Prof. Tapati Chakraborti, M.Sc. Ph.D.
Director

Ref. No. KU/DODL/84/22
Dated: 20.04.2022

NOTIFICATION
For M.A. and M.Sc. Semester-I 2021-22 Assignment/Project Work with Rules and General Guidelines

The students of **M.A. & M.Sc.- Semester-I -2021-22** under the **Directorate of Open & Distance Learning (DODL)**, are hereby instructed to write and submit the **Internal Assignments/Project work** on and from **24/04/2022**. Assignment/Project work submission related prescribed rules and general guidelines are stated below:

Subjects	Internal Assignment/Project Work	Instruction for submission
M.A. in Bengali	Project Work	Instructions are given in the questions
M.A. in English	1st & 2nd Internal Assignment	Instructions are given below
M.A. in History	1st & 2nd Internal Assignment	Instructions are given below
M.Sc. in Zoology	3rd Internal Assignment	Instructions are given below
M.Sc. in Mathematics	3rd Internal Assignment	Instructions are given below

1) The given Assignments/Project works Marks are mentioned in the question paper for each subject. The students are advised to carefully abide by all the instructions given in their Assignment Questions.

2) The students of the KU Main Campus are directed to submit the Assignments/Project Work, prepared only in **PDF format or document Cloud** (paper-wise separately), to the official e-mail id(s) (provided below) of their respective departments.

3) The students should write and submit the answer script from their respective residences. They are strictly advised to write the Assignments in their own words. Moreover, the Assignments have to be hand-written.

4) The students have to use A4 size blank sheets to write the Assignments. They must mention their **Name, Study Centre Name, Subject, AIN Number in the very first page of the Assignments for each paper.** Secondly, they need to write the individual **AIN Numbers** as well as the Page Numbers in all the pages.

5) The **"Subject"** of the e-mail will be the **AIN Number and the Name of the Subject.** The **"name"** of the individual PDF(s) will be the **paper name**.

6) **The last dates for submission of Assignments/Project work are 25/05/2022 for Bengali, 10/05/2022 for English & History, 08.05.2022 for Zoology & Mathematics.** The students should send their Assignments/Project work only in the provided e-mail id(s) and any other kind of submission will be summarily rejected.

Sd/-
(Prof. Tapati Chakraborti)
Director, DODL
University of Klaynai

7) **The students of the different Study Centres under the Directorate of Open & Distance Learning, University of Kalyani, will submit the same Assignments/Project work to their Study Centres as per their instruction. They are also advised to contact the respective authorities' in-charge of the respective study centre for any further information.**

8) **The list of the subject wise official E-mail addresses, where only the <u>KU Main Campus candidates</u> of M.A. and M.Sc. Semester-I, 2021-22 will send their Internal Assignments/Project work are given below:**

Subject		Mail ids	Last date for submission Internal Assignments
M.A. in Bengali	Candidates Name starting with Alphabet: **A to O**	bengali2dodl@klyuniv.ac.in	25.05.2022
	Candidates Name starting with Alphabet: **P to Z**	bengali3dodl@klyuniv.ac.in	
M.A. in English	Candidates Name starting with Alphabet: **A to P**	english1dodl@klyuniv.ac.in	10.05.2022
	Candidates Name starting with Alphabet: **Q to Z**	english2dodl@klyuniv.ac.in	
M.A. in History	Candidates Name starting with Alphabet: **A to P**	history2dodl@klyuniv.ac.in	10.05.2022
	Candidates Name starting with Alphabet: **Q to Z**	history3dodl@klyuniv.ac.in	
M.Sc. in Zoology		zoology1dodl@klyuniv.ac.in	08.05.2022
M.Sc. in Mathematics		mathematics1dodl@klyuniv.ac.in	08.05.2022

Tapati Chakraborti
20/4/22

(Prof. Tapati Chakraborti)
Director, DODL
University of Klaynai

কল্যাণী বিশ্ববিদ্যালয়

মুক্ত ও দূরবর্তী শিক্ষা অধিকরণ

স্নাতকোত্তর প্রথম সেমেস্টার (শিক্ষাবর্ষ ২০২১ – ২০২২)

বিষয় : বাংলা , পত্র : **AECC (105)**

Project work

নিম্নলিখিত প্রশ্নগুলির উত্তর দাও :   পূর্ণমান : ২৫

১। সাহিত্য গ্রন্থ সমালোচনা : বঙ্কিমচন্দ্র চট্টোপাধ্যায়, রবীন্দ্রনাথ ঠাকুর, শরৎচন্দ্র চট্টোপাধ্যায়ের যে কোনো একটি গ্রন্থের সমালোচনা ।   ১৫

২। ভ্রমণের অভিজ্ঞতা ।   ১০

Project work সংক্রান্ত সাধারণ নির্দেশিকাগুলি নিম্নলিখিত :

- গত **২৩.০৩.২০২২** তারিখের বাংলা বিষয়ের বিষয় সমিতির সিদ্ধান্ত অনুযায়ী AECC (105) পত্রের কোনো লিখিত পরীক্ষা হবে না। শুধুমাত্র Project work তৈরি করে জমা দিতে হবে। AECC (105) পত্রের পাঠক্রমে পূর্ণমান ৫০ নম্বরের পরিবর্তে ২৫ নম্বর করা হয়েছে।

- পরীক্ষার্থীরা AECC (105) পত্রের প্রশ্নের মান অনুযায়ী যথাযথ ও সংক্ষিপ্ত উত্তর লেখার চেষ্টা করবে। Project work নিজ হাতে ও নিজের ভাষায় লেখা আবশ্যক।

- পরীক্ষার্থীকে উত্তর লেখার জন্য অবশ্যই A4 Size এর সাদা পৃষ্ঠা ব্যবহার করতে হবে এবং উত্তরপত্রের প্রতিটি পৃষ্ঠার উপরে AIN Number , নিজের নাম, বিষয়, পত্র উল্লেখ করতে হবে। উত্তরপত্রের প্রতিটি পৃষ্ঠাতে অবশ্যই পৃষ্ঠা নং উল্লেখ করতে হবে। তারপর স্বলিখিত উত্তরপত্র PDF format or document cloud করে নির্দিষ্ট E-mail Address প্রেরণ করতে হবে।

- Project work জমা দেওয়ার নির্ধারিত তারিখের পরে উত্তরপত্র নির্দিষ্ট E-mail Address প্রেরণ করলে তা গণ্য হবে না। Project work জমা দেওয়ার শেষ তারিখ – **২৫.০৫.২০২২** ।

- কল্যাণী বিশ্ববিদ্যালয়ের অন্তর্গত নদিয়া ও মুর্শিদাবাদ জেলার স্টাডি সেন্টারের ছাত্র-ছাত্রীরা সংশ্লিষ্ট কলেজের নির্দেশ অনুযায়ী নির্দিষ্ট তারিখের মধ্যে Project work জমা দেবে ।

  DODL, KU Main Campus এর ছাত্র-ছাত্রীদের স্বলিখিত <u>Project work প্রেরণ করার E-mail Address নিম্নে দেওয়া হলো-</u>

Subject		Mail ids	Last date for Submission Project Work
M.A in Bengali	Candidates Name Starting with Alphabet: A to O	bengali2dodl@klyuniv.ac.in	25. 05. 2022
	Candidates Name Starting with Alphabet: P to Z	bengali3dodl@klyuniv.ac.in	

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UNIVERSITY OF KALYANI
DIRECTORATE OF OPEN AND DISTANCE LEARNING

M.A. in ENGLISH
SEMESTER: I
INTERNAL ASSESSMENT – 2022

COR 101 – RENAISSANCE TO RESTORATION: PLAYS (1485-1659)

Full Marks: 20

FIRST INTERNAL ASSESSMENT

Attempt any *ONE* question (each question carries 10 marks)

1. a) Do you think William Shakespeare's *The Tempest* endorses patriarchy in its representation and treatment of female characters like Miranda and Sycorax? Substantiate your view with suitable textual references.

Or,

1. b) Critically analyze the character of Angelo in Shakespeare's *Measure for Measure*. Would you consider him as a foil to the character of the Duke in the play? Validate your argument with suitable references from the text.

SECOND INTERNAL ASSESSMENT

Attempt any *ONE* question (each question carries 10 marks)

2. a) Ben Jonson wrote *Volpone* when England was shifting from feudalism to capitalism. Attempt a Marxist analysis of the text by showing the consequences of capitalism and its effects on individuals.

Or,

2. b) Comment critically on the traces of decadence in Webster's *The Duchess of Malfi*.

UNIVERSITY OF KALYANI
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M.A. in ENGLISH
SEMESTER: I
INTERNAL ASSESSMENT – 2022

COR 102 – RENAISSANCE TO RESTORATION: POETRY & PROSE (1485-1659)

Full Marks: 20

FIRST INTERNAL ASSESSMENT

Attempt any *ONE* question (each question carries 10 marks)

1. a) Do you agree with the view that Shakespeare's sonnets are anti-Petrarchan? Substantiate your answer with appropriate references from the sonnets prescribed in your syllabus.

Or,

1. b) Critically assess John Milton's narrative representation of the characters of Adam and Eve by tracing their journey through the phases of innocence, temptation, fall and exile.

SECOND INTERNAL ASSESSMENT

Attempt any *ONE* question (each question carries 10 marks)

2. a) Write a note on the religious beliefs of the Utopians as described by Raphael Hythloday and critically analyze how those doctrines differ from those of Roman Catholicism?

Or,

2. b) Bacon described his essays as "certain brief notes" or "repositories of dispersed meditation" and "receptacles for detached thoughts". How do the *Essays* justify his statement? Discuss with reference to the essays included in your syllabus.

UNIVERSITY OF KALYANI
DIRECTORATE OF OPEN AND DISTANCE LEARNING

M.A. in ENGLISH
SEMESTER: I
INTERNAL ASSESSMENT – 2022

COR 103 – RESTORATION TO THE AGE OF SENSIBILITY (1660-1788): POETRY & DRAMA

Full Marks: 20

FIRST INTERNAL ASSESSMENT

Attempt any *ONE* question (each question carries 10 marks):

1. a) Critically estimate John Dryden's employment of the Biblical allegories and its advantages in his political satire *Absalom and Achitophel*.

Or,

1. b) How would you appraise Alexander Pope's *An Epistle to Dr. Arbuthnot* as an autobiographical poem? Substantiate your answer by referring to autobiographical elements found in the text.

SECOND INTERNAL ASSESSMENT

Attempt any *ONE* question (each question carries 10 marks):

2. a) Millamant is generally perceived to be the most charming female protagonist in the Restoration Comedy. Critically analyze her role and function in Congreve's play, *The Way of the World*.

Or,

2. b) What are the main characteristic traits of the Comedy of Manners? Would you consider Moliere's *The Misanthrope* as a Comedy of Manners? Justify your argument with suitable textual references.

UNIVERSITY OF KALYANI
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M.A. in ENGLISH
SEMESTER: I
INTERNAL ASSESSMENT – 2022

COR 104 – RESTORATION TO THE AGE OF SENSIBILITY (1660-1788): FICTION & NON-FICTIONAL PROSE

Full Marks: 20

FIRST INTERNAL ASSESSMENT

Attempt any *ONE* question (each question carries 10 marks):

1. a) How would you characterize Robinson Crusoe's relationship with Xury and Friday in the dynamics of master-slave narrative?

Or,

1. b) "In *Oroonoko*, Aphra Behn seemingly possesses a conflicting attitude towards the institution of slavery and racism." Justify the validity of the statement with suitable references from the text.

SECOND INTERNAL ASSESSMENT

Attempt any *ONE* question (each question carries 10 marks):

2. a) Write a note on the emergence of Periodical Essays in the eighteenth century with reference to Addison and Steele's *The Spectator*.

Or,

2. b) Samuel Johnson opines that the form of Biography is the only one "worthy of cultivation". What arguments does he offer in *The Rambler* No. 60 in favour of this declaration?

UNIVERSITY OF KALYANI
DIRECTORATE OF OPEN AND DISTANCE LEARNING

M.A. in ENGLISH
SEMESTER: I
INTERNAL ASSESSMENT – 2022

AECC: ABILITY ENHANCEMENT COMPULSORY COURSE
BASICS OF ACADEMIC WRITING

Full Marks: 10

Attempt any *ONE* question (each question carries 10 marks):

1. a) Examine different categories of research resources and explain each type with suitable examples.

Or,

1. b) Is it necessary to use quotations in a thesis or a research paper? What are the various ways of incorporating a quote in an academic piece?

UNIVERSITY OF KALYANI
DIRECTORATE OF OPEN AND DISTANCE LEARNING

M.A. in HISTORY
SEMESTER: I
INTERNAL ASSESSMENT – 2022

COR 101
Full Marks: 20

FIRST INTERNAL ASSESSMENT

Attempt any *ONE* question from each group

Group – A

a) "History is a science, no less and no more" – Explain this statement.

Or,

b) Critically discuss Marxist interpretation of history.

SECOND INTERNAL ASSESSMENT

Group – B

a) Who wrote 'The Historians Craft'? Describe the contribution of the author of this book.

Or,

b) Write a note on the Indian response to the Western science and technology in the colonial period.

COR 102
Full Marks: 20

Attempt any *ONE* question from each group

Group – A

a) Write a short note on different stages of the evolution of the human history.

Or,

b) What was the impact of the Battle of *Khadesh* in Egyptian history?

SECOND INTERNAL ASSESSMENT

Group – B

a) Discuss the condition of women in the Roman society.

Or,

b) Write a short note on Confucianism.

<div align="center">

COR 103
Full Marks: 20

FIRST INTERNAL ASSESSMENT

Attempt any *ONE* question from each group

Group – A
</div>

a) To what extent can you consider the epics such as Mahabharata as the source of history of ancient India?
<div align="center">Or,</div>

b) Write a short note on the debate of feudalism in Indian history.

<div align="center">

SECOND INTERNAL ASSESSMENT

Group – B
</div>

a) Describe different types of *Jagirdars* under the Mughals. .

<div align="center">Or,</div>

b) Critically analyse the Gandhian model of state.

<div align="center">

COR 104
Full Marks: 20

FIRST INTERNAL ASSESSMENT

Attempt any *ONE* question from each group

Group – A
</div>

a) Write a note on the Investiture Contest of the 11th century Europe

<div align="center">Or,</div>

b) How did the European Renaissance lead to the Scientific Revolution?

<div align="center">

SECOND INTERNAL ASSESSMENT

Group – B
</div>

a) What are the main issues involved in the 'Transition Debate'?

<div align="center">Or,</div>

b) What is the impact of modernity on the culture of Europe?

Internal Assignment Examinations of ZOOLOGY (2021-23)
Directorate of Open and Distance Learning
University of Kalyani

Date: 24.04.2022

THIRD INTERNAL ASSIGNMENT				
Paper Code	**Questions**	**Total marks (6)**	**Last Date of Submission**	**e-mail address**
ZCORT 101	What are tymbal organs? State their functions Or, Describe the structure of salivary gland in cockroach with diagram.	3+3=6 4+2=6		
ZCORT 102	What do you mean by meta population? Write short note on Metapopulation dynamics. Or, Define biosphere reserve. State the main functions of biosphere reserves.	2+4=6 2+4=6		
ZCORT 103	How Meselson and Stahl proved that nature of DNA replication is semi-conservative? Give suitable diagram. Define Okazaki fragment. Or Describe different steps of Rolling circle replication of plasmid DNA. What is R plasmid?	5+1 =6 5+1 =6	08.05.2022	zoology 1dodl@ klyuniv. ac.in
ZCORT 104	Derive Michaelis Menten Equation of a enzyme catalyzed Reaction. Define Km and Vmax. Or Describe different steps of skeletal muscle contraction with suitable diagram. What is Sarcomere?	4+2 =6 5+1 =6		
ZAECC T-101	Describe basic principle of ELISA with a suitable diagram? Differentiate precipitation and Agglutination. Or Describe Lambert Beer's aw and explain it mathematically. What are the disadvantages of single beam spectrophotometer?	4+1 =5 4+1=5		

NB:
- **Assignment should be sent through e-mail only. DO NOT send it by any other mode. Otherwise it will not be evaluated.**
- **Assignment should be sent in PDF format only. For Each paper, make Separate PDF file. The name of the PDF file should be the Paper's name.**

THIRD INTERNAL

Paper Code : COR 1.1 - Pure and Applied Streams

Answer **any two** of the following questions: $2 \times 3 = 6$

1. If

$$f(z) = \frac{xy^2(x+iy)}{x^2+y^4}, \ z \neq 0$$
$$= 0, \ z = 0.$$

Show that

$$\frac{f(z) - f(0)}{z} \to 0 \ \text{as} \ z \to 0$$

along any straight line but $f'(0)$ does not exist.

2. Show that the function $f(z) = \overline{z}$ is non-analytic everywhere. If $f = u + iv$ is analytic in a domain D then show that if $\operatorname{Re} f(z)$ is constant in D, then f is constant in D.

3. State Cauchy's Fundamental theorem. Let f be analytic in a simply connected domain D and α, β be any two points of D. Show that the value of the integral $\int_{\alpha}^{\beta} f(z)dz$ is independent of the curve in D joining α and β.

Paper Code : COR 1.2 - Pure and Applied Streams

Answer **any two** of the following questions: $2 \times 3 = 6$

1. Let u be the unique solution of

$$\frac{\partial u}{\partial t} = \frac{\partial^2 u}{\partial x^2} \quad \text{where} \quad (x,t) \in (0,1) \times (0,\infty)$$
$$u(x,0) = \sin(\pi x), \quad x \in (0,1)$$
$$u(0,t) = u(1,t) = 0 \quad t \in (0,\infty)$$

Show that the function $e^{\pi^2 t}u(x,t)$ is bounded for $(x,t) \in (0,1) \times (0,\infty)$.

2. Let u be the unique solution of

$$\frac{\partial^2 u}{\partial t^2} - \frac{\partial^2 u}{\partial x^2} = 0, \quad x \in \mathbb{R}, \ t > 0$$
$$u(x,0) = f(x), \ \frac{\partial u}{\partial t}(x,0) = 0, \quad x \in \mathbb{R}$$

where $f : \mathbb{R} \to \mathbb{R}$ satisfies the relations $f(x) = x(1-x) \, \forall \, x \in [0,1]$ and $f(x+1) = f(x) \, \forall \, x \in \mathbb{R}$. Then find the value of $u\left(\frac{1}{2}, \frac{5}{4}\right)$.

3. Solve the Dirichlet problem

$$U_{xx} + U_{yy} = 0, \quad (x^2 + y^2 < 1),$$
$$u(1, \theta) = \sin^2 \theta, \quad -\pi \le \theta \le \pi,$$

for the disk $r \le 1$.

Paper Code : COR 1.3 - Pure and Applied Streams

Answer **any two** of the following questions: $\qquad\qquad 2 \times 3 = 6$

1. Prove that for any pre-assigned $\epsilon > 0$, the inequality $|U_P - U_{P'}| < \epsilon$ holds for the sufficiently small distance $\overline{PP'}$, where U_P and $U_{P'}$ are the values of the potential U at P and P' respectively.

2. Verify the divergence theorem for $\vec{A} = 2x^2 y\hat{i} - y^2\hat{j} + 4xz^2\hat{k}$ taken over the region in the first octant bounded by $y^2 + z^2 = 9$ and $x = 2$.

3. (a) Does every group have a composition series? Justify your answer. (1 mark)

   (b) Define Newtonian potential of surface charge distribution for double layers. (2 marks)

Paper Code : DSE 1.4 - Applied Stream

Answer **any two** of the following questions: $\qquad\qquad 2 \times 3 = 6$

1. The equation of motion of a spring-mass with damping is

$$m\frac{d^2u}{dt^2} + c\frac{du}{dt} + ku = 0$$

where m, c, and k are positive. Write this second-order equation as a system of two first-order equation for $x = u$, $y = du/dt$. Show that $x = 0$, $y = 0$ is a critical point, and analyze the nature and stability of the critical point as a function of the parameters m, c, and k.

2. Consider the system

$$\frac{dx}{dt} = x(1 - \sigma x - 0.5y)$$
$$\frac{dy}{dt} = y(-0.75 + 0.25x),$$

where $\sigma > 0$. Find all of the critical points. How does their location change as σ increases from zero?

3. Consider the system of equations

$$\frac{dx}{dt} = y - xf(x, y), \quad \frac{dy}{dt} = -x - yf(x, y)$$

where f is a continuous and has continuous first partial derivatives. Using an appropriate Liapunov function, show that if $f(x, y) > 0$ in some neighborhood of the origin, then the origin is an asymptotically stable critical point, and that if $f(x, y) < 0$ in some neighborhood of the origin, then the origin is an unstable critical point.

Paper Code : DSE 1.4 - Pure Stream

Answer **any two** of the following questions: $2 \times 3 = 6$

1. State a necessary and sufficient condition for a set $\mathcal{B}$ to generate a topology on some set X. Hence show that the set of all open disks in $\mathbb{R}^2$ generate some topology on $\mathbb{R}^2$. [Hint: An open disk in $\mathbb{R}^2$ of radius $r > 0$, centered at $(a, b) \in \mathbb{R}^2$ is of the form $\{(x, y) \in \mathbb{R}^2 : \sqrt{(x-a)^2 + (y-b)^2} < r\}$]

2. Let A be a subset of some topological space X. Show that $x \in \overline{A}$ if and only if every open neighbourhood of x intersects A. Hence show that x is a boundary point of A if and only if every neighbourhood of x intersects A as well as $X \setminus A$.

3. State pasting lemma. For any two subsets A and B of a topological space X, show that $\overline{A \times B} = \overline{A} \times \overline{B}$.

Paper Code : AECC 1.5 - Pure and Applied Streams

Answer **any four** of the following questions: $4 \times 2.5 = 10$

1. Write a C program to illustrate the use of **getch()** and **putch()** functions.

2. Write a C program to check whether a given natural number is a palindrome.

3. Write a C program to print first 20 natural numbers and find their sum.

4. Write a C program to illustrate the use of **switch** statement.

5. Write a C program to find the sum of any set of natural numbers.

6. Write a C program to print the multiplication table of 4.