End Semester Examination
Bachelor of Science (Fire Safety and Hazard Management)

Subject Name: Fire Prevention & Protection
Subject Code: BFSHM102T   **Time: 03:00 Hrs.**
Semester: 1ˢᵗ   **Max. Marks: 70**

Instructions: Attempt all Sections. If require any missing data; then choose suitably.
Attempt all parts of a question at one place.

SECTION A

1. Attempt all questions in brief.   **[10x2=20]**
1.1. Define fire triangle.
1.2. What is meant by fire prevention?
1.3. Name any two causes of fire in industrial buildings.
1.4. What is a portable fire extinguisher?
1.5. Mention two types of fire detection systems.
1.6. What is meant by flash point?
1.7. State two objectives of fire protection.
1.8. Name two common fire hazards in residential areas.
1.9. What is fire load?
1.10.   Mention two personal protective equipments used during fire fighting.

SECTION B
Attempt any five questions of the following: **[5 X 10=50]**

2. Explain the principles of fire prevention and their importance in safety management.

3. Describe the classification of fires and suitable extinguishing methods for each class.

4. Discuss various types of fire extinguishers, their construction, and uses.

5. Explain fire detection and alarm systems used in buildings.

6. Describe fire hazards in industries and measures to control them.

7. Explain fire safety measures in residential and public buildings.

8. Discuss the role of fire drills and emergency evacuation plans in fire safety.

9. Explain the causes of fire accidents and preventive strategies.

End Semester Examination
Bachelor of Hotel Management & Catering Technology

Subject Name: Food Production Foundation – I
Subject Code BHMCT101T   **Time: 03:00 Hrs.**
Semester: 1st   **Max. Marks: 70**

Instructions: Attempt all Sections. If require any missing data; then choose suitably.
Attempt all parts of a question at one place.

SECTION A

1. Attempt all questions.   **[10x2=20]**

1.1. Define stock.
1.2. What is cooking?
1.3. What are thickening agent?
1.4. Distinguish between stock and soup.
1.5. What are different parts of salad?
1.6. What are shortenings?
1.7. Define the process of cooking.
1.8. Classify sauces.
1.9. Write short note on types of sugar.
1.10. Classify raising agents.

SECTION B

Attempt any five questions of the following: **[5 X 10=50]**

2. What are the essential protective clothing for kitchen staff? Explain importance of each.

3. What are the attitudes and behaviour expected from a kitchen staff? Explain personal hygiene standards for them.

4. What are pigments? Explain the different types of pigments and the effect of heat on pigments.

5. Give hierarchy of kitchen brigade in English, also mention French equivalents.

6. List the ways of heat transfer and explain the wet method and dry methods of cooking.

7. Define Mise-en-place and explain the techniques used in the pre-preparation.

8. Classify fruits and vegetables in detail.

End Semester Examination
Bachelor of Library & Information Science

Subject Name: Library and Society
Subject Code: BLIB101   **Time: 03:00 Hrs.**
Semester: 1st   **Max. Marks: 70**

Instructions: Attempt all Sections. If require any missing data; then choose suitably.
Attempt all parts of a question at one place.

SECTION A

1. Attempt all questions in brief.   **[10x2=20]**

1.1. In which year Indian Library Association was established?
1.2. Mention the year in which public library act of Andhra Pradesh was passed.
1.3. What do you mean by "Resource Sharing"?
1.4. Define "Public library".
1.5. Who wrote the book "Putting knowledge to work"?
1.6. Define "National library".
1.7. What are the three major components of a library?
1.8. Write a short note on "INFLIBNET".
1.9. What are the barriers in development of libraries in India?
1.10.   Discuss about objectives of special libraries.

SECTION B

Attempt any five questions of the following: **[5 X 10=50]**

2. What do you understand by the concept of National library? Explain the functions of National library.
3. Describe the role of any two of the organizations and institutions involved in development of library and information science.
4. Describe the development of libraries in United states of America in twentieth century.
5. Mention the Five Laws of Library Science and explain the implication of First Law.
6. Write a detailed note on Library Legislation in India.
7. Discuss in detail the objectives, functions and services of a Special library.
8. Write a detailed note on the activities and services of ILA.

End Semester Examination
B.Sc. (Mathematics)

Subject Name: Calculus & Analytical Geometry
Subject Code: BMATH102T   **Time: 03:00 Hrs.**
Semester: 1st   **Max. Marks: 70**

Instructions: Attempt all Sections. If require any missing data; then choose suitably.
                     Attempt all parts of a question at one place.

SECTION A

1. Attempt all questions.   **[10x2=20]**

    1.1 Check whether the conicoid $2x^2 + y^2 - z^2 + 2zx + z = 1$ has a centre or not.

    1.2 Use the rules of differentiation to determine $\frac{dy}{dx}$ if $y = (2 - 5x)^2$.

    1.3 Prove that $f(x) = \frac{\ln x}{x}$ has a horizontal asymptote y = 0.

    1.4 Find the vertices, eccentricity, foci and directrices of the conic $4x^2 - y^2 = 16$.

    1.5 Given $f(x) = -x^3 + x^2 + 8x - 12$.
          Write down the x-coordinate of the point of inflection of f.

    1.6 Given $f(x) = -x^3 + x^2 + 8x - 12$.
          Write down the coordinates of the turning points of $h(x) = f(x) - 3$.

    1.7 Given: $g(x) = (x - 6)(x - 3)(x + 2)$
          Write down the x-intercepts of g.

    1.8 Determine $f'(x)$ from first principles if $f(x) = 2x^2 - 5$.

    1.9 Evaluate: $\frac{dy}{dx}$ if $y = x^{-4} + 2x^3 - \frac{x}{5}$.

    1.10 Given $g(x) = \frac{x^2 + x - 2}{x - 1}$.
          Calculate $g'(x)$ for $x \neq 1$.

SECTION B

Attempt any five questions of the following: **[5 X 10=50]**

2. Solve the inequality $\frac{x^2 - 2}{1 - 2x} > 1$.

3. Find by Maclaurin formula, the first four terms of expansion of $f(x) = e^{ax} \cos bx$ and remainder after n terms.

4. Find $\frac{dy}{dx}$, if $y = arc\, tan \left(\frac{x \sin \alpha}{1 - \cos \alpha} \right)$.

5. If $y = (arc \sin x)^2$, show that $(1 - x^2)y'' - xy' - 2 = 0$, differentiate this equation n times and find the value of $y^{(n)}$ at x=0.

6. Obtain a reduction formula for $\int \frac{x^n}{\sqrt{1-x^2}} dx$ and hence evaluate $\int \frac{x^3}{\sqrt{1-x^2}} dx$.

7. Prove that the area enclosed by parallelogram formed by the tangents at end of conjugate diameters of ellipse is constant.

8. A straight line makes angle of measure $\alpha, \beta, \gamma, \delta$ with the diagonals of a cube. Prove that $\cos^2 \alpha + \cos^2 \beta + \cos^2 \gamma + \cos^2 \delta = \frac{3}{4}$.

End Semester Examination
Bachelor of Science (PCM)

Subject Name: Mechanics and Oscillations
Subject Code: BPCM102T   **Time: 03:00 Hrs.**
Semester: 1ˢᵗ   **Max. Marks: 70**

Instructions: Attempt all Sections. If require any missing data; then choose suitably.
Attempt all parts of a question at one place.

SECTION A

1. Attempt all questions in brief.   **[10x2=20]**

1.1. Prove that the curl of gradient is zero.
1.2. Define curl of a vector field with suitable example.
1.3. What elastic and inelastic collisions with examples
1.4. Obtain an expression for kinetic energy of a rigid rotating body.
1.5. Show that the areal velocity remains constant under a central force.
1.6. What are Lissajous figures and mention their uses.
1.7. What are the Kepler's laws of planetory motion.
1.8. What are the postulates of special theory of relativity.
1.9. Define Q-factor and band width of resonance.
1.10.   Define damped harmonic oscillator and discuss under damped oscillations.

SECTION B
Attempt any five questions of the following: **[5 X 10=50]**

2. Show that $\nabla^2(1/r) = 0$ where r is a position vector.

3. State and prove Gauss divergence theorem.

4. Derive final velocities in case of elastic collisions in two-Dimensional Collisions.

5. Define processional velocity and derive an expression for processional velocity of a top

6. Show that the central forces are conservative and prove that conservative force is equal to negative of Potential Energy.

7. Describe Michelson-Morley experiment and derive an expression for fringe shift. Show that the power in damped harmonic Oscillator is 2bE.

8. What is Q-factor and derive an expression for band width of Resonance.

End Semester Examination
Bachelor of Physical Education & Sports

Subject Name: Principles and History of Physical Education
Subject Code: BPES102T   **Time: 03:00 Hrs.**
Semester: 1st   **Max. Marks: 70**

Instructions: Attempt all Sections. If require any missing data; then choose suitably.
Attempt all parts of a question at one place.

SECTION A

1. Attempt all questions in brief.   **[10x2=20]**

1.1. Define Physical Education.
1.2. What is meant by the term "Holistic Development"?
1.3. Mention two objectives of Physical Education.
1.4. What is the principle of individual differences in Physical Education?
1.5. Name any two ancient civilizations that contributed to Physical Education.
1.6. What was the role of Physical Education in ancient Greek society?
1.7. Define play and recreation.
1.8. Mention two contributions of Indian culture to Physical Education.
1.9. What is the principle of progression in Physical Education?
1.10.   Name any two modern Physical Education movements.

SECTION B

Attempt any five questions of the following: **[5 X 10=50]**

2. Define physical education. Discuss the aim and objectives of physical education in detail.

3. What do you mean by Growth and development? How does the heredity effect Growth and development? Explain?

4. What is co-operation and competitions? How can co-operative attitude be developed through competitive sports? Explain.

5. What is play? Explain the theories of play with their implication in physical education.

6. Write in detail about participation of India in Modern Olympic Games.

7. Explain the contribution of Akhadas and Vayam Shalas in the development of physical education in pre-independent India.

8. Give an account of physical education in Ancient India.

End Semester Examination
Bachelor of Science (Agriculture)

Subject Name: Fundamentals of Agronomy
Subject Code: BSCAG101T   **Time: 03:00 Hrs.**
Semester: 1st   **Max. Marks: 70**

Instructions: Attempt all Sections. If require any missing data; then choose suitably.
Attempt all parts of a question at one place.

SECTION A

1. Attempt all questions in brief.   **[10x2=20]**

1.1. What is crop adaptation?
1.2. Write the two works of an Agronomist.
1.3. Define the crop.
1.4. Define Seed.
1.5. Discuss the NUE.
1.6. Define herbicide.
1.7. Who was the father of Agronomy?
1.8. How many nutrients are essential for plants?
1.9. Write the formula of harvest index.
1.10.   Write about different types of seeds.

SECTION B

Attempt any five questions of the following: **[5 X 10=50]**

2. Discuss in detail, the factors affecting the growth and development of the crop.

3. Give the definition of Agronomy. Describe its scope in detail.

4. What do you understand by Crop Geometry? Discuss the importance of crop geometry and also explain the various factors affecting the crop geometry.

5. Define crop nutrition. classify the essential nutrients of plants and also give function of Sulphur, Magnesium and Calcium in plants.

6. Discuss crop-rotation. Which factors are responsible for influencing of crop rotation?

7. What do you understand by weed? Explain the crop- weed competition in detail.

8. Define Irrigation. Discuss its various methods in detail.