REGIONAL INSTITUTE OF EDUCATON, BHOPAL

BARKATULLAH VISHWAVIDYALAYA, BHOPAL

Term End Examination (May-June, 2020)

B.A. B.Ed. (II Semester)

Subject: Foundation Course: Language English

Maximum Marks: 40

General Instructions:

- *The paper consists of two sections.*
- *In Section A there are three long answer questions of 15 marks each for open book examination. You are required to answer any TWO questions from Section A.*
- *In Section B there are two long answer questions of 10 marks each for open book examination.You are required to answer any ONE question from Section B.*

Section-A   (15x2=30)

1. Write a critical summary of *The Solitary Reaper* by William Wordsworth.

2. Write a letter to the Editor of *The Times of India* to draw their attention about the ignorance of rules related to safety measures for the prevention of Covid-19 by the people of your area.

3. Expand the topic *Prevention is Better than Cure* in 250 words.

Section-B   (10 Marks)

4. Explain the process of word formation using prefix and suffix with suitable examples.

5. Discuss the types of tenses with suitable examples.

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

Q. No. 1: Explain Different types of Computer and its use?

Q. No. 2: Explain the following software fundamental of Computer-

   i.   Operating systems
   ii.   Software
   iii.   Open source
   iv.   Software licensing

Q. No. 3: Explain the following office application briefly-

   i.   Word Processing
   ii.   Spreadsheet
   iii.   Presentations
   iv.   Data bases
   v.   Drawing tools

Q. No. 4: What is Network? Where it was created? Explain the following types of common network: LAN, WAN, Internet

Q. No. 5: Explain the following Numeral systems-

   i.   Decimal Numeral Systems
   ii.   Binary Numeral Systems: Converting Binary to Decimal and vice versa
   iii.   Hexadecimal Numeral System: Converting Hexadecimal to Decimal and vice versa

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

Q1. Write notes an:-
 (a) Inclusion Compounds
 (b) Hyperconjgation
 (c) Resolution
 (d) Diasteroisomers
 (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) Hydaobaration- 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.

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Regional Institute of Education Bhopal

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

Cognition and Learning   **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 role of cognition in learning.

Q. No. 2: Discuss about the views of vygotsky as social- constructivist.

Q. No. 3: Discuss about the role of a teacher as facilitator of teaching- learning situation.

Q.No. 4: Discuss about Multiple Intelligence (Gardners Theory)

Q.No. 5: What do you mean by Dyslexia ? Discuss as implication for classroom teaching.

REGIONAL INSTITUTE OF EDUCATON, BHOPAL

BARKATULLAH VISHWAVIDYALAYA, BHOPAL

Term End Examination (May-June, 2020)

B.A. B.Ed. (II Semester)

आधार–पाठ्यक्रम   (FC)

Maximum Marks: 40

सामान्य निर्देशः–

- इस प्रश्नपत्र में दो खण्ड है।
- खण्ड क में दीर्घ उत्तरीय प्रश्न है जो 15 अंक के प्रत्येक हैं जिनमें 2 के उत्तर देना अनिवार्य है।
- खण्ड ख में टिप्पणी लिखनी है जिसके लिए 10 अंक निर्धारित है¡ किसी एक पर टिप्पणी कीजिए।

खण्ड – क (15x2 = 30)

1. अकाल और उसके बाद कविता की समग्र समीक्षा करते हुए कवि नागार्जुन का परिचय दीजिए।
2. निर्माल्य निबंध की समीक्षा लिखिए।
3. भोलाराम का जीव पाठ किस प्रकार से हमारे सामने यथार्थ को प्रस्तुत करता है, समग्र समीक्षा करें।

खण्ड – ख (10x1 = 10)

4. पुष्प की क्या अभिलाषा है, स्पष्ट कीजिए।
5. भारत वंदना कविता का सार लिखिए।

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M.M: 60

Note: *(i) Attempt any Three Questions out of FIVE Questions*
(ii) All Questions Carry equal Marks, having four subparts
(iii) Part (a) in each question is a multiple choice question carries 2 marks and part (b), (c),
and (d) carries 6 marks each.

Q.1 (a) For the conservative electric field $\vec{E}$:   **02**

   (i) $\operatorname{div}\vec{E} = 0$ (ii) $\operatorname{curl}\vec{E} = 0$ (iii) $\int_a^b \vec{E}.\,\vec{dl} = 0$ (iv) zero

   (b) What is meant by Electric Flux? State and Prove Gauss Theorem.   **06**

   (c) Derive Laplace and Poisson equation in electrostatics and give their applications.   **06**

   (d) Calculate the force and torque on a dipole in a uniform electric field.   **06**

Q.2 (a) The gyromagnetic ratio for electron is: **02**

        (i) e/m   (ii) e/2m   (iii) 2e/m   (iv) em

   (b) Explain the force on a straight current carrying conductor in a uniform magnetic field. **06**

   (c) Write Biot Savart Law. Use it to obtain the expression for the magnetic field produced
      at the centre of a current carrying circular coil.   **06**

   (d) Define Magnetization current, magnetization vector, and magnetic permeability   **06**

Q.3 (a) The capacity of a parallel plate capacitor depends on :   **02**

      (i) nature of the metal   (ii) distance between the plates

      (iii) thickness of the plates   (iv) potential difference between the plates

   (b) Distinguish between polar and non polar molecules. Explain the mechanism of
      polarization in them.   **06**

(c) Find the boundary conditions of $\vec{E}$ and $\vec{D}$ at the interface separating the two homogeneous dielectrics.   **06**

(d) State Clausius -Mosotti equation and derive it.   **06**

Q.4 (a) The unit of magnetic flux is :   **02**

    (i) debye   (ii) henry   (iii) weber   (iv) rutherford

(b) A conducting rod of length 50 cm moves with a velocity 100 m/s in direction perpendicular to its length and the direction of magnetic field in a uniform magnetic field of intensity 0.5 Wb/m^2. Calculate the potential difference induced across the ends of the rod.   **06**

(c) What is Poynting vector? Show that the directions of energy flow is normal to the plane of E and B.   **06**

(d) State laws of reflection and refraction of an electromagnetic wave at the boundary of two media.   **06**

Q.5 (a) The active component in an electrical network is:

    (i) Resistance   (ii) inductance   (iii) capacitance   (iv) voltage source

(b) State and explain Kirchhoff's laws of electrical network.   **06**

(c) What is a transformer? Draw labeled diagrams of a step up transformer and a step down transformer and differentiate between them.   **06**

(d) What is meant by Quality factor? Obtain its expression for the LCR circuit.   **06**

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

Total–60 Marks

Note: **Draw diagramme wherever necessary**
              All questions carries equal marks

Q1. Describe respiratoryorgans of scoliodon with diagramme.

Q2. How will you distinguish poisonous snakes from non-poisonous snakes?

Q3. What are egg laying mammals and how are the marsupials more advanced than the monotremes.

Q4. Describe the aortic arches of vertebrates.

Q5. Give an account of different types of jaw suspensorium in vertebrates.

REGIONAL INSTITUTE OF EDUCATION, BHOPAL

B.Sc.B.Ed. II Semester

Botany Theory

Maximum Marks: 60

Attempt any three questions. Each question carries 20 marks.

Q.1. Write major differences between prokaryotic and eukaryotic organization of cell with examples.

Q.2. Describe the structure of chloroplast and its function in cell.

Q.3. Describe the structure of mitochondria and its functions.

Q.4. Describe the structure of DNA with illustrations.

Q.5. Discuss the details of mitosis/meiosis cell division.

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B.Sc.B.Ed. II Semester, Examination
2020
(Mathematics)

Paper: M -2.1   DIFFERENTIAL EQUATIONS AND VECTOR CALCULUS

Time: 3 Hour   **Maximum Marks: 30**

Note: Attempt any 3 questions.

Q1. (i) Define degree and order of differential equation.

(ii) Solve $(1 + x^2)\frac{dy}{dx} + 2xy - 4x^2 = 0$.

Q2. (i) What isOrthogonal trajectories?

(ii) Solve the equitation

$$(1 + 4xy + 2y^2)dx + (1 + 4xy + 2x^2)dy = 0.$$

Q3. Solve$(D^2 - 4D + 4)y = x^2 + e^x + cos2x$.

Q4. Verify Divergence theorem for $F = x^2i + zj + yzk$ taken over the cube bounded by

$$x = 0, x = 1, y = 0, y = 1, z = 0, z = 1.$$

Q5. Solve by the method of variation of parameters

$$\frac{d^2y}{dx^2} + 4y = 4tan2x.$$

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B.Sc.B.Ed. II Semester, Examination
2020
(Mathematics)
Paper: M 2.2 3- D Geometry

Time: 3 Hour   **Maximum Marks: 30**

Note: Attempt any 3 questions.

(a) Prove that the general equation of second degree always represents a conic section.

   (b) Prove that $ax^2+by^2+cz^2 + 2gx + 2fy + c = 0$ will represent a conic iff $g = f = 0$.

1. (a) Derive the lengths and equation of axes of a central conic.

    (b) Find the equation of asymptotes of the conic $3x^2 -2xy -5 y^2 +7x -9 y =0$

2. Trace the following conics :

    (a) $36x^2 + 24xy + 29y^2 + -72 x + 126 y + 81 =0$

    (b) $16 x^2 -24 xy + 9 y^2 +77x -64 y + 95 =0$

3. (a). Show that the equation of the directrix of the conic $\frac{l}{r} = 1 + e\cos\beta$

    corresponding to the focus other than the pole is $\frac{l}{r} = -\frac{1-e^2}{1+e^2} e \cos \beta$.

    (b) Prove that the perpendicular focal chords of a rectangular hyperbola are equal.

4. Prove the following proposition on confocal conics.

    (a) Through any point in the plane of a conic, two confocal can be drawn one of
        which is a hyperbola and other an ellipse.

    (b) Confocal cut at right angle.

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