M.Ed. Two year Programme

IV SEMESTER TEST PAPERS

April 2017-

Name Course-12: Theme Based Specialization Course-I

Subject Pedagogy of Science.

Address

From To

Phone Fax

E-mail :

ST. ANN'S COLLEGE OF EDUCATION, MANGALORE.
(AUTONOMOUS)
M.Ed. Two Year Programme

Fourth Semester Test – April 2017

Course - 12 : Theme Based Specialization Course - I
Pedagogy of Science

Time : 3 Hours
Date : 18-04-2017 Max. Marks : 70

Note : 1. Answer Part - I and Part - II questions on separate Answer Sheets.
2. There are two sections in Part I and Part II in the question paper. Both the sections are compulsory.

PART - I

Section A

Note : Answer the following questions in about three pages each.

1a) i) Give the theory base of co-operative learning and explain the Jig saw method of co-operative learning.
ii) Discuss the relative merits of 5E and 7E constructivist learning models interms of teaching and learning science. (5 + 5)

[or]

b) i) Explain the theory base and phases of guided discovery learning.
ii) Discuss the characteristics and applications of different types of Computer Assisted Instructions (CAI) in learning science. (5 + 5)

2 a) i) Discuss the techniques and strategies to respond to the science needs of children with handicapping.
ii) Explain the stages of classroom based research and its significance to professional development of a science teacher. (5 + 5)

[or]

b) i) Discuss the features of creative curriculum frame work and innovative activities to promote students creativities.
ii) Write review of any two research studies related to science achievement and their implications to science education. (5 + 5)

Section B

Note : Answer any **Three** of the following questions in about a page each.(5 x 3=15)

3 a) Explain the concept and characteristics of self learning.
b) Explain the characteristics and applications of PQ4R meta cognitive model to learning science.
c) Discuss the scope and relevance of any two e-resources in teaching and learning science.
d) Discuss the research trends in Science Education.

PART - II

Section A

Note : Answer the following questions in about three pages each.

1a) i) Explain the nature and scope of Science.
ii) Discuss steps of scientific method with an illustration. (4 + 6)

[or]

b) i) Explain the international goal of Science Education with reference to child development.
ii) Discuss the outcomes of Science Education. (4 + 6)

2 a) i) Explain the role of educational philosophies in improving the Quality of Science Curriculum.
ii) Discuss the need and significance of Integrating Science with Mathematics and Music. (5 + 5)

[or]

b) i) Explain the reforms suggested by NCF (2005) in School Science Education.
ii) Discuss the two significant curricular projects in Science. (5 + 5)

Section B

Note : Answer any **Three** of the following questions in about a page each.(5 x 3=15)

3 a) Explain the Revised Bloom and Anderson Taxonomy of Educational objectives.
b) Discuss the Kendall and Marzan's Taxonomy of Educational objectives.
c) Explain the factors considered in the objective based Science Education and the guiding principles in the development of science programme at school level.
d) Discuss any five Basic Science process skills with appropriate examples.

* * * * *

ST. ANN'S COLLEGE OF EDUCATION, MANGALURU.
(AUTONOMOUS)
M.Ed. Two Year Programme

Fourth Semester Test – April 2018

MES551: Theme Based Specialization Course - I
Pedagogy of Science

Time : 3 Hours
Date : 21-04-2018 Max. Marks : 70

Note : There are two sections in Section A and Section B in the question paper. Both the sections are compulsory.

Section A

Note : Answer the following questions in about three pages each.

1a) i) Mention the steps of Scientific Method and discuss its application to teaching and learning Science at secondary level.
ii) Explain the outcomes of Science Evaluation. (5 + 5)

[or]

b) i) Write national goals of Science Education as envisaged in NPE (1986).
ii) Explain the revised taxonomy of Kendall and Marzano and its integration in Science Education. (4 + 6)

2 a) i) Explain the functions and importance of Science in school curriculum.
ii) Explain the guiding principles in the development of a science programme at school level. (5 + 5)

[or]

b) i) Explain the science curriculum reforms given in NCF (2005).
ii) Discuss the need and significance of integrating Science with Mathematics, Health and Physical Education and Art. (4 + 6)

3a) i) Explain the concept and character of individualized learning.
ii) Discuss the phases and applications of Autonomous learner model. (4 + 6)

[or]

b) i) Illustrate Meta Cognitive Learning Model of IDEAL in relation to teaching and learning of Science.
ii) Discuss the relative merits of 5E and 7E constructivist learning models interms of teaching and learning Science. (6 + 4)

4 a) i) Discuss the techniques and strategies to respond to the science needs of gifted children.
ii) Explain the stages of classroom based research and its significance to professional development of a science teacher. (5 + 5)

[or]

b) i) Discuss the techniques and strategies to respond to the science needs of children with handicapping.
ii) Write the review of any two research studies related to science achievement and their implications to Science Education. (5 + 5)

Section B

Note : Answer any **Six** of the following questions in about a page each.(5 x 6=30)

5 a) Discuss the perspectives of Science Education.

b) Explain the integrated process skills in Science and its applications in learning science.

c) Explain the international goals of Science Education with reference to child development.

d) Discuss the salient features of any two significant curricular projects in Science.

e) Explain the syntax of Advance Organizer Model of teaching.

f) Explain the features of creative science curriculum frame work innovative activities to promote students creativity.

g) Discuss the concept and process of reflection and its significance to professional development of a Science Teacher.

h) Explain the theory base and stages of Cognitive Apprenticeship Model.

* * * * *

ST. ANN'S COLLEGE OF EDUCATION, MANGALURU.
(AUTONOMOUS)
M.Ed. Two Year Programme

Fourth Semester Test – April 2019

MES551: Theme Based Specialization Course - I
Pedagogy of Science

Time : 3 Hours
Date :09-04-2019 Max. Marks : 70

Note : 1. Answer Part - I and Part - II questions on separate Answer Sheets.
2. There are two sections in Part I and Part II in the question paper. Both the sections are compulsory.

PART - I
Section A

Note : Answer the following questions in about three pages each.

1a) i) Discuss the philosophical basis of Science in terms of Positivism and Constructivism.
ii) Explain process skills in Science and its applications. (5 +5)

[or]

b)i) Write the international goals of Science Education with reference to child development goals.
ii) Explain the revised taxonomy of Bloom and Anderson and its integration in Science Education. (5 + 5)

2 a) i) Explain the styles of curriculum and systems of organizing curriculum in Science.
ii) Discuss the components in the development of Science programme at school level. (6 + 4)

[or]

b) i) Describe the characteristics of curriculum development in rural environment with special reference to India.
ii) Discuss the salient features of significant curricular projects in science such as CHEM and Nuffield Sciences. (4 + 6)

Section B

Note : Answer any **Three** of the following questions in about a page each.(5 x 3=15)

3 a) Explain the social and personal perspectives of Science Education.
b) Mention the functional understanding of scientific attitude and scientific interest as outcomes of Science Education.
c) Explain the characteristics of Progressive curriculum.
d) Describe the integration of Mathematics and Music with other subjects.

PART - II

Section A

Note : Answer the following questions in about three pages each.

1a) i) Explain the theory base and phases of guided discovery learning.
ii) Describe the syntax of Inductive Thinking Model with an example. (5 + 5)

[or]

b) i) Discuss the stages and application of Gagne's Nine Events Model.
ii) Explain the characteristics and application of different types of Computer Assisted Instructions (CAI) in learning Science. (5 + 5)

2 a) i) Explain the techniques and strategies to respond to the science needs of children with handicapping.
ii) Write reviews of any two research studies related to innovative practices and their implications to Science Evaluation. (5 + 5)

[or]

b) i) Discuss the features of Creative Science Curriculum Framework and innovative activities to promote science learning.
ii) Explain the stages of classroom based research and its significance to profession development of a science teacher. (5 + 5)

Section B

Note : Answer any **Three** of the following questions in about a page each.(5 x 3=15)

3 a) Illustrate Meta Cognitive Learning Model of KWL in relation to teaching and learning of science.
b) Discuss the scope and relevance of any five e-resources to teaching and learning of science.
c) Discuss the process of reflection and its significance to professional development of science teacher.
d) Explain the implications of science education researches on classroom practices.

* * * * *

ST. ANN'S COLLEGE OF EDUCATION, MANGALURU.
(AUTONOMOUS)
M.Ed. Two Year Programme

Fourth Semester Test - August 2021

MES551: Theme Based Specialization Course - I
Pedagogy of Science

Time : 3 Hours
Date : 30-08-2021 Max. Marks : 70

Note : 1. Answer Part - I and Part - II questions on separate Answer Sheets.
2. There are two sections in Part I and Part II in the question paper. Both the sections are compulsory.

PART - I
Section A

Note : Answer the following questions in about three pages each.

1a) i) Mention the steps of Scientific Method and discuss its application to teaching and learning science at secondary level.
ii) Explain the basic process skills in science and its applications in learning science. (5 + 5)

[or]

b) i) Write the national goals of Science Education as envisaged in NPE (1986).
ii) Explain the revised taxonomy of Bloom and Anderson and its integration in Science Education. (4 + 6)

2 a) i) Explain the functions and importance of Science in school curriculum.
ii) Discuss the components in the development of Science programme at school level. (5 + 5)

[or]

b) i) Discuss the role of philosophy of experimentalism in teaching of science.
ii) Explain any one recent trend in science curriculum. (5 + 5)

3a) i) Explain the theory base of co-operative learning and explain Jig-saw method of co-operative learning.
ii) Discuss the characteristics and applications of different types of Computer Assisted Instruction (CAI) in learning science. (5 + 5)

[or]

b) i) Illustrate Meta Cognitive Learning Model of IDEAL in relation to teaching and learning of science.
ii) Discuss the role of e-resources and e-journals in teaching-learning of Science. (5 + 5)

4 a) i) Explain any two teaching strategies to meet the science needs of gifted children.
ii) Discuss the importance of reflective practice in professional development of a science teacher. (5 + 5)

[or]

b) i) Discuss the techniques and strategies to respond to the science need of children with handicapping.
ii) Explain the need and stages of classroom based research. (6 + 4)

Section B

Note : Answer any **Six** of the following questions in about a page each.(5 x 6=30)

5 a) Explain the social and personal perspective of Science Education.

b) Explain any two outcomes of Science Education with examples.

c) Write the international goals of Science Education with reference to child development goals.

d) Discuss the importance of integration of science with language.

e) Explain the characteristics of progressive curriculum and its need at secondary school level with respect to science.

f) Discuss the research trends in Science Education.

g) Describe the syntax of Inductive Thinking Model with an example.

h) Discuss the relative merits of 5E and 7E constructivist models in terms of teaching and learning science.

* * * * *

ST. ANN'S COLLEGE OF EDUCATION, MANGALURU.
(AUTONOMOUS)
M.Ed. Two Year Programme

Fourth Semester Test - November 2022

MES551: Theme Based Specialization Course - I
Pedagogy of Science

Time : 3 Hours
Date : 19-11-2022 Max. Marks : 70

Note : 1. There are two sections in Part I and Part II in the question paper. Both the sections are compulsory.

PART - I

Section A

Note : Answer the following questions in about three pages each.

1a) i) Explain the personal and social perspectives of science education.
ii) Describe the functional understanding of scientific skills and conceptual scheme. (5 + 5)

[or]

b) i) Enumerate the Science Technology and Society (STS) goals.
ii) Explain the application of process skills in science. (5 + 5)

2 a) i) Illustrate the styles of curriculum.
ii) Explain the trends in science curriculum development. (4 + 6)

[or]

b) i) Describe the characteristic of Nuffield science.
ii) Write a note on Futurism in science curriculum. (6 + 4)

3a) i) Explain the phases and application of mastery learning model.
ii) Give the theoretical base for guided instruction. (6 + 4)

[or]

b) i) Explain the syntax of Inductive Thinking Model.
ii) Write the applications of Meta Cognitive learning model. (4 + 6)

4 a) i) Explain the stages of reflective practice.
ii) Describe the stages of classroom based research. (5 + 5)

[or]

b) i) Analyse any 2 reviews of research done in innovative practices and scientific attitude.
ii) Write implications of science education researches to classroom practice. (5 + 5)

Section B

Note : Answer any **Six** of the following questions in about a page each.(5 x 6=30)

5 a) List any 2 philosophical basis of science.

b) Explain the goals related to NCF (2005).

c) List out the characteristics of Progressive Curriculum.

d) Illustrate the integration of science with social science and arts.

e) Explain the theory base of cooperative learning.

f) Explain the stages of Gagne's Nine Events Model.

g) Write a note on the relevance of blogs and podcasting.

h) Explain the significance of Science Education in Professional development.

* * * * *

ST ANN'S COLLEGE OF EDUCATION, MANGALURU
(AUTONOMOUS)
M.Ed. Two Year Programme

Fourth Semester Test - March 2025

MES551: Theme Based Specialization Course - I
Pedagogy of Science

Time : 3 Hours
Date : 06-03-2025 Max. Marks : 70

Note : There are two sections in the question paper. Both the sections are compulsory.

Section A

Note : Answer the following questions in about four to five pages each. (4x15=60)

1a) i) Explain the basic and integrated process skills and its application in classroom teaching.
ii) Discuss the functional understanding of conceptual scheme and scientific attitude. (8+7)

[or]

b) i) Describe the national goals of science education recommended by NPE (1986) and NCF (2005).
ii) Explain the perspectives of science education. (8+7)

2 a) i) Explain the functions of a science curriculum and the trends in the development of a science curriculum.
ii) Discuss the role of idealism and realism philosophies in improving the quality of science curriculum. (9+6)

[or]

b) i) Describe the characteristics of CHEM and NUFFIELD Sciences curricular projects.
ii) Illustrate the integration of science with language and social science. (9+6)

3a) i) Explain the steps of PQ4R metacognitive learning model with an example from science.
ii) Discuss the uses of CAI in the learning of science. (10+5)

[or]

b) i) Explain the steps of Autonomous Learner model with an illustration from science.
ii) Enumerate the characteristics of self-learning and individualized learning. (10+5)

4 a) i) Explain the need and stages of reflective practice.
ii) Discuss any two research reviews in the area of innovative practices in science teaching. (8+7)

[or]

b) i) Explain the techniques to teach children with handicapping in a science classroom.
ii) Discuss any three innovative and creative activities to teach science. (8+7)

Section B

Note : Answer any **Two** of the following questions in about a page each. (2x5=10)

5 a) Explain the styles of curriculum development in science.

b) Discuss the scope and relevance of e-journals and e-books in science education.

c) Elucidate any two teaching techniques to respond to the science needs of gifted children.

d) Explain revised Bloom's taxonomy of educational objectives with illustrations.

* * * * *