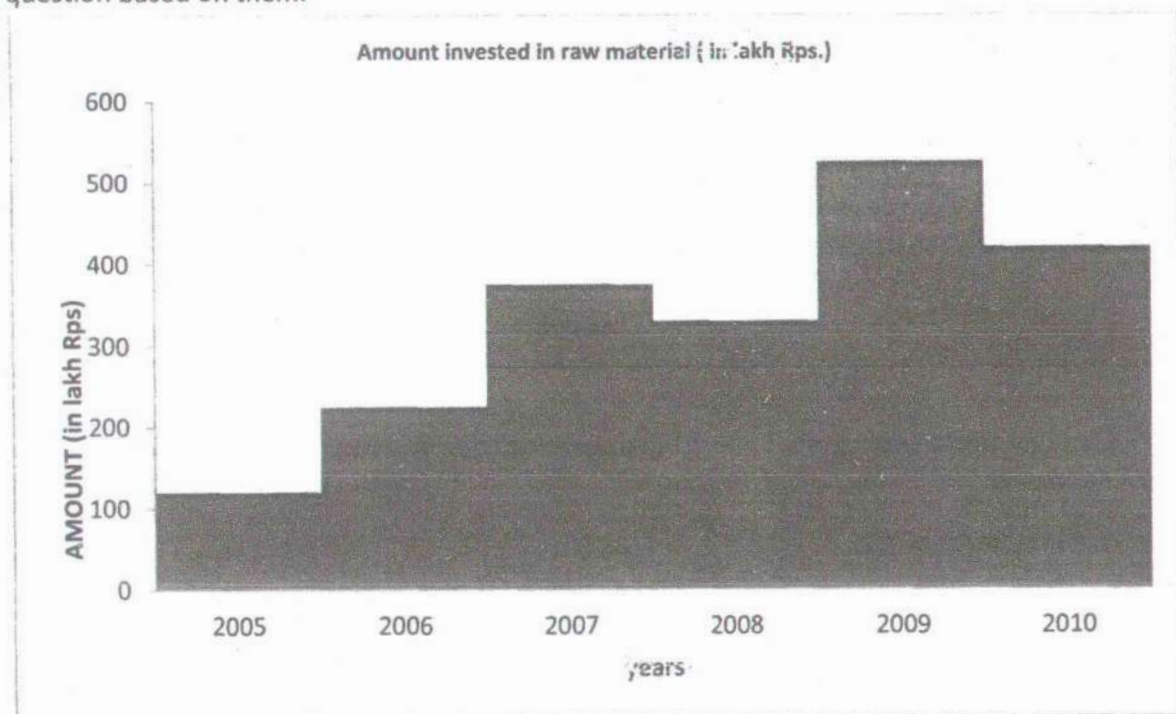
Q.6 (a) What annual instalment will discharge a debt of Rps. 1092 due in 3 years at 12% simple interest?

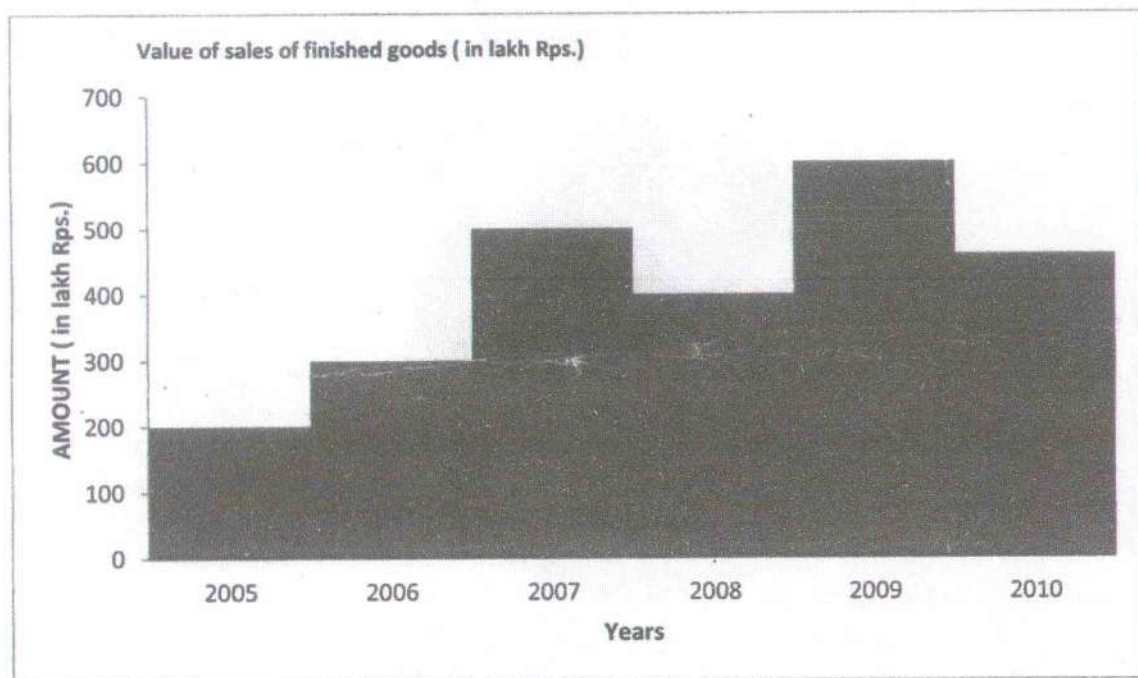
(b) A invested Rupee 76000 in a business. After few months, B joined him with Rupee 57000. At the end of the year, the total profit was divided between them in the ratio 2:1. After how many months did B join?

(c) If $z = \frac{x^2}{y}$ and x, y are both increased in value by 10%, find the percentage change in the value of z (6,5,5)

Section-D

Q.7 (a) Out of the bar graph given below, one shows the amount (in lakhs Rps.) invested by a company in purchasing raw materials over the years and the other shows the value (in lakhs Rupees) of finished goods sold by the company over the years. Study the bar graph and answer the question based on them.



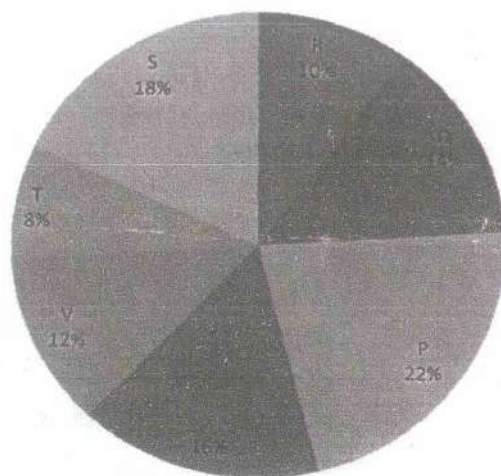


- In which year, there is maximum percentage increase in the amount invested in raw material as compared to the previous years ?
- In which year, the percentage change (compared to previous years) in the investment on raw materials is the same as that in the value of sales of finished goods?
- What was the difference between the average amount invested in raw material during the given period and the average value of the sales of finished goods during this period?
- The value of sales of finished goods in 2009 was approximately what percent of the average amount invested in raw materials in the years 2007, 2008 and 2009? **(4,4,4,4)**

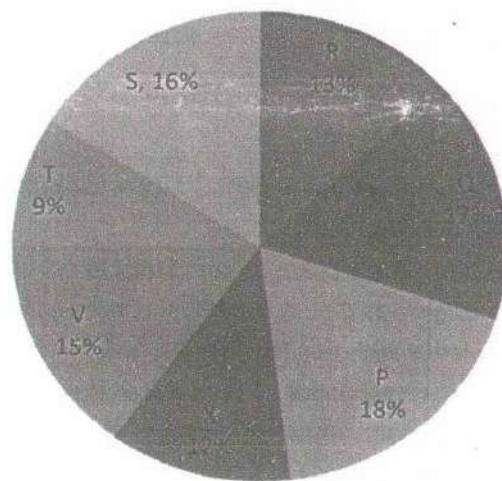
Q.8 Study the following pie graph carefully and answer the question given below

Distribution of the candidates enrolled for M.B.A entrance examination and those who passed in different institutes : P,Q,R,S,T,V, and X

CANDIDATES ENROLLED : 8550



CANDIDATES WHO PASSED : 5700



What percentage of candidates passed the exam from the institute T out of the total number of candidates enrolled from the same institute ?

What is the ratio of the candidates passed to the candidates enrolled from institute P?

What is the percentage of the candidates passed to the candidates enrolled for the institute Q and R together ?

Which institute has the highest percentage of the candidates enrolled ?

(4,4,4,4)

Exam Code: 112416
(30)

Paper Code: 6177

Programme: Bachelor of Science (Honours) Mathematics
Semester-VI
Course Title: Numerical Analysis
Course Code: BOML-6333

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 carries equal(8 marks each) marks. The students can use only Non programmable & Non Storage type calculator.

SECTION-A

Q1. (a) Find the negative real root of equation $x^2 - 4x - 10 = 0$ correct to one decimal places, using bisection method.

(b) The numbers 1.245, 102.179, 63.6, 22.00 are correct to last digit. Find the product. [8 X 2=16]

Q2. (a) Find the order of convergence of Newton Raphson Method.

(b) Find the double root of the equation $f(x) = x^4 - 11x^3 + 36x^2 - 16x - 64 = 0$ correct to two decimal places which is near 3.9.

[8 X 2=16]

SECTION-B

Q3. (a) Solve the equations $x + 2y + z = 8$, $2x + 3y + 4z = 20$, $4x + 3y + 2z = 16$ by Gauss Jordan method.

(b) Solve the equations by Gauss Seidel method (use initial approximation as (0, 0, 0))
 $5x + 2y + z = 12$, $x + 4y + 2z = 15$, $x + 2y + 5z = 20$. [8 X 2=16]

Q4. (a) Using Newton's forward difference formula, find the sum of $S_n = 1^3 + 2^3 + 3^3 + \dots + n^3$.

(b) Use Newton's divided difference formula to find the value of y when x=2 for (1, -3), (3, 9), (4, 30) and (6, 132). [8 X 2=16]

SECTION-C

Q5 (a) Find the first and second order derivatives of $y = f(x)$ at $x = 5$ for the given data.

x	0	2	3	4	7	9
f(x)	4	26	58	112	466	922

(b)) From the following table estimate the number of persons earning wages between Rs 60 and 70:

Marks	Below 40	40-60	60-80	80-100	100-120
No. of students	18	40	64	50	28

[8 X 2=16]

Q6 (a) Evaluate integral $I = \int_0^1 (1+x)^{-1} dx$ by using Gauss Legendre three-point formula.

(b) Evaluate $I = \int_0^1 \frac{1}{x+y} dx$ using Romberg's method correct to three decimal places. [8 X 2=16]

SECTION-D

Q7 (a) Using Picard's method, find an approximate value of y when $x = 0.4$, given that

$$\frac{dy}{dx} = x^2 + y^2 \text{ and } y = 0 \text{ when } x = 0 \text{ (take } h = 0.4\text{).} \quad [8 \times 2=16]$$

(b) Tabulate the solution of $\frac{dy}{dx} = x + y$ with $y(0)=0$, for $0.4 < x \leq 1$ with $h = 0.1$, by Predictor Corrector Method.

Q8. (a) Apply Runge- Kutta method of order 4 to find approximate value of y for $x = 0.4$, in steps of 0.2, if

$$\frac{dy}{dx} = x^2 + y^2 \text{ and } y = 0 \text{ when } x = 0.$$

(b) Using Taylor series method, find an approximate value of y when $x = 0.1$, given that

$$\frac{dy}{dx} = x - y^2 \text{ and } y = 1 \text{ when } x = 0 \text{ (take } h = 0.1\text{).} \quad [8 \times 2=16]$$

Exam Code: 112416

Paper/Subject Code: ~~6199~~ 6178

(40)

Programme: BACHELOR OF SCIENCE (HONOURS) MATHEMATICS SEMESTER-VI

Course Title: Special Functions

Course Code: BOML-6334

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. All questions carry equal marks.

Section-A

Q1 (a) State and Prove Kummer's Theorem 10

(b) Find the solution of $x(1-x)y'' + \left(\frac{3}{2} - 2x\right)y' + 2y = 0$ about $x = 0$. 6Q2 (a) Show that $\frac{2}{\pi} \int_0^{\frac{\pi}{2}} (1 - x^2 \sin^2 \theta)^{\frac{1}{2}} d\theta = {}_2F_1\left(-\frac{1}{2}, \frac{1}{2}; 1; x^2\right), |x| < 1$ 8(b) Show that $F(a; b; c; z) = \frac{\Gamma(c)}{\Gamma(b)\Gamma(c-b)} \int_0^1 (1-t)^{c-b-1} t^{b-1} (1-zt)^{-a} dt$ 8**Section-B**

Q3 (a) State and prove generating function of Bessel's function 10

(b) Prove that $\exp\left(\frac{1}{2}x\left(z - \frac{1}{z}\right)\right) = \sum_{n=-\infty}^{\infty} z^n J_n(x)$ 6Q4 (a) Show that when n is positive integer $J_{-n}(x) = (-1)^n J_n(x)$ 8(b) Show that $J_n(x) = \frac{1}{\pi} \int_0^{\pi} \cos(n\phi - x \sin \phi) d\phi$, where n is a positive integer. 8

Section-C

- Q5 (a) Express $x^4 + 2x^3 + 2x^2 - x - 3$ in terms of Legendre polynomials. 6
- (b) State and Prove generating function for Legendre polynomials 10
- Q6 (a) Prove that $P_n(0) = 0$, if n is odd. 8
- (b) Show that $n P_n = (2n-1)x P_{n-1} - (n-1)P_{n-2}$, $n \geq 2$. 8

Section-D

- Q7 (a) State and prove Rodrigues formula for $H_n(x)$ 10
- (b) Prove that $H_n(x) = 2^n \exp\left(-\frac{1}{4} \frac{d^n}{dx^n}\right) x^n$ 6
- Q8 (a) Prove that $H_n'(x) = 2n H_{n-1}(x)$ ($n \geq 1$); $H_0'(x) = 0$ 8
- (b) Show that Hermite polynomial are orthogonal over $(-\infty, \infty)$ w.r.t. the weight function e^{-x^2} . 8

Exam Code: 112416
(30)

Paper Code: 6179

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

Course Title: Differential Geometry

Course Code: BOML-6335

Time Allowed: 3 Hours

Max Marks: 80

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

Section A

1. (a) Write a note on three fundamental unit vectors associated with a space curve. Also discuss their relation with three fundamental planes. 8

- (b) Find the equation of tangent line to a curve at a given point in vector and Cartesian form. 8

2. (a) Prove that the tangent at any point of the curve whose equations are $x = 3t, y = 3t^2, z = 2t^3$ makes a constant angle with the line $y = z - x = 0$. 8

- (b) Show that the curve $x = au + b, y = cu + d, z = u^2$ has the same osculating plane at all the points. 8

Section B

3. (a) The necessary and sufficient condition that a given curve to be a straight line is that curvature is zero at all the points of the curve. 8

(b) Show that the curve $\vec{r} = \left(t, \frac{1+t}{t}, \frac{1-t^2}{t}\right)$ lies in a plane 8

4. (a) If the curvature κ of the Curve C is constant, then the curvature of the locus of the centre of the sphere of curvature is also constant. 8

(b) Find the curvature and torsion of the spherical indicatrix of the tangents. 8

Section C

5. (a) Define two parameter family of surfaces and envelopes. Also discuss the working rule to find the envelopes for two parameter family. 8

(b) Find the fundamental magnitudes for the Monge's form of the surface $z = f(x, y)$ 8

6. Find the equation of the tangent plane to the surface $f(x, y, z) = 0$. Using this find the tangent plane to the surface $z = x^2 + y^2$ at the point $(1, -1, 2)$. 16

Section D

7. (a) There exists no distinction between contravariant and co-variant vectors when we restrict ourselves to rectangular Cartesian transformation of coordinates. 8

(b) The sum and difference of two tensors of same kind result in a third tensor of same kind. 8

8 (a) Write a detailed note on first fundamental and second fundamental tensors. 8

(b) State and prove quotient law of tensors. 8

Exam Code: 171806
(20)

Paper Code: 6180

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

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. Students can use scientific calculator or logarithmic table.

SECTION A

1. Write a Short note on each of the following:
 - (i) Pair production
 - (ii) Bragg Curve
 - (iii) Bremsstrahlung radiation (4+4+4)
2. (a) Describe the process of photoelectric effect and pair production. (8)
(b) Why does photoelectric effect occur for bound electrons only? (4)

SECTION B

3. Discuss scintillation detector in detail. Why NaI detector is activated with thallium (Tl) (12)
4. Explain the principle and Working of a G.M. counter. What is the function of quenching gas in GM tube? (12)

SECTION C

5. Describe the principle, construction and Working of a cyclotron. What is the limitation of a cyclotron for a relativistic particle? (12)
6. Discuss in detail the process of particle acceleration in a linear accelerator. (12)

SECTION D

7. Discuss the four fundamental forces of nature. Why the range of strong force is short despite the mass of gluon is zero? (12)
8. (a) Discuss with an example the conservation law of baryon number, strangeness and linear momentum. (9)
- (b) Which conservation law is violated in the following interaction?

$$(i) e^+ + e^+ \longrightarrow \mu^+ + \mu^+$$

$$(ii) \Lambda^0 \longrightarrow \pi^0 + \pi^0$$

$$(iii) n \longrightarrow p + \gamma \quad (3)$$

LIBRARY

KMV-II [N.S.B]

Exam Code: 171806
(20)

Paper Code: 6181

MOR-14-05-2024

Programme: Bachelor of Science (Honours) Physics
Semester-VI

Course Title: Condensed Matter Physics – II

Course Code: BOPL-6392

Time Allowed: 3 Hours

Max Marks: 60

NOTE: Attempt five question in all selecting at least one from each section. Fifth question can be attempted from any section. Each question carries 12 marks. Use of log tables and scientific calculator is allowed.

SECTION A

1. What is the difference between photons and phonons? Discuss the inelastic scattering of photons by phonons and obtain an expression for the frequency of phonons emitted in the process. 12
2. Discuss the Debye's theory of specific heat of solids and explain that it is able to explain correct behaviour of solids at low temperatures. What are its limitations? 12

SECTION B

3. a) What is superconductivity? What is Meissner's effect in superconductors? 6

- b) What do you mean by Critical magnetic field? Distinguish between type I and Type II superconductors? 6
4. a) Show that flux is quantised in a superconducting ring. 6
- b) How does specific heat and thermal conductivity of superconductor varies as compared to normal conductor? 6

SECTION C

5. What are various sources of polarization? Derive the relevant expressions for each contribution. 12
6. a) Derive the Clausius-Mossotti relation between polarizability and dielectric constant of a dielectric. 6
- b) What are ferroelectric and piezoelectric materials? Explain them in brief. 6

SECTION D

7. How nanomaterials are classified? Discuss in brief the following
- i) Fullerenes
 - ii) Graphene
 - iii) Carbon nanotubes 12
8. What is scanning electron microscope? Give its principle, construction and working. 12

**Exam Code: 171806
(20)**

Paper Code: 6182

**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, selecting at least one question from each section. The fifth question may be attempted from any section. Each question carries 12 marks. Students can use scientific calculator or logarithmic table.

Section A

1. (a) Explain technique and instrumentation of microwave spectroscopy. (6)
(b) What are the different types of molecular spectra and explain Born Oppenheimer Approximation. (6)
2. a) Explain the effect of isotropic substitution and diatomic molecule as non rigid rotator. (10)
b) The force constant of HF^{19} molecule is 966N/m . Find the frequency of vibration of the molecule. (2)

Section B

3. What is Raman Effect? How is it explained quantum mechanically? Show that frequency difference in Raman lines is twice the frequency difference between successive lines in a pure rotational spectrum of a molecule. (12)
4. a) Explain the principle features of the electronic band spectrum of a diatomic molecule. Explain the rule of mutual exclusion. (9)
 b) A substance shows a Raman line at 4567\AA when exciting line 4358\AA is used. Deduce the positions of Stokes and anti-Stokes lines for that substance when exciting line 4047\AA is used. (3)

Section C

5. (a) Discuss the components of laser and lasing action by explaining three and four level lasing techniques. (6)
 (b) Derive Schawlow-Townes condition for laser oscillations. (6)
6. Explain with suitable graphs and expression, the variation of absorption coefficient with frequency of incident light in optical absorption. Derive the Beer-Lambert formula (12)

Section-D

7. (a) What is Q-switching? Explain the various Q-switching systems (8)
(b) The laser beams are highly directional and laser is essentially a converter of energy. explain. (4)
8. Explain the principle, construction, working and laser beam characteristics of CO₂ and Dye laser. (12)

Exam Code: 171806
(20)

Paper Code: 6183

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, selecting at least one question from each section. The fifth question may be attempted from any section. Each question carries 12 marks. Students can use scientific calculator or logarithmic table.

Section A

1. (a) Convert the following decimal numbers to BCD numbers
 - (i) 4
 - (ii) 24
 - (iii) 907
 - (iv) 5361 (6)
- (b) Write a note on analog and digital signals. List its application and advantages of digital signals (6)

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) AND and NOT Gates using transistors
- (ii) DeMorgan's theorem
- (iii) four variable K map (12)
4. Simplify the following function using K maps
- (i) $F(ABC) = \sum m(1,3,4,5,7)$
- (ii) $f(wxy) = \sum(3,5,6,7)$
- (iii) $Y(ABCD) = \sum(0,2,4,5,6,7,8,10,12,14)$ (12)

Section C

5. Explain the following with logic circuit
- (a) Half Subtractor
- (b) Full Adder
- (c) Comparator circuit (12)

6. Discuss in detail each of the following
- (a) R S Flip Flop and De Multiplexer
 - (b) JK Flip Flops
 - (c) Edge triggered Flip Flops.

(12)

Section D

7. (a) Explain the working of Monostable Multivibrator (6)
- (b) Explain each of the following (6)
- (i) Ring Counter
 - (ii) Decade Counter
8. Explain the working of the following (6)
- (i) Synchroncus Counter
 - (ii) Astable Multi Vibrator
- (b) Discuss in detail each of the following (6)
- (i) R.O.M
 - (ii) R.A.M
 - (iii) E.P.R.O.M

Exam Code: 103306
(40)

Paper Code: 6159

Programme: Bachelor of Science
Semester--VI

Course Title: Botany (Ecology)

Course Code: BSMM-6075 (I)

Time Allowed: 3 Hours

Max Marks: 30

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 equal marks. (6 each)

Section 1

1. Discuss the development of soil and soil profile?
2. Discuss the morphological, physiological and anatomical adaptation of hydrophytes?

Section 2

3. Discuss the qualitative characteristics of community?
4. Describe the process of ecological succession?

Section 3

5. Describe the following -
 - A. Growth curves
 - B. Ecological pyramids
6. Explains the biogeochemical cycle: -
 - (A) carbon cycles
 - (B) Nitrogen cycle

Section 4

7. Writes a note on biogeographical regions of India?
8. Explain the forest vegetation of india?

KMV-II [N. S. B]
MOR. 21.05.2024

Exam Code: 103306
(40)

Paper Code: 6160

Programme: Bachelor of Science
Semester-VI

Course Title: Botany (Economic Botany)

Course Code: BSMM-6075 (II)

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. All questions carry equal marks. Draw labelled diagrams wherever necessary.

Section-1

1. What are Vegetable oil? Describe the morphology and uses of any oil yielding plant. (6)
2. Give brief account on sugarcane with special reference to its morphology and various uses. (6)

Section-2

3. Write a short note on the following:-
 - A) Fruit and uses of *Coriandrum sativum*.
 - B) Morphology of ginger. (3+3)

4. Give a general account on morphology of any two spices studied by you. (6)

Section-3

5. What are medicinal plants? Give the medicinal properties of any three medicinal plants. (6)
6. Draw well labelled diagrams of the following: Flower bud of clove, capsule of *Papaver somniferum*, Indian gooseberry plant. (6)

Section-4

7. Describe the morphology, processing and uses of Rubber yielding plant. (6)
8. Write down the morphology, method of cultivation and processing of a beverage. (6)

For Reappear Candidates (Old Syllabus (2020-21))

Exam Code: 103306

Paper Code: 9601

Bachelor of Science (Semester-VI)
Course Title: Chemistry (Organic Chemistry)
Course Code: BSMM/BSNM-6084 (I)

Time: 3hr

Max marks: 30

Note: Attempt **five** Questions in all, selecting at least **one** each from Section. Fifth question can be attempted from any Section. Each question carries equal (6) marks.

Section-A

1. (a) Discuss various electronic transitions in UV spectroscopy. (3)
 (b) State & Explain Beer Lambert's Law, also derive molar extinction coefficient from it. Also give its physical significance. (3)
2. (a) What is TMS. What is the reason for choosing it as a reference compound during proton NMR spectroscopy (3)
 (b) Discuss the NMR spectra of ethyl bromide (3)

Section-B

3. (a) Define: (i) Hooke's Law (ii) Molecular vibrations (3)
 (b) Using sulphonation as one of the steps how will you convert benzene into benzoic acid. (3)
4. (a) An Organic compound having the molecular formula C_4H_8O gave the following spectral data: (3)
 UV: 275 nm ($\epsilon = 17$)
 IR = 2941-2857 (m), 1715 (s) and 1460 cm^{-1} (m)
 PMR = τ 7.52 (q, 2H), 7.88 (s, 3H) and 8.93 (t, 3H)
 Deduce the structure of the compound.
 (b) How can you prepare methyl phenyl thioether from bromobenzene. (3)

Section-C

5. (a) Discuss the stepwise mechanism of Free-radical addition polymerization by giving suitable example. (3)
 (b) Discuss the mechanism of claisen condensation. (3)
6. (a) What is Zeiglar Natta polymerization. What are the advantages over free radical vinyl polymerization? (3)
 (b) Explain in detail Keto-enol tautomerism of ethyl acetoacetate. (3)

Section-D

7. (a) Write a short note on Killiani Fischer synthesis. (3)
 (b) Give Sanger's method of identification of N-terminal amino acid residue of polypeptides. (3)
8. (a) Give the Zwitter ion structure of the amino acids. Discuss the isoelectric point of amino acids. (3)
 (b) What is mutarotation. Give its mechanism. (3)

Paper Code: 6155

Programme	Exam Code	Course Code
Bachelor of Science (Medical)	103306	BSMM-6084 (I)
Bachelor of Science (Non-Medical)	103306	BSNM-6084 (I)

Semester-VI**Course Title: Chemistry (Molecular Spectroscopy)
(60)****Time Allowed: 3 Hours****Max Marks: 30**

Note: Candidates are required to attempt five questions in all selecting atleast one question from each section. The fifth question may be attempted from any section. Each question carries equal (6) marks.

SECTION-I

1. (a) Explain the terms chromophore and auxochrome. Also comment on the statement. "Increase in polarity of the solvent shifts $\pi \rightarrow \pi^*$ band to longer wavelength but $n \rightarrow \pi^*$ and $n \rightarrow \sigma^*$ bands to shorter wavelength.

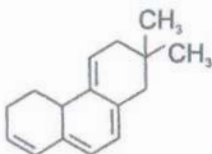
(4)

(b) State and explain Born- Oppenheimer approximation. (2)

2. (a) Discuss Fluorescence and Phosphorescence in terms of excitation of electrons? (4)
 (b) Explain why Benzene is colorless but azobenzene is coloured . (2)

SECTION-II

3. (a) Explain in detail stretching and bending mode of vibration in AX_2 system. (4)
 (b) How will you distinguish between the following two pair of compounds on the basis of IR Spectroscopy?
 Cis-2-butene and trans-2-butene (2)
4. (a) Discuss the relevance of Finger Print Region in structure determination of organic compounds by IR spectroscopy. Also discuss the effect of Vibrational Coupling and field effect on the position of absorption band in IR spectra. (4)
 (b) Calculate λ_{\max} for the following: (2)



SECTION-III

5. (a) With suitable diagram explain the working of FT-NMR Spectrometer. Also discuss the advantages of FT-NMR over CW-NMR. (4)
- (b) Write note on spin lattice relaxation. (2)
6. (a) An Organic compound having the molecular formula C_4H_8O gave the following spectral data: Deduce the structure of the compound. (4)
- UV: 275 nm ($\epsilon = 17$)
- IR = 2941-2857 (m), 1715 (s) and 1460 cm^{-1} (m)
- PMR = τ 7.52 (q, 2H), 7.88 (s, 3H) and 8.93 (t, 3H)
- (b) Why acetylenic proton absorbs upfield as compared to aromatic protons of benzene ring in proton NMR. (2)

SECTION-IV

7. (a) Discuss reaction and mechanism of MC-Lafferty Rearrangement giving relevant example? (4)
- (b) Explain in detail fragmentation of Tropylluni ion. (2)

8. (a) Discuss the chemical ionization in the presence of CH_4 carrier gas. How is it advantageous over electron impact (EI) ionization? (4)
- (b) Explain Nitrogen rule. (2)

KMR-II [N.S.B]
MOR-03-06-24

6

Paper Code: 6156

Programme	Exam Code	Course Code
Bachelor of Science (Medical)	103306	BSMM-6084 (II)
Bachelor of Science (Non-Medical)		BSNM-6084 (II)

Semester-VI**Course Title: Chemistry (Physical Chemistry)****(60)****Time Allowed: 3 Hours****Max Marks: 30**

Note: Candidates are required to attempt five questions in all selecting atleast one question from each section. The fifth question may be attempted from any section. Each question carries equal (6) marks.

SECTION-I

1. Discuss Planck's Radiation Law. How do Wien's Law and Rayleigh-Jeans Law follow from it? (6)
2. Set up and solve the Schrodinger wave equation for a particle in one dimensional box for an eigen function and eigen value of energy? (6)

SECTION-II

3. What do you mean by rigid rotator and Derive Schrodinger wave equation for rigid rotator and transform into spherical polar coordinates? (6)
4. (a) Discuss the shapes of s, p and d orbitals? (3)
(b) How do three quantum number n, l, m follow from the solution of Schrodinger Wave equation? (3)

SECTION-III

5. What are elements of symmetry in crystallography. Describe each of them briefly? (6)
6. (a) Define space lattice and unit cell? (3)
(b) Give the differences between crystalline and amorphous solids? (3)

SECTION-IV

7. (a) State and derive Lambert's law? (4)
(b) Calculate the value of an Einstein of energy for radiation of wavelength 3000 \AA . (2)
8. Draw Jablonski diagram depicting various process occurring in excited states. Describe all the process? (6)

Exam Code: 103306

Paper Code: 6161

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 in all, selecting at least one question from each section. The Fifth Question may be attempted from any section. Each Question carries 12 marks.

Section- A

Question 1. Discuss the importance of the selection process of types of equipment and service facilities in food plants. (12)

Question 2. Explain in detail about management setup in a food plant. How cost of maintenance affect the margin of profit in the food industry? (12)

Section- B

Question 3. Explain the role of consumer research in the food industry and how it is becoming a major focus area for every sector, discuss. (12)

Question 4. Describe in detail the major factors that affect food patterns across India. (12)

Section- C

Question 5. What role do food innovations play in the upliftment of the food industry and what are the basic trends that need to be taken care of while designing new food, discuss. (12)

Question 6. What are the major factors that affect post-harvest losses in food crops and can they be minimized? (12)

Section- D

Question 7. How urbanization has affected the traditional foods of India. What steps must be taken for the revival of traditional food culture in our area, explain. (12)

Question 8. What are the steps in new product development, discuss. (12)

KMV-II (N.S.B.)
(M)-6-5-2024

Exam Code: 103306
(20)

Paper Code: 6154

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 in all, selecting one 'question from each of the four sections (A-D). The fifth question may be attempted from any section. All questions carry equal marks.

Section A

1. a. Name five fermented milk products. What are the benefits of using these products. 8
b. Write a short note on process used for production of fermented legumes. 4
2. a. Discuss the microbiology of fermentation process involved in the production of Sauerkraut. 8
b. Explain the role played by microorganisms in ripening of cheese. 4

Section B

3. a. Discuss production of citric acid by submerged fermentation process using *Aspergillus niger*. 8
b. Give name of four edible mushrooms. 4
4. a. Briefly discuss the different steps involved in industrial production of Acetic acid. 8
b. Discuss the role played by Baker's yeast in bread production. 4

Section C

5. a How Proteases are produced in industry using microorganisms? Discuss it's applications also. 8
b Discuss in detail the process of production of following distilled beverage: Vodka 4
6. a Briefly explain the different methods used for immobilization of enzymes. 8
b Compare production process of red and white wine. 4

Section D

7. Discuss the microbial production of riboflavin (vitamin B2) along with it's uses. 12
8. Explain the commercial production of Penicillin 12

Exam Code: 103306
(40)

Paper Code: 6152

Programme: Bachelor of Science
Semester-VI

Course Title: Zoology (Medical Zoology)

Course Code: BSMM-6483 (I)

Time Allowed: 3 Hours

Max Marks: 30

Note: Attempt five questions in all, selecting at least one question from each section (A to D) Fifth question can be attempted from any section. Draw diagrams wherever necessary. Each question carries 6 marks.

Section A

1. Draw a well-labelled diagram of the life cycle of Plasmodium. Explain the preventive measures of the disease caused by it. (6)
2. Give a brief account of life history, mode of infection, pathogenicity and treatment of Dracunculus. (6)

Section B

3. Write a brief account of diseases transmitted by mosquitoes. Also discuss the control measures for the control of these vectors. (6)

4. a) Discuss the life cycle of *Pediculus*. Write down the measures to control their population. (4)
- b) Discuss the epidemiology of endemic typhus. (2)

Section C

5. Discuss antibody-mediated immune system in detail. (6)
6. Write briefly on the following
 - a. Inflammatory reaction (4)
 - b. Role of macrophages in immunity (2)

Section D

7. What do you mean by vaccination? Write a note on attenuated and Heterologous vaccines. (6)
8. Define ELISA and discuss its various types. (6)

KMV-II [N.S.B]
MOR. 25.05-2024

Exam Code: 103306
(40)

Paper Code: 6153

Programme: Bachelor of Science
Semester-VI

Course Title: Zoology (Medical Laboratory Technology)

Course Code: BSMM-6483 (II)

Time Allowed: 3 Hours

Max Marks: 30

Note: Attempt FIVE questions in all, selecting at least ONE from each section (A to D). Fifth question can be attempted from any section. All questions carry equal marks (6 marks each). Draw neat & well labelled diagrams wherever necessary.

Section - A

1. Write detailed account of the process of centrifugation, its principle, working & types. (6)
2. Write notes on
 - a) Colorimetry
 - b) Phase contrast microscopy (3+3)

Section - B

3. Discuss collection of venous & capillary blood for different haematological investigations. (6)

4. Give a detailed account of Total RBC Count & Total Leukocyte Count. (6)

Section — C

5. Give an account of
 - a) Autoclave
 - b) Antibiotic Sensitivity (3+3)
6. Write a detailed note on staining techniques in Bacteriology. (6)

Section — D

7. Name different types of fixatives and describe any three in detail. (6)
8.
 - a) Write principal, theory & significance of estimation of cholesterol in blood.
 - b) Discuss Liver Function Test. (3+3)

Paper Code: 6157

Programme	Exam Code	Course Code
Bachelor of Science Non-Medical	103306	BSNM-6395 (I)
Bachelor of Science Computer Science	103306	BCSM-6395 (I)

Semester-VI**Course Title: Physics (Nuclear Physics)****(50)****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. Candidates can use Non-Scientific calculators and logarithmic tables.

SECTION A

1. Explain Proton- Electron hypothesis of nucleus. Give at least five causes for its failure. 6
2. (a) How are nucleons held together inside the nucleus? What are main properties of those forces. 4
(b) Write the relation between mass number and radius of the nucleus. Calculate the mass and radius of $^{27}_{13}\text{Al}$. 2

SECTION B

3. (a) What are radio — active series? Mention the important radioactive series. 3
 (b) What is radioactive dating? How is the age of a tree determined? 3
4. What is β — decay? Discuss energy spectrum curve of β - decay. Discuss law of conservation of energy and linear and angular momentum in β — decay. How it helped Pauli in predicting existence of Neutrino? 6

SECTION C

5. (a) Define Q-value of a nuclear reaction. Discuss exoergic and endoergic reactions. 3
 (b) Define following reactions by giving examples:
 (i) Spallation
 (ii) Radiative Capture 3
6. Explain the concept of compound nucleus. Also explain the virtual and bound energy levels of compound nucleus. 6

SECTION D

7. What are main assumptions of Liquid drop model? Obtain expression for the binding energy of a nucleus based on liquid drop model. 6
8. (a) What are magic number nuclei? Give experimental evidence of nuclear magic numbers. 5
 (b) What is the parity of ${}_8\text{O}^{16}$?

Paper Code: 6158

Programme	Exam Code	Course Code
Bachelor of Science Non-Medical	103306	BSNM-6395 (II)
Bachelor of Science Computer Science	103306	BCSM-6395 (II)

Semester-VI

Course Title: Physics (Radiation and Particle Physics)
(50)

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. Students can use non-scientific calculator and logarithmic table.

SECTION A

1. Derive Bethe-Bloch formula for the loss of energy of a heavy charged particle passing through matter. (6)
2. Discuss the process of photoelectric effect, pair production and Compton scattering. (6)

SECTION B

3. Discuss the principle, construction and working of a semiconductor detector. Compare its advantages and disadvantages with scintillation detector. (6)
4. What is Cherenkov radiation? Using a suitable diagram, explain the principle and working of any one type of Cherenkov detector. (6)

SECTION C

5. Describe the principle, construction and working of a betatron. (6)
6. Discuss in detail the process of particle acceleration in a linear accelerator. (6)

SECTION D

7. List various properties of quarks and antiquarks? Giving suitable examples, explain how mesons and baryons are formed from quarks. (6)
8. (a) Discuss with an example the conservation law of baryon number, lepton number and charge conjugation. (3)
- (b) Which conservation law is violated in the following interaction?

(i) $\mu^+ \longrightarrow e^+ + \gamma$

(ii) $n \longrightarrow p + e^-$

(iii) $\pi^0 \longrightarrow \gamma + \gamma + \gamma$ (3)