F 2336

Reg. No.....

Name.....

Ph.D. COURSE WORK EXAMINATION, OCTOBER 2022

Course IV—RESEARCH AND PUBLICATION ETHICS

(2020 Admissions)

Time : Three Hours | Maximum : 50 Marks

Part A

Answer any **four** *questions from the following.*

Each question carries 5 *marks.*

1. Discuss duplicate and overlapping publications ?
2. How to avoid plagiarism in research ?
3. Define salami slicing ?
4. Differentiate-fabrication and falsification.
5. Explain Reference Management Tools ?
6. Discuss the impact of publication misconduct ?
7. How to calculate H-index ?
8. Explain the.types of scientific misconduct ?
9. Differentiate Meta ethics and normative ethics ?
10. What are Predatory publishers ?

(4 × 5 = 20 marks)

Part B

Answer any **two** *questions from the following.*

Each question carries 15 *marks.*

11. Explain research databases ?
12. Explain the practice of publication ethics and its implications ?
13. Elaborate the use of Plagiarism softwares like Turnitin, Urkund etc.
14. Define Publication misconduct, its types and problems that lead to unethical behaviour.

(2 × 15 = 30 marks)

F 2337′ (Pages : 2) Reg. No.....

Name.....

Ph.D. COURSE WORK EXAMINATION, OCTOBER 2022

Course I—RESEARCH METHODOLOGY

(II–Common to the Stream : Social Sciences, Management, Commerce, Law and Behavioural Sciences)

(2020 Admissions)

Time : Three Hours Maximum : 50 Marks

Part A

Answer any **ten** *of the following questions.*
Each question carries 4 *marks.*

1. What is Pragmatic paradigm ?
2. Distinguish between Historical and Exploratory research.
3. What is research problem ? Define the main issues which should receive the attention of the researcher in formulating the research problem.
4. What do you understand by Research Design ? Explain the factors which are affecting Research Design ?
5. Write the importance of hypothesis in research.
6. Briefly discuss the basic measurement of scaling techniques, with suitable examples.
7. What are the essentials of a good questionnaire ? What points should be taken into consideration while selecting the enumerators ?
8. Difference between parametric and non-parametric tests.
9. Write the different steps involved in writing report.
10. Describe the various uses of the 'Chi-square' test.
11. Write a short note on application of MS office in research.
12. Explain the significance of ethics in writing the research report.

(10 × 4 = 40 marks)

Turn over

Part B

Answer any **one** *of the following questions.*
The question carries 10 *marks.*

13. What are the steps involved to conduct literature review for research and explain each one briefly.

14. The following data gives the age (X) and Blood Pressure (Y) of 8 persons :

X	:	52	63	45	36	72	65	47	25
Y	:	62	53	51	25	79	43	60	33

Obtain the regression lines of X on Y and Y on X and hence find the expected B.P of a person having 50 years old.

(1 × 10 = 10 marks)

F 2338/

Reg. No.....

Name.....

Ph.D. COURSE WORK EXAMINATION, OCTOBER 2022

Course I—RESEARCH METHODOLOGY

(III—Common to the Stream : Languages)

[2020 Admissions]

Time : Three Hours Maximum : 50 Marks

Part A

Answer any **ten** *of the following questions.*

Each question carries 4 *marks.*

1. Define and describe the Pragmatic paradigm in research.
2. What is epistemology ? Explain its place in language research.
3. What are the pre requisites of research ? Explain.
4. Bring out the significance of comparative and historical methods for language research.
5. In what way newspaper articles can be used as a material for research ? Explain.
6. Write a note on secondary sources of research.
7. What are the major principles of writing drafts ?
8. Discuss the role of language in thesis writing.
9. How does the researcher compile the working bibliography ?
10. Differentiate between literary criticism and literary research.
11. Briefly explain the importance of E-journal and E-Library in research.
12. Write a note on the contributions of early writers in research.

(10 × 4 = 40 marks)

Part B

Answer any **one** *question.*

The question carries 10 *marks.*

13. What is a hypothesis ? Describe the steps in the formulation of a hypothesis.
14. Write a detailed note on the steps involved in the preparation of research proposal.

(1 × 10 = 10 marks)

F 2339

Reg. No.....

Name.....

Ph.D. COURSE WORK EXAMINATION, OCTOBER 2022

Course I—RESEARCH METHODOLOGY

(I—Common to the Stream : Science, Technology and Applied Sciences and Engineering Technology)

[2020 Admissions]

Time : Three Hours | Maximum : 50 Marks

Part A

Answer any **ten** *of the following questions.*
Each question carries 4 *marks.*

1. Discuss in brief about the objectives of research.
2. Write a note on research method with respect to Scientific method *vs* Arbitrary Method.
3. What are the points to be considered while selecting a research problem ? Explain the process of problem formulation.
4. Summarize the literature review functions in research work and state the way in which it can help research.
5. What is correlation ? Explain its Characteristics and applications.
6. Explain different sources of Secondary data for research. What are the precautions to be taken while using secondary data ?
7. Discuss the types of hypotheses. Narrate the steps involved in testing of hypothesis.
8. Explain what cautions needs to be exercised in interpretation of data.
9. Differentiate between oral and poster presentation.
10. Explain, how the Impact factor of a journal is calculated.
11. Give the importance of IAEC in the field of biological research.
12. Write a short note on application of MS office in research.

(10 × 4 = 40 marks)

Part B

Answer any **one** *question from the following.*
The question carries 10 *marks.*

13. What is plagiarism ? Differentiate it from self-plagiarism. Name any two tools used to check it. State the basic principle behind these tools.
14. Explain in detail the various methods of collecting data.

(10 × 1 = 10 marks)

F 2340 (Pages : 2) Reg. No.....

Name.....

Ph.D. COURSE WORK EXAMINATION IN ARABIC, OCTOBER 2022

Course II—THEORY AND CONCEPT—ARABIC

(2020 Admissions)

Time : Three Hours Maximum : 50 Marks

Answers may be written **either** *in Arabic* **or** *in English.*

Part A

Answer any **ten** *questions from the following.*
Each question carries 4 marks.

١) ـ أثر القرآن الكريم في اللغة العربية

2). مساهمة حركة أبولو في الشعر المصري

3). خصائص الشعر العربي المهجري

4. الأغراض المستجدة في الشعر العباسي

5. المسرحية الشعرية عند أحمد شوقي

6. أبو نواس شاعرا عباسيا

7. المسرحيات الذهنية عند توفيق الحكيم

8. المنهج النقدي لطه حسين

Turn over

٩ـ المقامات وخصائصها الفنية.

١٠ـ بحور الشعر العربي الخليل بن أحمد.

11). الموشحات والأزجال.

12). عناصر الخط الديواني.

(10 × 4 = 40 marks)

Part B

Answer any **one** *question from the following questions.*
The question carries 10 *marks.*

13). تطور المسرحية في بلاد العرب

14). النقد الأدبي وعناصر الأدب.

(1 × 10 = 10 marks)

F 2341

Reg. No.....

Name.....

Ph.D. COURSE WORK EXAMINATION IN BIOSCIENCE/PHARMACY/ BIOCHEMISTRY/MICROBIOLOGY/BIOTECHNOLOGY, OCTOBER 2022

Course II—THEORY AND CONCEPT–BIOSCIENCES

(2020 Admissions)

Time : Three Hours

Maximum : 50 Marks

Part A

Answer any **ten** *questions.*
Each question carries 4 *marks.*

1. Explain the significance of NMR in Biological Research.
2. Give the significance of Direct and Indirect ELISA.
3. Explain the Bragg's Law and X-Ray diffraction.
4. What is Sterilisation ? Write a note on moisture heat sterilisation.
5. Classify the antioxidants with examples.
6. What are the different types of Ion exchange resigns employed in ion exchange chromatography.
7. Discuss agglutination and explain direct agglutination test.
8. Define Immuno fluorescence. What are the different types and its advantages ?
9. What is the differences between IR and FTIR write a note on FTIR.
10. Explain the materials used in Gel chromatography.
11. What is DNA sequencing ? Explain.
12. Define and explain Henderson Hasselbalch equation.

(10 × 4 = 40 marks)

Part B

Answer any **one** *of the following questions.*
The question carries 10 *marks.*

13. What is Centrifugal force and relative Centrifugal force give its applications in Bio chemical research ?
14. Discuss the various stages in the biological analysis of drinking water. Specify the experimental strategy of each stage.

(1 × 10 = 10 marks)

F 2342

Reg. No.....

Name.....

Ph.D. COURSE WORK EXAMINATION IN BOTANY, OCTOBER 2022

Course II—THEORY AND CONCEPT–BOTANY

(2020 Admissions)

Time : Three Hours | Maximum : 50 Marks

Part A

Answer any **ten** *of the following questions.*
Each question carries 4 *marks.*

1. Briefly describe density gradient centrifugation and its applications.
2. Explain the importance iso-electric point in protein purification.
3. What is the role of phytolexins in plants ?
4. Write short note on FTIR.
5. Explain the protocol of chloroplast and mitochondrial genome isolation.
6. Explain the principle of NMR spectroscopy.
7. Differentiate between light and electron microscopes.
8. How radioisotopes helps to elucidate different biosynthetic pathways ?
9. Explain different antifungal and antibacterial tests of plant sample.
10. Illustrate the technique of anther culture.
11. Write a short note on transgenic animals and CPCSEA guidelines.
12. Explain the principle of gel electrophoresis and its applications.

(10 × 4 = 40 marks)

Part B

Answer any **one** *of the following questions.*
The question carries 10 *marks.*

13. Explain different types of chromatography and its applications.
14. Illustrate different methods of DNA sequencing.

(1 × 10 = 10 marks)

F 2343 (Pages : 2) Reg. No.....

Name.....

Ph.D. COURSE WORK EXAMINATION IN CHEMISTRY OCTOBER 2022

Course II—THEORY AND CONCEPT–CHEMISTRY

(2020 Admissions)

Time : Three Hours Maximum : 50 Marks

Part A

Answer any **ten** *of the following questions.*
Each question carries 4 *marks.*

1 a) Write the important condition for a molecule to be IR active.

b) Why KBr is used for recording of IR spectra ?

c) Write one application of IR spectroscopy.

2. a) Mention the similarities and dissimilarities between ESR and NMR spectroscopy.

b) Mention one practical application of NMR and ESR spectroscopy.

3. a) Why ICP is considered a better choice than AAS ?

b) Mention one difference between ICP and AAS.

4. a) Why do we perform Thermo Gravimetric Analysis (TGA) and what information does TGA provide ?

b) Which kind of gases is used TGA ?

5. a) Write two difference between TLC and Column Chromatography.

b) Explain how the size of silica mesh can affect the separation of organic components during column chromatography.

c) Which chromatographic technique you will choose for identification and separation of organic components like amino acids from their mixture.

6. How does dielectric spectroscopy work ? Also mention some important applications of dielectric spectroscopy.

7. a) Why is the study of viscoelasticity important for the application in material science division ?

b) What are experimental tests that could be used to characterize a material's viscoelastic behavior ?

Turn over

8. a) What is a rotational rheometer ?

   b) Mention some application of rheometer.

9. What are optical properties of materials ? How do you measure optical properties of materials ?

10. Mention the differences between viscometer and rheometer. Write one application of viscometer and rheometer.

11. a) Explain how different kinds of hydrogen bonding can be interpreted from IR spectroscopy.

    b) Explain how metal-ligand back donation can play key role in prediction of the CO IR stretching frequency in metal carbonyl compounds.

12. a) Write the principle of ion exchange chromatographic technique.

    b) Also mention the applications of ion exchange chromatographic technique.

(10 × 4 = 40 marks)

Part B

Answer any **one** *of the following questions.*
The question carries 10 marks.

13. a) Match the following compound with appropriate IR stretching frequencies :

1	Cyclohexanone	(a)	1780 cm^{-1}.
2	Gyclobutanone	(b)	1740 cm^{-1}.
3	Cyclohexenone	(c)	1700 cm^{-1}.
4	Gyelopentanone	(d)	1680 cm^{-1}.

    b) In the 60 MHz 1H-NMR of acetone the signal for methyl proton appears at 122.4 Hz down field to TMS. Determine the chemical shift of the signal in ppm. What should be the resonance frequency for the same signal in 300 MHz instrument ?

14. a) Explain with a suitable technique by which elemental composition and particle size of material can be determined.

    b) How does ion exchange method can remove the hardness of water ?

    c) Mention the name of one technique by which stability of material can be predicted.

    d) Discuss the application of mass spectroscopy.

    e) Write one application of HPLC and GC.

(1 × 10 = 10 marks)

F 2344

Reg. No.....

Name.....

Ph.D. COURSE WORK EXAMINATION IN COMMERCE
OCTOBER 2022

Course II-THEORY AND CONCEPT—COMMERCE

(2020 Admissions)

Time : Three Hours | Maximum : 50 Marks

Part A

Answer any **ten** *of the following questions.*
Each question carries 4 *marks.*

1. What is the impact of globalization on financial services ?
2. Write a note on Trade Liberalisation.
3. Differentiate between market segmentation and marketing targeting.
4. Write a note on Recent Developments in Indian Financial system.
5. What is risk management ? What are the ways to manage risks ?
6. What do you understand by the term Marketing Mix ? Explain with an example.
7. What is Supply Chain Management in business ? State its objectives.
8. What are marketing concepts ? Discuss in detail with the help of examples.
9. What are the factors determining the dividend policy of a firm ? Explain.
10. Differentiate between personal management and human resource management.
11. Explain the role of psychology in HRD and Management.
12. Discuss the measures to improve employee's morale.

(10 × 4 = 40 marks)

Part B

Answer any **one** *question.*
The question carries 10 *marks.*

13. Explain the need of market research and explain the types of marketing research in detail.
14. What do you understand by the term Capital Budgeting ? Explain some of the methods Capital Budgeting.

(1 × 10 = 10 marks)

F 2345/

Reg. No.....

Name.....

Ph.D. COURSE WORK EXAMINATION IN ECONOMICS, OCTOBER 2022

Course II—THEORY AND CONCEPT–ECONOMICS

(2020 Admissions)

Time : Three Hours | Maximum : 50 Marks

Part A

Answer any **ten** *of the following questions.*
Each question carries 4 *marks.*

1. Write a note on production and exchange in a Walrasian economy.
2. Discuss the policy implications of post-Keynesian views.
3. Explain Michael Spence's idea of signaling.
4. What do you mean by Hidden Action principle ?
5. Elucidate some applications of Chaos theory in Economics.
6. Explain the relevance of port folio theory and capital markets.
7. Discuss the role of disequilibrium in Economics.
8. Explain negative externality.
9. What is financial inclusion ?
10. Write a note on classical dichotomy.
11. Write a note on New Institutional Economics.
12. Explain Endogenous Growth theory.

(10 × 4 = 40 marks)

Part B

Answer any **one** *question from the following.*
The question carries 10 *marks.*

13. Discuss Paul Krugman's contributions to International Trade theory.
14. Discuss the steps taken by Government of India to boost the infrastructure sector.

(1 × 10 = 10 marks)

F 2346

Reg. No.....

Name.....

Ph.D. COURSE WORK EXAMINATION IN ELECTRONICS, OCTOBER 2022

Course II—THEORY AND CONCEPT–ELECTRONICS

(2020 Admissions)

Time : Three Hours

Maximum : 50 Marks

Part I

Answer any **ten** *questions of the following.*
Each question carries 4 *marks.*

1. Calculate the c/a ratio for an ideally close packed HCP crystal.
2. Sketch the variation of Gibbs free energy G with the number of point imperfections '*n*'.
3. Distinguish between thermoplasts and thermosets.
4. Give an account of Ferroelectric materials.
5. With the help of a neat diagram explain the working of a Flash-type A/D Converter.
6. What is the need of A/D and D/A converters in controlling a process ?
7. Explain the concept of ISDN with a proper sketch.
8. What are the different types of Satellite Orbits ? Explain.
9. Explain the basic principle and operation of FDMA.
10. Explain Linear Time Invariant (LTI) Systems.
11. What are the applications of digital signal processing ?
12. Describe the concept of ion implantation in VLSI technology.

(10 × 4 = 40 marks)

Part II

Answer any **one** *question of the following.*
The question carries 10 *marks.*

13. Briefly describe the following discrete time signals :
    (i) Energy and power signals ; and
    (ii) Periodic and aperiodic signals.
14. (i) Briefly discuss Type I and Type II super conductors.
    (ii) Write a short note on screw dislocation.

(1 × 10 = 10 marks)

F 2347/

Reg. No.....

Name.....

Ph.D. COURSE WORK EXAMINATION IN ENGLISH
OCTOBER 2022

Course II—Theory and Concept—ENGLISH

(2020 Admissions)

Time : Three Hours | Maximum : 50 Marks

Part A

Answer any **ten** *of the following questions.*
Each question carries 4 *marks.*

1. Equation of Indian tradition with Hinduism and Hinduism with Brahmanism.
2. The ways in which culture can serve as an ideology of resistance.
3. Colonialism as a vehicle that brings modern values and institutions to the colonized world.
4. How do Adorno and Horkheimer contest Kant and the positivity of Enlightement ?
5. The consequences of the failure of an alternate modernity according to Panikkar.
6. Susan Soutag's prescribed essay as an attack on the mimetic theory of art and on the cult of interpretation that it has spawned.
7. Modernity and History according to Eagleton.
8. Author function and its characteristics.
9. Nation as an imagined community.
10. How does Bhaba attempt to rename post modernism from a post colonial perspective ?
11. Resistance, Subaltern and gendered subjectivity.
12. Spivak's key ideas in Feminism and cultural theory.

(10 × 4 = 40 marks)

Part B

Answer any **one** *of the following.*
The question carries 10 *marks.*

13. Examine in detail New criticisms relation to Modernism.
14. Globality has supplanted modernity–Examine in detail the changing approaches to literary studies in this new context.

(1 × 10 = 10 marks)

F 2348 (Pages : 2) Name.....

Reg. No.....

Ph.D. COURSE WORK EXAMINATION IN HINDI, OCTOBER 2022

Course II—THEORY AND CONCEPT—HINDI

(2020 Admissions)

Time : Three Hours Maximum : 50 Marks

खंड 'क'

किन्हीं **दस** प्रश्नों के उत्तर लिखें ।

Answer any **ten** *of the following questions.*
Each question carries 4 *marks.*

1 उत्तराधुनिकता और मार्क्सवाद ।

2 भूमंडलीकरण की चुनौतियाँ ।

3 विनिर्मितिवाद ।

4 अस्तित्ववाद ।

5 उत्तराधुनिक सिद्धांतों पर प्रकाश डालिए ।

6 हरित भाषा वैज्ञानिक विमर्श पर विचार करें ।

7 मार्क्सवादी विचारधारा के परिप्रेक्ष्य में यशपाल की कहानियों की विवेचना कीजिए ।

8 समकालीन हिंदी कहानी में दलित चेतना ।

9 वृद्ध विमर्श के सन्दर्भ में 'गिलिगडु' उपन्यास का मूल्यांकन कीजिए ।

10 मनोहर श्याम जोशी के उपन्यास को उत्तराधुनिकता का दस्तावेज़ कहा जाता है—कुरु कुरु स्वाहा के आधार पर उक्त कथन का समर्थन कीजिए ।

11 समकालीन हिंदी उपन्यास में गाँधी चिंतन ।

12 'चॉल् गोमरा का स्कूटर ' कहानी में बाजारवादी संस्कार का पूरा प्रभाव देखने को मिलता है—उक्त कथन की आलोचना कीजिए ।

खंड 'ख'

किसी **एक** प्रश्न के उत्तर निबंध रूप में लिखें ।

Answer any **one** *of the following question.*
The question carries 10 *marks.*

13 वैश्वीकरण का प्रभाव एवं प्रतिरोध समकालीन हिंदी उपन्यास में किस तरह प्रकट हुआ है—विश्लेषण कीजिए ।

14. आधुनिकता, उत्तराधुनिकता तथा सांस्कृतिक संकट पर विचार करें ।

(1 × 10 = 10 marks)

F 2349′

Reg. No.....

Name.....

Ph.D. COURSE WORK EXAMINATION IN HISTORY, OCTOBER 2022

Course II—THEORY AND CONCEPT–HISTORY

(2020 Admissions)

Time : Three Hours | Maximum : 50 Marks

Part A

Ansswer any **ten** *of the following questions.*
Each question carries 4 *marks.*

1. History is an unending search to find out the truth. Discuss.
2. Assess the significance of Environmental history as an emerging area of study.
3. Estimate the scope and relevance of oral history as a corroborative source.
4. Examine the role of binary opposition in deciding the theory of structuralism.
5. Explain the views of D.D. Kosambi on democratic socialism and mixed economy.
6. Review the works of R.S. Sharma with particular reference to Indian Feudalism.
7. Who were the prominent persons of the 3rd generation of Annales school ?
8. How did Geo-structuralism promote the study of human geography ?
9. Trace the importance of 'Modern India' authored by Sumit Sarkar.
10. Sketch the contributions of Partha Chatterjee.
11. How did the sub-altern studies become important ?
12. Did South India contribute anything to the development of trends in historical research ?

(10 × 4 = 40 marks)

Part B

Answer any **one** *question.*
The question carries 10 *marks.*

13. Analyse the historical perspectives on feminist historiography.
14. How did the idea of total history assume greater importance as a latest trend in historical research ?

(1 × 10 = 10 marks)

F 2350

Reg. No.....

Name.....

Ph.D. COURSE WORK EXAMINATION IN HOME SCIENCE, OCTOBER 2022

Course II—THEORY AND CONCEPT–HOME SCIENCE

(2020 Admissions)

Time : Three Hours | Maximum : 50 Marks

Part A

Answer any **ten** *of the following questions.*
Each question carries 4 *marks.*

1. Explain in brief about basic five food groups.
2. Write a note on principles and factors affecting meal planning.
3. Discuss the qualities of a good leader.
4. Enumerate the use of information technology in communication.
5. Write a note on principles of art and design for interior designing.
6. Discuss about the selection of furniture and its arrangement in the house.
7. Enumerate the significant properties of dietary fibre which lends to the physiological/metabolic role of fibre in our body.
8. Enumerate the guidelines you would follow for planning a balanced diet for the elderly.
9. Write a note on the factors influencing child development.
10. Explain in brief about nano fabrics.
11. Discuss the objectives of ECCE centres.
12. Explain the hazards situation during late childhood.

(10 × 4 = 40 marks)

Part B

Answer any **one** *questions.*
The question carries 10 *marks.*

13. Explain the role of heredity and environment for human growth.
14. Define decision-making. Give the methods and steps involved in decision making.

(1 × 10 = 10 marks)

F 2351

Reg. No.....

Name.....

Ph.D. COURSE WORK EXAMINATION IN ISLAMIC HISTORY OCTOBER 2022

Course II-THEORY AND CONCEPT—ISLAMIC HISTORY

(2020 Admissions)

Time : Three Hours

Maximum : 50 Marks

Part A

Answer any **ten** *of the following questions.*
Each question carries 4 *marks.*

1. Explicate the recent prospects of women's history writing.
2. Assess Islamic Modernism as a response to western modernization.
3. Evaluate the significance of diplomatic history and international relations in a historical study.
4. Elaborate the intellectual, cultural and religious dimensions of Islamic History.
5. Illuminate the contribution of Ibn Rushd in Islamic Scholasticism.
6. Intricate Al Ghazali"s thought on ethics of living in a society.
7. Assess the influence of Romantic relativism in the culture and development of a society.
8. Explicate the prominence of "Tahfatul Mujahideen" in the history of Kerala Historiography.
9. Evaluate the role of neglect of religious teachings as the reason for the decline of western civilizations, as enunciated by Toynbee.
10. Intricate the political ideology of Ibn Taymiyyah with special emphasis on his concept of Wilaya.
11. Elaborate the relevance of Malabar Rebellion as an integrated nationalist movement.
12. Elaborate the syncretistic tendencies emerged in the medieval architecture.

(10 × 4 = 40 marks)

Part B

Answer any **one** *question.*
The question carries 10 *marks.*

13. Compare and contrast the different branches in historical methodology by assessing its peculiar features.
14. Elaborate the evolution of religio-political concepts in Islam by pointing out the classical scholars like Al Farabi, Al Mawardi and Al Ghazzali and Ibn Taymiyyah.

(1 × 10 = 10 marks)

F 2352/

Reg. No.....

Name.....

Ph.D. COURSE WORK EXAMINATION IN LAW, OCTOBER 2022

Course II—THEORY AND CONCEPT–LAW

(2020 Admissions)

Time : Three Hours | Maximum : 50 Marks

Part A

Answer any **ten** *of the following questions.*
Each question carries 4 *marks.*

1. Explain the doctrine of judicial self-restraint.
2. What is reasoning by analogy ?
3. Write a note on Wambaugh's test.
4. Decision per incuriam.
5. "A case is only an authority for what it actually decides". Comment.
6. Compare the role of judges in Civil law and common law legal systems.
7. Describe the scope of Article 142 of the Constitution.
8. Examine the relevance of declaratory theory of precedents in the modern judicial system.
9. Do you agree that there are implied limitations on amending power of the constitution ?
10. Critically examine the range and limits of judicial discretion.
11. Life of law is not logic, but experience. Elucidate.
12. Explain judicial process as an instrument of social ordering.

(10 × 4 = 40 marks)

Part B

Answer any **one** *of the following questions.*
The question carries 10 marks.

13. "The legislature often fails to keep pace with the changing needs and values nor is it realistic to expect that it will have provided for all contingencies and eventualities. It is therefore, not only necessary but obligatory on the courts to step in to fill the lacuna"-Comment.
14. "Method of sociology is the arbiter between the other methods of decision making"-Explain.

(1 × 10 = 10 marks)

F 2353 (Pages : 2) Reg. No.....

Name.....

Ph.D. COURSE WORK EXAMINATION IN MALAYALAM, OCTOBER 2022

Course II–Theory and Concept—MALAYALAM

(2020 Admissions)

Time : Three Hours Maximum : 50 Marks

Part A

പത്ത് ചോദ്യത്തിന് രണ്ടു പുറത്തിൽ കവിയാതെ ഉത്തരമെഴുതുക.

ഓരോ ചോദ്യത്തിനും 4 മാർക്കു വീതം.

1. രചനാന്തരണ പ്രജനകവ്യാകരണം എന്തെന്ന് വിവരിക്കുക.
2. വക്രോക്തിയും ശൈലീവിജ്ഞാനീയവും താരതമ്യം ചെയ്യുക.
3. തിണ സിദ്ധാന്തത്തിൽ നിന്നും ഉരുത്തിരിച്ചെടുക്കാവുന്ന സൗന്ദര്യ ശാസ്ത്ര സങ്കല്പങ്ങൾ ഏതെല്ലാം ? വിശദമാക്കുക.
4. "സംസ്കൃതത്തിന്റെയും ദ്രാവിഡത്തിന്റെയും ചൈതന്യങ്ങളെ സമജ്ഞസമായി സമന്വയിപ്പിച്ചതാണ് ആശാന്റെ ശൈലീമഹിമ"—ഉപപാദിക്കുക.
5. കാവിലെപ്പാട്ട്, പൂതപ്പാട്ട് എന്നീ കവിതകളിലെ പുരാവൃത്ത സന്നിവേശം താരതമ്യം ചെയ്യുക.
6. ചലച്ചിത്രഗാനങ്ങൾ മലയാള കാവ്യപാരമ്പര്യത്തിന്റെ ഭാഗമാകുന്നത് എങ്ങനെയെല്ലാം ?
7. മലയാളത്തിലെ ആദ്യകാല കഥകളെ 'നേരമ്പോക്കു കഥകൾ' എന്നു വിളിക്കാമോ ? സ്വമതം വ്യക്തമാക്കുക.
8. 'അവനവൻ കടമ്പ" മുൻനിർത്തി തനതു നാടകത്തിന്റെ സാഹിത്യപാഠവും രംഗപാഠവും പരിശോധിക്കുക.
9. അനുകല്പനം (Adaptation) എന്തെന്ന് രചനാമാതൃകകളുടെ അടിസ്ഥാനത്തിൽ വിശദമാക്കുക.
10. നവചരിത്രവാദം എന്നാലെന്ത് ? സാഹിത്യത്തിന്റെ പുനർവായനയിൽ അതിനുള്ള സ്ഥാനമെന്ത് ?
11. സംസ്കാര പഠനത്തിന്റെ പശ്ചാത്തലത്തിൽ ജനപ്രിയ സാഹിത്യ പഠനത്തിനുള്ള പ്രസക്തി പരിശോധിക്കുക.
12. വർത്തമാനകാല കവിതയുടെ പ്രകാശനം, പ്രചാരണം, വളർച്ച തുടങ്ങിയവയിൽ ഇന്റർനെറ്റ് അധിഷ്ഠിത മാധ്യമങ്ങൾ വഹിക്കുന്ന പങ്കെന്ത് ?

(10 × 4 = 40 marks)

Turn over

Part B

ഒരു ചോദ്യത്തിന് നാലു പുറത്തിൽ കവിയാതെ ഉത്തരമെഴുതുക.

ഈ ചോദ്യത്തിന് 10 മാർക്ക്.

13. ആധുനികതാവാദ വിമർശനത്തിന്റെ മുഖ്യധാര മലയാള സാഹിത്യ വിമർശനത്തെ അരാഷ്ട്രീയവത്കരിച്ചു എന്നു പറയാമോ ? കെ.പി. അപ്പൻ, നരേന്ദ്രപ്രസാദ്, വി. രാജകൃഷ്ണൻ എന്നിവരുടെ വിമർശനരീതികൾ മുൻനിർത്തി പരിശോധിക്കുക.

14. നവമാധ്യമങ്ങളുടെ സംസ്ക്കാരനിർമ്മിതി സമകാലിക സാഹിത്യത്തിൽ എങ്ങനെയെല്ലാം പ്രതിഫലിക്കുന്നു —വിവരിക്കുക.

(1 × 10 = 10 marks)

F 2354 (Pages : 2) Reg. No.....

Name.....

Ph.D. COURSE WORK EXAMINATION IN MANAGEMENT STUDIES OCTOBER 2022

Course II—THEORY AND CONCEPT–MANAGEMENT STUDIES

(2020 Admissions)

Time : Three Hours Maximum : 50 Marks

Section A

Answer any **ten** *of the following questions.*
Each question carries 4 *marks.*

1. Why must managers have an entrepreneurial mind-set ?
2. Differentiate between programmed and non-programmed decisions.
3. Briefly describe the barriers to communication encountered at the organizational level.
4. Identify and define three reasons for stock splits.
5. What is the primary goal of a financial manager ? When you see firms like Enron imploding from the behaviour of executive management, how can you justify your definition.
6. Why is financial leverage attractive ?
7. What is social loafing ? How can the management undermine the tendency of social loafing ?
8. Why are employee relations important to a firm ? How do communication channels affect employee relations ? What types of programs are available to organizations that want to facilitate employee communications ?
9. Compare and contrast push and pull communications strategies.
10. List four of the six dominant factors in locating manufacturing facilities, as discussed in the book.
11. Define each of the following capacity strategies : expansionist, wait-and-see, and follow-the-leader.
12. What are some of the approaches used to achieve the high quality levels associated with lean systems ?

(10 × 4 = 40 marks)

Turn over

Section B

Answer any **one** *of the following questions.*
The question carries 10 *marks.*

13. What is an organization's employer image and why is it relevant to staffing ?

14. Many observers believe that the largely unregulated nature of global banking activity leaves the world financial system vulnerable to bank failure on a massive scale. Is this a real threat ? If so, what measures have Governments taken to reduce it ?

(1 × 10 = 10 marks)

F 2355 (Pages : 2) Reg. No.....

Name.....

Ph.D. COURSE WORK EXAMINATION IN MATHEMATICS
OCTOBER 2022

Course II-THEORY AND CONCEPT—MATHEMATICS

(2020 Admissions)

Time : Three Hours Maximum : 50 Marks

Part A

Answer any **ten** *of the following questions.*
Each question carries 4 marks.

1. Prove that a subspace of a complete metric is complete iff it is closed.
2. State and prove Cantor's theorem.
3. Prove that every metric space is a topological space.
4. Show that $(3x + 1)$ is Riemann integrable on $[1, 2]$.
5. Show that $\{\tan^{-1} nx\}$ is uniformly convergent on $[a, b]$.
6. Prove that every non-constant complex polynomial has a root.
7. Prove that, if f is a homomorphism of a group G into a group G^1 with Kernel K then K is a normal subgroup.
8. Find the image of the half plane $y > C_2$ where $C_2 > 0$, under the transformation $w = 1/2$.
9. Let $T : R^4 \to R^3$ be a linear transformation defined by

   $T(x, y, z, t) = (x - y + z + t, 2x - 2y + 3z + 4t, 3x - 3y + 4z + 5t)$.

   Then find a basis and dimension of image of T and Kernel of T.
10. Find the general solution of the partial differential equation $xzp + yzq = xy$.
11. Discuss Charpit's method for solution of non-linear partial differential equation of order one.
12. Find the general solution of $y'' - y' - 2y = 4x^2$.

(10 × 4 = 40 marks)

Turn over

Part B

Answer any **one** *question.*
The question carries 10 *marks.*

13. If E_1 and E_2 are measurable sets, then prove that $E_1 - E_2$ is measurable. Also if $E_1 \supseteq E_2$ and $m(E_2) < \alpha$ then prove that $m(E_1 - E_2) = m(E_1) - m(E_2)$.

14. Let $f : X \longrightarrow [0, \infty]$ be measurable. Then show that there exist simple measurable functions s_n on X such that

    (i) $0 \leq s_1 \leq s_2 \leq \ldots \leq f$

    (ii) $s_n(x) \to f(x)$ as $n \to \infty$, for every $x \in X$.

(1 × 10 = 10 marks)

F 2356

Reg. No.....

Name.....

Ph.D. COURSE WORK EXAMINATION IN PHILOSOPHY, OCTOBER 2022

Course II—THEORY AND CONCEPT–PHILOSOPHY

(2020 Admissions)

Time : Three Hours | Maximum : 50 Marks

Part A

Answer any **ten** *questions.*
Each question carries 4 *marks.*

1. Define Syllogism and bring out its general rules.
2. Distinguish between deductive and inductive logic.
3. Discuss the problem of one and many.
4. Distinguish between being and becoming.
5. Write a note on the postulates of ethics.
6. Outline the salient aspects of deontological theory.
7. Distinguish between cognitivism and non-cognitivism.
8. Write a note on Spinoza's dualism.
9. Examine Husserl's conception of intentionality.
10. Bring out Levina's criticism of ontology.
11. Explain Wittgenstein's use theory of meaning.
12. Discuss the problem of meaning following Alfred Tarski.

(10 × 4 = 40 marks)

Part B

Answer any **one** *question.*
The question carries 10 *marks.*

13. Give an exposition of the ethical issues involved in abortion.
14. State and explain the meaning and key concepts in logical positivism.

(1 × 10 = 10 marks)

F 2357/

Reg. No.....

Name.....

Ph.D. COURSE WORK EXAMINATION IN PHYSICS, OCTOBER 2022

Course II-THEORY AND CONCEPT—PHYSICS

(2020 Admissions)

Time : Three Hours | Maximum : 50 Marks

Part A

Answer any **ten** *of the following questions.*
Each question carries 4 *marks.*

1. State and prove Bloch's theorem.
2. Explain the phenomenon of red shift.
3. Explain the mechanism of random movement of holes in a semiconductor crystal.
4. Discuss the charge conjugation of Klein-Gordon equation.
5. Give an account of second harmonic generation of non-linear optics.
6. Write a short note on electromagnetic field tensor.
7. What is the Hall effect ? Obtain the formula to calculate the hall coefficient ?
8. What are space-time diagrams ? Explain.
9. Give the significance of covariance of Dirac equation.
10. Explain Noether's theorem.
11. Give the fundamental equations of cosmology.
12. Explain the propagation of electromagnetic wave through nonlinear media.

(10 × 4 = 40 marks)

Part B

Answer any **one** *question.*
The question carries 10 *marks.*

13. Derive an expression to show the effect of temperature on Fermi Dirac distribution function.
14. Explain how Klein-Gordon equation leads to positive and negative probability density values.

(1 × 10 = 10 marks)

F 2358

Reg. No.....

Name.....

Ph.D COURSE WORK EXAMINATION IN POLITICAL SCIENCE OCTOBER 2022

Course II–THEORY AND CONCEPT–POLITICAL SCIENCE

(2020 Admissions)

Time : Three Hours

Maximum : 50 Marks

Part A

Answer any **ten** *of the following questions.*
Each question carries 4 *marks.*

1. Describe some of the Philosophical Foundations of Knowledge.
2. Explain the theory on Historical Materialism in the epistemological foundations of Political Science.
3. Illustrate some of the postulates of Positivism.
4. Idealism is one of the Philosophical Foundations of the state and Politics. Discuss.
5. Explain the Marxist ideas of the state and Politics.
6. How is the concept of Liberalism applied as one of the Sociological and Philosophical Foundations of State and Politics.
7. What are the Post-modernist perspectives of the state ?
8. Describe the elements of Political Economy of Global Governance.
9. Illustrate any one theory of Globalisation.
10. Describe the concept of Development and under development.
11. Explain the concept of Secularism as the contemporary perspective on Politics and Society.
12. Describe how New Social Movements shape the state and society.

(10 × 4 = 40 marks)

Part B

Answer any **one** *of the following questions.*
The question carries 10 *marks.*

13. Compare and contrast liberalism theory with Marxism theory of state and Politics.
14. Discuss the role of Civil Society in the Contemporary Perspective of the state politics.

(1 × 10 = 10 marks)

F 2359 (Pages : 2) Name.....

Reg. No.....

Ph.D. COURSE WORK EXAMINATION IN SANSKRIT, OCTOBER 2022

Course II—THEORY AND CONCEPT—SANSKRIT

(2020 Admissions)

Time : Three Hours Maximum : 50 Marks

Answers may be written **either** *in Sanskrit* **or** *in English.*
In writing Sanskrit, Devanagari script should be used.

Part A

Answer any **ten** *of the following questions.*
Each question carries 4 *marks.*

उत्तराणि खण्डिकारूपेण लिखत :

1 इतिहास लक्षणं विवृणुत ।

2 पञ्चमहायज्ञानि कानि ।

3 वैशेषिकदर्शनं

4 प्रक्रिया सर्वस्वं

5 हस्तलिखितशास्त्रे उचितपाठ स्वीकारः

6 केरलोदयं

7 रामपाणिवादः

8 क्रिस्तुभागवतं

9 बृहत्संहिता

10 ऋतुसंहारं

11 अष्टांगहृदयं

12 नाट्यशास्त्रं

(10 × 4 = 40 marks)

Turn over

Part B

Answer any **one** *of the following question.*
The question carries 10 *marks.*

13 पुराणानि कानि विवृणत ?

14. आश्चर्यचूडामणि नाटकस्य आश्चर्याणि कानि ?

(1 × 10 = 10 marks)

F 2360 (Pages : 2) Reg. No.....

Name.....

Ph.D. COURSE WORK EXAMINATION IN SOCIAL WORK, OCTOBER 2022

Course II—THEORY AND CONCEPT–SOCIAL WORK

(2020 Admissions)

Time : Three Hours Maximum : 50 Marks

Part I

Answer any **ten** *of the following questions.*
Each question carries 4 *marks.*

1. Define Empowerment and Capacity Building with examples.
2. What are the psychosocial problems of children in broken families ?
3. Describe the application of Behavioural theories in deaddiction.
4. Imagine a client is referred to you whose spouse is infected with COVID 19. He is 40 years old, a male techie with no family support and he has to care for his 12 years old daughter. He is very anxious about their current COVID status. How would you help your client ?
5. 'Social Work Education is not a professional course in India'. Strategize a policy for the recognition of Social Work Education in India according to the Global Standards.
6. 'Child Rights are violated in our society'. Substantiate your answer with suitable examples.
7. What do you understand by evidence based social work practice ?
8. 'Social Work Regulatory Bodies are the need of the hour in India'. Justify your answer.
9. 'Social Work Practicum during Covid -19 is a boon or a bane'. Explain.
10. Why is Multiculturalism important in Social Work ?
11. From your fieldwork experience, do you Feel the Government Schemes are reaching persons with disabilities ? Substantiate your answer with suitable examples.
12. Briefly explain social development perspective in Social Work.

(10 × 4 = 40 marks)

Part II

Answer any **one** *of the following questions.*
The question carries 10 *marks.*

13. Elucidate suitable social work interventions for the migrant labourers affected by the Covid-19 Pandemic from Ecological Perspective.

14. Mrs. Vanitha visited the hospital for an antenatal health check-up and her blood investigations revealed that she was HIV positive. How would you deal with this case as a professional social worker ?

(1 × 10 = 10 marks)

F 2361

Reg. No.....

Name.....

Ph.D. COURSE WORK EXAMINATION IN SOCIOLOGY, OCTOBER 2022

Course II-THEORY AND CONCEPT—SOCIOLOGY

(2020 Admissions)

Time : Three Hours

Maximum : 50 Marks

Part A

Answer any **ten** *of the following questions.*
Each question carries 4 *marks.*

1) Why Sociology is considered as a Science ?
2) Bring out the major perspectives in Sociology and briefly describe each of them.
3) How does the study of Sociology help in solving social problems ?
4) Discuss the differences between Ethno methodology and Phenomenology.
5) Briefly explain Claude Levi- Strauss theory of structuralism.
6) Trace the origin and development of Post-modern theories.
7) What is reflexivity according to Bourdieu in Sociology ?
8) Briefly discuss the major contributions of Michel Foucault to post modernism.
9) State the relationship between education and economy.
10) Education as the key determinant of social mobility - justify it.
11) Write a short note on migration and social transformation.
12) Briefly explain Peter Berger and Luckmann theory of social construction of reality.

(10 × 4 = 40 marks)

Part B

Answer any **one** *of the following questions.*
The question carries 10 *marks.*

13) Discuss the major feminist perspective on gender inequality.
14) How does Everett Lee's Push and Pull model explain migration ?

(1 × 10 = 10 marks)

F 2362

Reg. No.....

Name.....

Ph.D. COURSE WORK EXAMINATION IN ZOOLOGY, OCTOBER 2022

Course II—THEORY AND CONCEPT–ZOOLOGY

(2020 Admissions)

Time : Three Hours

Maximum : 50 Marks

Part A

Answer any **ten** *of the following questions.*
Each question carries 4 *marks.*

1. Write notes on confocal microscopy.
2. What is X-ray crystallography ? Explain.
3. Differentiate between alpha, beta and game level taxonomy giving examples.
4. Discuss the regulations for use of animals in Research.
5. Explain FISH and its principle.
6. Describe the methodology of smear preparation.
7. Explain the technique of ultra filtration.
8. What are the computational tools for taxonomic studies. Explain.
9. Enumerate the various methods of biodiversity estimation.
10. Write notes on DNA bar coding.
11. Discuss the ethical aspects of embryonic stem cells for therapy.
12. Describe the principle and working of cryotome.

(10 × 4 = 40 marks)

Part B

Answer any **one** *question.*
The question carries 10 *marks.*

13. Explain the basic technique of PCR and its modifications citing their uses in genetic engineering.
14. Describe the methods of DNA sequencing and their advantages and disadvantages.

(1 × 10 = 10 marks)