

Regional Institute of Education, Bhopal
B.Sc. B.Ed. IV Semester, 2020
Internal Test
Chemistry

MM – 60

Attempt any three of the following. All questions carry equal marks. Word limit for all question should be in between 200 to 250.

Q1. (a) Differentiate between heat of reaction at constant pressure and at constant volume.

(b) State Hess's law of constant heat summation and write its two applications.

Q2. (a) How will you prove that entropy is a state function?

(b) Write three important criteria for thermodynamic equilibrium and spontaneity.

Q3. Discuss phase diagram of lead-silver (Pb-Ag) system and explain desilveration of lead from this diagram.

Q4. What is Ostwald's dilution law. Discuss its uses and limitations.

Q5. (a) Differentiate between order and molecularity.

(b) Derive an expression for the rate constant of a first order reaction.

Regional Institute of Education, Bhopal
B.Sc. B.Ed. II Semester, 2020
Internal Test
Chemistry

MM – 60

Attempt any three of the following. All questions carry equal marks.

Q1. Write notes on:-

- (a) Inclusion Compounds
- (b) Hyperconjugation
- (c) Resolution
- (d) Diastereoisomers
- (e) Meso Compounds
- (f) Racemization

Q2. Discuss halogenation of Alkanes, their orientation, reactivity and selectivity with suitable examples.

Q3. Explain the term:

- (a) Markovnikov's Rule
- (b) Saytzeff Rule
- (c) Hydroboration-oxidation
- (d) Polymerization

Q4. What do you understand by SN1 and SN2 reactions? Explain with suitable examples and also draw their energy profile diagrams.

Q5. Write notes on:

- (a) Oxidation cleavage of 1, 2 – diols by lead tetra acetate with mechanism.
- (b) Oxidation of glycerol with different reagents
- (c) Acidity of Phenols.
- (d) Acylation mechanism in phenols.

B.A.B.Sc.B.Ed. IV Sem.

Assessment for Learning

Note: Attempt any three questions

Question 1: Differentiate amongst Assessment of learning, Assessment for learning Assessment as learning.

Question 2: Explain concept, types and applications of Grading.

Question 3: Explain Rubrics as a tool of Assessment in schools.

Question 4: Discuss various new trends in evaluation.

Question 5: Define measures of central tendency ? Calculate mean, median and mode form the followings data-

C.I.	35-39	40-44	45-49	50-54	55-59	60-64	65-69
f	2	2	7	8	7	5	2

**REGIONAL INSTITUTE OF EDUCATION,
BHOPAL**

B.Sc.B.Ed. IV Semester

Botany Theory

Maximum Marks: 60

Attempt any three questions. Each question carries 20 marks.

- Q.1. Illustrate genetic code and highlight the contribution of Dr. Hargobind Khurana.
- Q.2. Discuss the structure of protein with illustrations.
- Q.3. Describe the usage of any five spices. Write the morphological nature of the part used and its botanical name with family.
- Q.4. Define biotechnology and write its applications with reference to use of tissue culture technique.
- Q.5. What is recombinant DNA technology?

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REGIONAL INSTITUTE OF EDUCATION

Computer and ICT in Education

B.A.B.Ed./B.Sc.B.Ed. IV Semester

Assignment (University Examination)

Max. Marks: 40

Attempt any Three Questions

All questions carry equal marks

- Q. 1. Discuss the role of technology in enhancing learning.
- Q. 2. What is multi-media? Discuss the procedure of creating multi-media for education.
- Q. 3. What do you mean by Web 2.0 technology? Describe the characteristics and types of tools of Web 2.0 technology.
- Q. 4. Describe the approaches to integrate ICT in teaching and learning.
- Q. 5. Describe the ICT integrated Unit Plan.

Regional Institute of Education Bhopal

Bsc B.Ed./ BA B.ED. IV Semester 2020

Paper – Inclusive Education

Max Marks: 40

Note: Attempt any three question the word limit for writing answers for each question should remain between 200 and 250:

Q. No. 1. Discuss about the meaning and philosophy of Inclusive Education.

Q. No. 2. Discuss about the index of inclusion.

Q. No. 3. Discuss about the nature and needs of learner with Diverse Needs.

Q. NO. 4 Discuss about assistive devices for meeting learning Needs of Diverse learners

Q. No. 5 Discuss about the use of multi methodology in Inclusive Schools

Regional Institute of Education, Bhopal
B.Sc. B.Ed. IVth Semester
Semester and Exam - 2020
Zoology

Total–60 Marks

Note: Draw diagramme wherever necessary
All questions carries equal marks

Q1. Describe components and principle of working of an electron microscope. Explain how it differs from light microscope.

Q2. Describe solenoid model of nucleosome with the help of a diagram.

Q3. Explain genetic code. Describe its properties and importance.

Q4. Define genecloning and discuss the construction of genomic library.

Q5. Describe various steps involved in PCR.

REGIONAL INSTITUTE OF EDUCATION, BHOPAL

BARKATULLAH VISHWAVIDYALAYA, BHOPAL

Term End Examination (May-June, 2020)

B.A B.ED IV Semester- Foundation Course English

Maximum Marks- 40

Note- Answer two questions from Section I and one question from Section II. Section I carries 30 marks and Section II carries 10 marks.

Section I

Q1. Discuss the relationship of Ramanujan and Hardy with reference to the story prescribed in your course.

Q2. Write a precis of 150 words for the following paragraph. Also supply a suitable title for the precis. The rough draft of the precis should also be shown.

Leading investors have joined the growing chorus of concern about governments and companies rushing into producing biofuels as a solution for global warming, saying that many involved in the sector could be jeopardising future profits if they do not consider the long-term impact of what they are doing carefully.

It is essential to build sustainability criteria into the supply chain of any green fuel project in order to ensure that there is no adverse effect on the surrounding environment and social structures. The report produced by the investors expresses concern that many companies may not be fully aware of the potential pitfalls in the biofuel sector.

Production of corn and soya beans has increased dramatically in the last years as an eco-friendly alternative to fossil fuels but environmental and human rights campaigners are worried that this will lead to destruction of rain forests. Food prices could also go up as there is increased competition for crops as both foodstuffs and sources of fuel. Last week, the UN warned that biofuels could have dangerous side effects and said that steps need to be taken to make sure that land converted to grow biofuels does not damage the environment or cause civil unrest. There is already great concern about palm oil, which is used in many foods in addition to being an important biofuel, as rain forests are being cleared in some countries and people driven from their homes to create palm oil plantations.

An analyst and author of the investors' report says that biofuels are not a cure for climate change but they can play their part as long as governments and companies manage the social and environmental impacts thoroughly. There should also be greater measure taken to increase efficiency and to reduce demand.

Q3. Translate the following paragraph into Hindi.

Research suggests that our level of happiness depends partly on factors we cannot control – our genes and our life circumstances. But our level of happiness is also shaped by the choices we make. If you've been chasing wealth, fame, good looks, material things, and power, you may be looking for happiness in all the wrong places. Psychologists suggest that the following seven habits make people happier.

People who form close relationships tend to be happier than those who do not. The number of friends we have is not important. What matters is the quality of our relationships.

Relationships that bring happiness usually involve the sharing of feelings, mutual respect, acceptance, trust, fun and empathy.

People who exercise regularly improve both their physical and mental well-being. Some research has shown that exercise can be as effective as medication in treating depression.

Section II

Q4. Give the meanings of the following proverbs. Also make sentences on each.

1. Actions speak louder than words.
2. Practice makes perfect.
3. Fortune favours the bold.
4. Knowledge is power.
5. Beauty is in the eye of the beholder.

Q5. Write a conversation between two people on any one of the following.

1. Booking an appointment with the doctor.
2. Asking for the way to a particular place.

Semester Examination-2020
B.Sc. B.Ed. IV Semester
Environmental Education

Time: 3hours

M.M – 40

Note: Attempt any three questions. Each question carry equal marks.

Q I. Write short notes on (any four)

- i. Renewable Resources**
- ii. Deforestation**
- iii. Over exploitation of forest resources**
- iv. Effect of Timber extraction on forest**

Q II.

- i. What are the consequences of excess utilization of ground water?**
- ii. Discuss the effect of extracting and using mineral resources on environment.**

Q III.

- i. Is modern agriculture technique more effective than the traditional agriculture. Explain**
- ii. What are the pros and cons of alternative energy sources?**

Q IV. Explain (any three)

- i. Rain Water Harvesting**
- ii. Watershed Management**
- iii. Environmental Ethics**
- iv. Wasteland Reclamation**

Q V.

- i. What are the salient features of the Environmental Protection Acts?**
- ii. What is the role of information technology in environment and human health?**

REGIONAL INSTITUTE OF EDUCATION, BHOPAL

BARKATULLAH VISHWAVIDYALAYA, BHOPAL

Term End Examination (May-June, 2020)

B.A. B.Ed. (IV Semester)

आधार-पाठ्यक्रम (FC)

Maximum Marks: 40

(किन्ही दो प्रश्नों के उत्तर दीजिए)

खण्ड – क (15x2 = 30)

1. गूलर का फूल निबंध की समीक्षा कीजिए।
2. आत्म निर्भरता पाठ की समग्र व्याख्या करें।
3. जनसंचार के माध्यम (प्रिंट, इलेक्ट्रॉनिक एवं सोशल मीडिया) से आप क्या समझते हैं। लिखिए।

खण्ड – ख (10x1 = 10)

किसी एक पर टिप्पणी करें।

क. पत्रकारिता के विविध आयाम

ख. राजभाषा हिन्दी

ग. शब्द शक्ति

B.Sc.B.Ed. IV Semester, Examination
2020

(Mathematics)

Paper: M4.1 Elements of Group and Rings

Time: 3 Hour

Maximum Marks: 30

Note: Attempt any 3 questions.

1. (a). Prove that the set $G = \{ 0, 1, 2, \dots, m-1 \}$ of first m non negative integers is a group, the composition being addition reduced modulo m
(b) Prove that the set P_n of all permutations on n symbols is a finite group of order $n!$ with respect to the composite of mappings as the operations.
2. (a). Prove that the order of every element of a finite group is finite and is less than or equal to the order of the group.
(b) Prove that a group G is abelian if every element of G except the identity is of order 2.
3. (a) State and Prove Lagrange's theorem
(b) State and prove Cayley's theorem.
4. (a) Prove that a cyclic group G with a generator of finite order n , is isomorphic to multiplicative of n , n^{th} root of unity.
(b) Prove that group of Prime order is cyclic.
5. (a) Prove that every finite integral domain is a field.
(b) Prove that the characteristics of an integral domain is either zero or a prime number.

B.Sc.B.Ed. IV Semester, Examination

2020

(Mathematics)

Paper: 4.2 Mechanics

Time: 3 Hour

Maximum Marks: 30

Note: Answer any three questions.

1. Six equal rod AB, BC, CD, DE, EF and FA are each of weight W and are freely joined at their extremities so as to form a hexagon. The rod AB is fixed in a horizontal position and the middle point of AB and DE are joined by a string: Prove that its tension is $3W$.
2. A Particle of mass m is projected vertically under gravity, the resistance of the air being mk times the velocity. Find the greatest height attained by the particle.
3. A box kite is flying at a height h with a length l of wire point out and with the vertex of the catenary on the ground. Show that at the kite the inclination of the wire to ground is $2 \tan^{-1} \frac{h}{l}$.
4. Write a short note on any five of the following :
 - (a) Terminal Velocity
 - (b) Angular Velocity
 - (c) Common Catenary
 - (d) Stable and Unstable equilibrium
 - (e) Virtual Work
 - (f) Action and Reaction
5. A body consisting of a cone and a hemisphere on the same base, rest on a rough horizontal table, the hemisphere in contact with the table; show that greatest height of the cones, so that the equilibrium may be stable is $\sqrt{3}$ times the radius of the hemisphere.

B.Sc.-B.Ed.-iv semester Examination

Physics

MM:60

Note: Attempt any 3 questions.

All questions carries equal marks.

1. Write the equation of forced oscillator. Derive an expression for displacement and draw a graph between amplitude and frequency.
2. Write Fermat's Principal. Prove Snail's law on the basis of Fermat's principal.
3. Explain Newton's ring experiment with diagram and derive an expression for radius of n^{th} dark ring.
4. What is Frauhouffer diffraction. Derive an expression for intensity distribution of diffraction from single slit. Draw intensity distribution diagram.
5. Explain Lorentz half shade polarimeter. What is specific optical rotation? Explain the experiment to determine specific rotation of sugar solution.