C–7537	Sub. Code 82415

B.Voc. DEGREE EXAMINATION, NOVEMBER 2022

First Semester

Foundry Technology

FOUNDRY TOOLING AND METHOD

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What is Padding?

2. Define gating ratio.

3. What is meant by chills?

4. How die casting is done?

5. What is meant by Open Riser?

6. How will you increase riser efficiency?

7. Write a note on Swirl gate.

8. Define Pattern.

9. List the materials of Chills.

10. Write a note on Directional Solidification.

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Discuss the types of Pattern plates.

Or

(b) Highlight the importance of color coding and pattern allowances.

12. (a) Write a short note on types of Die.

Or

(b) Discuss about Pressure Die-casting.

13. (a) Write about the classification of pattern making materials.

Or

(b) Discuss the gating practice for ferrous and nonferrous alloys.

14. (a) Write briefly about the functions of gating system.

Or

(b) List the methods to achieve directional solidification.

15. (a) Discuss about location of chills.

Or

(b) Highlight the importance of chills.

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Elaborate on Special design features for high pressure moulding machines.

Or

(b) Outline the design features of die.

17. (a) Explain about the types of Gates.

Or

(b) Elaborate on fluidity and its significance in casting.

18. (a) Explain about the riser efficiency, riser design and risering curves.

Or

(b) Elaborate on Principles and practicing in placing chills.

———————

C–7539	Sub. Code
	82436

B.Voc. DEGREE EXAMINATION, NOVEMBER 2022

Third Semester

Foundry Technology

HEAT TREATMENT TECHNOLOGY

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What is annealing?

2. Define Carburising.

3. Define Nit riding.

4. Write short note on Thermo Mechanical Treatment.

5. What is normalizing?

6. Define Casting.

7. What is Automation?

8. Define Age Hardening.

9. What is cast iron?

10. Write a note on grain size.

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Write short note on decomposition austenite.

Or

(b) Discuss about nucleation and growth of phases.

12. (a) Write the merits of Electron beam hardening.

Or

(b) Write briefly about laser hardening.

13. (a) Discuss about Heat treatment of non - ferrous metals.

Or

(b) Write short note on High Temperature carburising.

14. (a) Write briefly about the Heat Treatment of cast iron.

Or

(b) Write about Heat Treatment defects in castings and forgings.

15. (a) Discuss the merits of automation.

Or

(b) Write about computerization of Heat treating process.

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Elaborate on diffusion control and diffusion less transformation.

Or

(b) Explain about the determination of grain size and TTT, CCT curves.

17. (a) Explain the application of plasma in heat treating.

Or

(b) Explain the Heat Treatment of weldments and alloys.

18. (a) Explain the theory of age hardening.

Or

(b) Explain the Heat treatment defects in castings, weldments and their remedial measures.

———————

C–6295	Sub. Code
	82448

B.Voc. DEGREE EXAMINATION, APRIL 2022

Fourth Semester

Quality Assurance and Inspection Methods

FOUNDRY TECHNOLOGY

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** the questions.

1. Define Visual inspection

2. List out the few Inspection procedure

3. Point out the Quality circle

4. What is Total Quality Management?

5. State the advantage of Pyrometer

6. What is Radiation Pyrometer?

7. List out the different sand control tests

8. Point out the benefits of hot strength test

9. Define- Shop floor quality

10. What is Fluidity?

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Briefly explain about Pressure testing.

Or

(b) Give a short note on Chemical analysis.

12. (a) Describe about Sampling inspection.

Or

(b) Differentiate between normal distribution and desirability distribution.

13. (a) Briefly explain about Principles of Different test.

Or

(b) Give a short note on Infra red thermograph.

14. (a) Describe about Defect in casting.

Or

(b) Point out the defects occurring during fettling.

15. (a) Briefly explain about Casting Modification.

Or

(b) Write a short note on Friction stir processing.

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Explain in detail about different types of inspection and it is procedure.

Or

(b) Describe about usage of computers in quality assurance

17. (a) Enumerate the classification of various test.

Or

(b) Narrate about improper mold drying and core baking.

18. (a) Explain in detail about Statistical parameters for quality assurance.

Or

(b) Describe about defects caused molten metal

———————

C–7541	Sub. Code
	82455

B.Voc. DEGREE EXAMINATION, NOVEMBER 2022

Fifth Semester

Foundry Technology

MODERN CASTING PROCESS

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** the questions.

1. Define-Frozen mold.
2. List out the few process of Warm box.
3. Point out the process of intricate shapes.
4. What is Fabricate?
5. State the few applications of centrifugal casting.
6. What is superior surface finish?
7. List out steps in investment casting.
8. Point out the merits of centrifugal force.
9. Define- Plaster mold casting.
10. What is liquid metal?

Part B (5 × 5 = 25)

Answer **all** the questions.

11. (a) Briefly explain about cold box ABC.

Or

(b) Give a short note on Full mould.

12. (a) Describe about rapid production rate.

Or

(b) Differentiate between true centrifugal casting and semi centrifugal casting.

13. (a) Briefly explain about role of temperature in die casting.

Or

(b) Give a short note on cylindrical parts.

14. (a) Describe about few spinning equipments.

Or

(b) Point out the disadvantages of casting methods.

15. (a) Briefly explain about carbon di oxide molding.

Or

(b) Write a short note on few modern types of equipment used in die casting.

Part C (3 × 10 = 30)

Answer **all** the questions.

16. (a) Explain in detail about organic binder process.

Or

(b) Describe about importance of magnetic molding.

17. (a) Enumerate the few non-ferrous metals.

Or

(b) Narrate about combinations of casting and forging process.

18. (a) Explain in detail about Gravity die casting.

Or

(b) Describe about functions of bottom roller.

———————

C–7013	Sub. Code
	16/17/23/25/ 26/27/29

COMMON FOR ALL U.G DEGREE COURSES
EXAMINATION, NOVEMBER 2022

First/Second Semester

ENVIRONMENTAL STUDIES

(2019/2020 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Nonrenewable resources
2. Ecosystem
3. Food Chain of forest ecosystem.
4. Pandemic Emergencies.
5. Red Data Book
6. Hot spots
7. Climate Change
8. Deforestation
9. Biodiversity
10. Acid Rain

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Differentiate renewable and nonrenewable energy resources.

Or

(b) Write notes on structure and functions of grassland ecosystem.

12. (a) Write notes on Food Webs of Forest Ecosystem with suitable examples.

Or

(b) Write notes on Genetic, Species and Ecosystem Diversity.

13. (a) Write short notes on Food resources and its problems associated with them.

Or

(b) Write notes on land resources and problem associated with them.

14. (a) Write notes on thermal pollution.

Or

(b) Write notes on energy pyramids with suitable examples.

15. (a) Explore the threats to biodiversity.

Or

(b) Write note on man-made disaster with special reference to strike.

Part C (3 × 10 = 30)

Answer **all** the questions.

16. (a) Write an essay on multidisciplinary nature of environmental studies and about the need for public awareness on environment.

Or

(b) Write an essay on Water Resources and problem associated with over-utilization of various water resources.

17. (a) Write an essay on Biogeographical classification of India.

Or

(b) Write an essay on values of biodiversity.

18. (a) Write an essay on causes, effects and control measures of water pollution.

Or

(b) Enumerate various strategies in managing disasters caused due to natural calamities.

———————

C–5664	Sub. Code
	16/17/23/25/ 26/27/29

Common for All U.G. B.Sc./B.B.A. DEGREE EXAMINATION, APRIL 2022

First/Second Semester

ENVIRONMENTAL STUDIES

(2019/2020 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** the questions.

1. ZSI.

2. WII.

3. What is renewable energy?

4. Food web.

5. Pyramid of numbers in aquatic ecosystem.

6. Red data book.

7. List out any five Endemic species of India.

8. List out marine pollutants.

9. *Ex Situ* Conservation.

10. Enlist Option Values of Biodiversity.

Part B (5 × 5 = 25)

Answer **all** the questions.

11. (a) Write notes on definition, scope and importance of environmental studies.

Or

(b) Write notes on soil erosion and desertification.

12. (a) Write notes on energy flow in the ecosystem.

Or

(b) Write notes on threads to biodiversity.

13. (a) Write notes on Biodiversity at Global, National and Local levels.

Or

(b) Write notes on various strategies of conservation of Biodiversity.

14. (a) Write notes on ecological pyramids.

Or

(b) Write notes on air pollution.

15. (a) Write notes on noise pollution.

Or

(b) Write notes on effects and control measures of nuclear hazards.

Part C

(3 × 10 = 30)

Answer **all** questions.

16. (a) Write an essay on the multidisciplinary nature of Environmental Studies.

Or

(b) Write an essay on the following resources with special emphasis to how they are overexploited/utilized which in turn damage the environment, (i) Forest Resources and (ii) Food Resources.

17. (a) Write an essay on "India is a mega-diversity nation".

Or

(b) Write an essay on Biodiversity and their values.

18. (a) Write an essay on causes, effects and control measures of (i) Marine Pollution and (ii) Water Pollution.

Or

(b) Write an essay on concept, structure and function of ecosystem.

———————