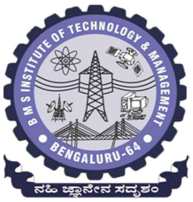
BMS INSTITUTE OF TECHNOLOGY & MANAGEMENT

YELAHANKA, BENGALURU - 560064



DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

PROJECT BASED LEARNING

Odd Semester - 2021-22

Project Report of

Design of Question Paper using Bloom's Cognitive levels / Taxonomy

Computer Networks and Security (CNS)-18CS52

Application Development Using Python (ADP)-18CS55

5th Semester 'C' Section Group-10

Submitted by

Sripriya R	**1BY19CS158**
Thollamadugu Sahithi	**1BY19CS170**
Vandana B G	**1BY19CS174**
Gajeelee Rohan Pranav	**1BY19CS194**

Under the Guidance of

Ravikumar B N
Professor

Dr. Arunkumar B R
Professor

2021-2022

INSTITUTE VISION

To emerge as one of the finest technical institutions of higher learning, to develop engineering professionals who are technically competent, ethical and environment friendly for betterment of the society.

INSTITUTE MISSION

Accomplish stimulating learning environment through high quality academic instruction, innovation and industry-institute interface.

DEPARTMENT VISION

To develop technical professionals acquainted with recent trends and technologies of computer science to serve as valuable resource for the nation/society.

DEPARTMENT MISSION

Facilitating and exposing the students to various learning opportunities through dedicated academic teaching, guidance and monitoring.

PROGRAM EDUCATIONAL OBJECTIVES

1. Lead a successful career by designing, analyzing and solving various problems in the field of Computer Science & Engineering.
2. Pursue higher studies for enduring edification.
3. Exhibit professional and team building attitude along with effective communication.

4.Identify and provide solutions for sustainable environmental development.

Subject Name– Code - Course Outcomes (COs) w.r.t this PBL	
CO #	CO DEFINED
	ASK YOUR FACULTY ABOUT THIS

Project to Program Outcomes (PO) Mapping

Project Name: title (ASK YOUR FACULTY ABOUT THIS)

COURSE	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
Subject Name												
Subject Name												

Program outcomes (POs):	
PO1	**Engineering knowledge:** Apply the knowledge of Mathematics, Science, Engineering fundamentals and an engineering specialization to the solution of complex engineering problems
PO2	**Problem analysis:** Identify, formulate, review research literature, and analyse complex Engineering problems reaching substantiated conclusions using first principles of mathematics, Natural sciences and engineering sciences
PO3	**Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
PO4	**Conduct investigations of complex problems**: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the Information to provide valid conclusions
PO5	**Modern tool usage**: Create, select, and apply appropriate techniques, resources, and modern Engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.
PO6	**The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
PO7	**Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for Sustainable development
PO8	**Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
PO9	**Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings
PO10	**Communication:** Communicate effectively on complex engineering activities with the engineering Community and with society at large, such as, being able to comprehend and write effective reports And design documentation, make effective presentations, and give and receive clear instructions.

PO11	**Project management and finance:** Demonstrate knowledge and understanding of the Engineering and management principles and apply these to one's own work, as a member and Leader in a team, to manage projects and in multidisciplinary environments.
PO12	**Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Project to Program Specific Outcomes (PSO) Mapping

Program Specific Outcomes (PSOs):	
PSO1	Analyze the problem and identify computing requirements appropriate to its solution.
PSO2	Apply design and development principles in the construction of software systems of varying complexity.

Project Name: title

COURSE	PSO1	PSO2
Subject Name		
Subject Name		

Use the Tick symbol (√) for mapping

Abstract 1:

Problem Statement: Designing of question papers based on Bloom's Cognitive levels/Taxonomy by using Python programming language and concepts of Computer Networking.

The project 'Design of Question Paper using Bloom's Cognitive levels/Taxonomy' will enable college authorities to automatically generate question papers out of existing question bank. The system will have capability to process different unique sets of papers automatically.

After the question paper has been converted to pdf file, it will be mailed to the respective professors.

Therefore, the resultant automated system for Question Paper Generation provides improvement in terms of controlled access to the resources, random generation of question papers and a secure platform.

Introduction: Education being the most versatile and developing sector, it requires technological boom more than other sectors. Everyday new concepts and ideas are released in the market the learners not only need to learn them but practice them as well. A system like Automatic question paper generator allows the learner to apply the knowledge he/she has gained so far.

Professor can view the generated question paper sets and can modify the questions to suit their needs or of institutions. It increases the usage of technology. The system also provides security to the question paper so that only trusted and permitted people can access it.

Motivation: The main aim of the project Automatic question paper generator is that to reduce the manual work and helps to create question papers in single click without repeating the same questions again and works in very simple manner. The present project has been developed to meet the aspirations indicated in the modern age. An attempt has been made

through this project to do all work with ease & fast. Basically, how to manage the project describes the good performance and better services for clients.

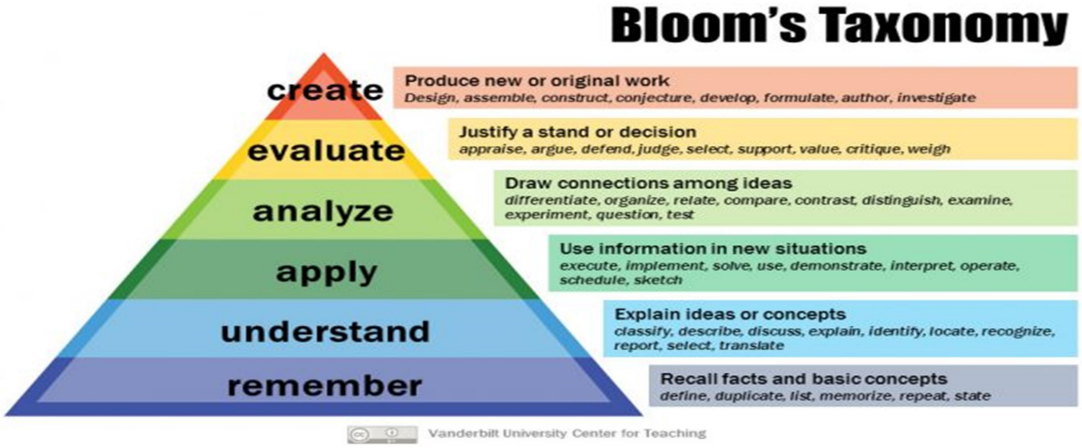
Existing System: Usually, administrators or question paper generators manually creates the question scripts using text processing tools or software like MS office etc. If there is more than one contributor for same question, it is very difficult to manage the manual procedure.

Limitations of Existing System:

1. Patterns or repetitions may occur.
2. Low security as chances of paper leaking is high
3. Slow as human labor is involved.
4. Less variety of different type of questions.
5. Paper processing takes more time as it is done manually.
6. It is difficult to analyze the questions manually

Proposed System and Methodology:

- We are framing the questions based on Bloom's Taxonomy.
- There are totally 6 levels in Bloom's Taxonomy. They are: Remembering, Understanding, Applying, Analyzing, Evaluating and Creating.
- We are implementing Semantic analysis to analyze the keywords for different levels of Bloom's Taxonomy.



The main aim of the proposed system is to develop the system with more facilities.

- System stores the information about the entry of questions.

- System needs to update and delete the record.
- System should take minimum time for the various processing.
- System provides proper security and reduce the manual work.
- System provides unbiased result.
- The generated question paper can be edited as per the requirements.

System Requirement Specifications:

Functional Requirements:

- **Question Insertion:** Professor may insert questions as per their subjects.
- **Difficulty Choosing:** Professor may then choose the paper difficulty level based on Bloom's cognitive levels.
- **Question Paper generation:** The system now automatically chooses questions as per the selected cognitive levels.

Non-Functional Requirements:

- **Performance**: This system should run fast, and more than one user can access this system. User can access directly to the system. Performance of the system should not be affected.
- **Reliability**: This system should not fail at any cost. This system should be reliable.
- **Availability**: The availability of this system should be ensuring. The service should always be available.
- **Security**: Unauthorized user cannot access this system.
- **Maintainability**: This system should be enhanced and maintain the quality of software where and when required.

Abstract 2:

We are using concepts of Computer Networking and Python to develop our project 'Computerized Question Paper Generator'.

Computer Networks and Security (CNS): Under CNS we are using protocols and techniques like

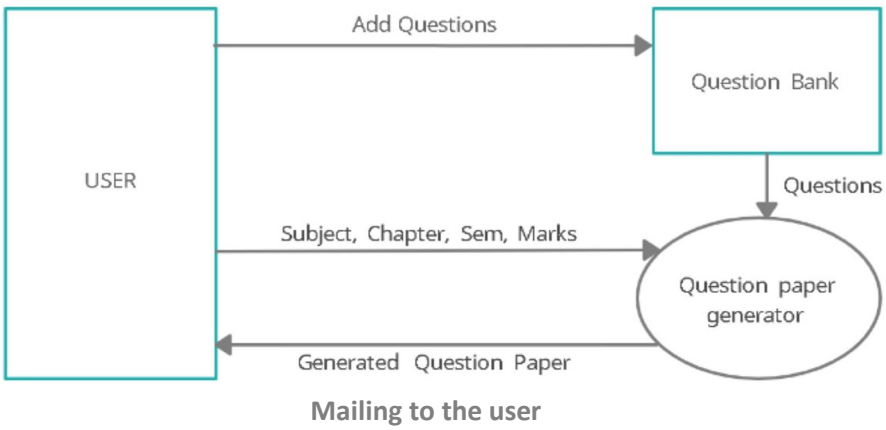
- SMTP Protocol
- POP3 Protocol
- IMAP Protocol

Application Development using Python (ADP): Under ADP we are using

- Conditional Statements
- Functions
- Loops
- Exception Handling
- Files
- Object Oriented Programming Concepts in Python

System Architecture:

DATA FLOW MODEL



IMPLEMENTATION:

USER REQUIREMENTS:

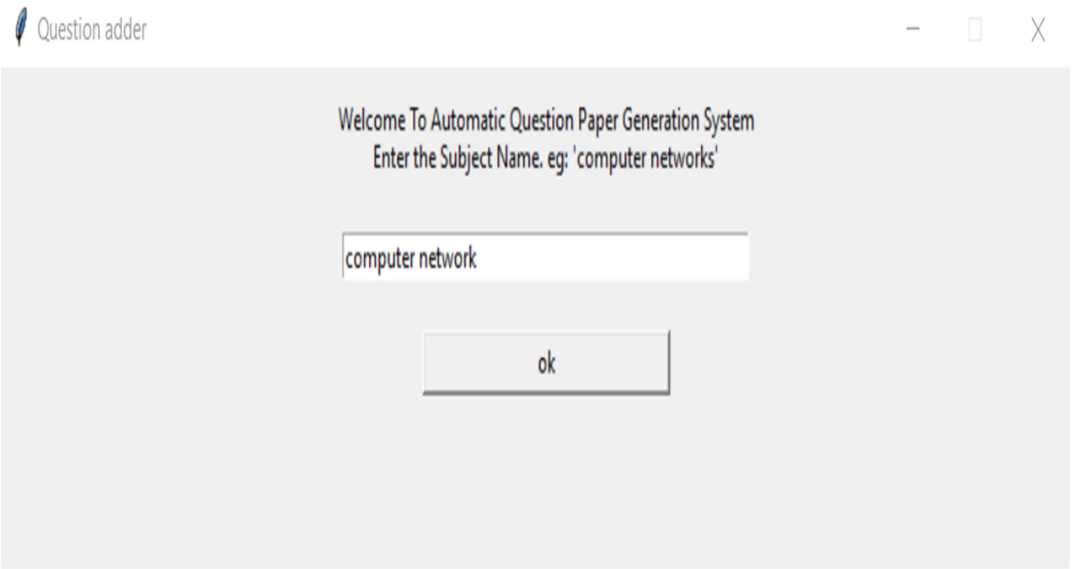
User should enter the following information:

1. Subject code
2. Subject name
3. Semester
4. Year

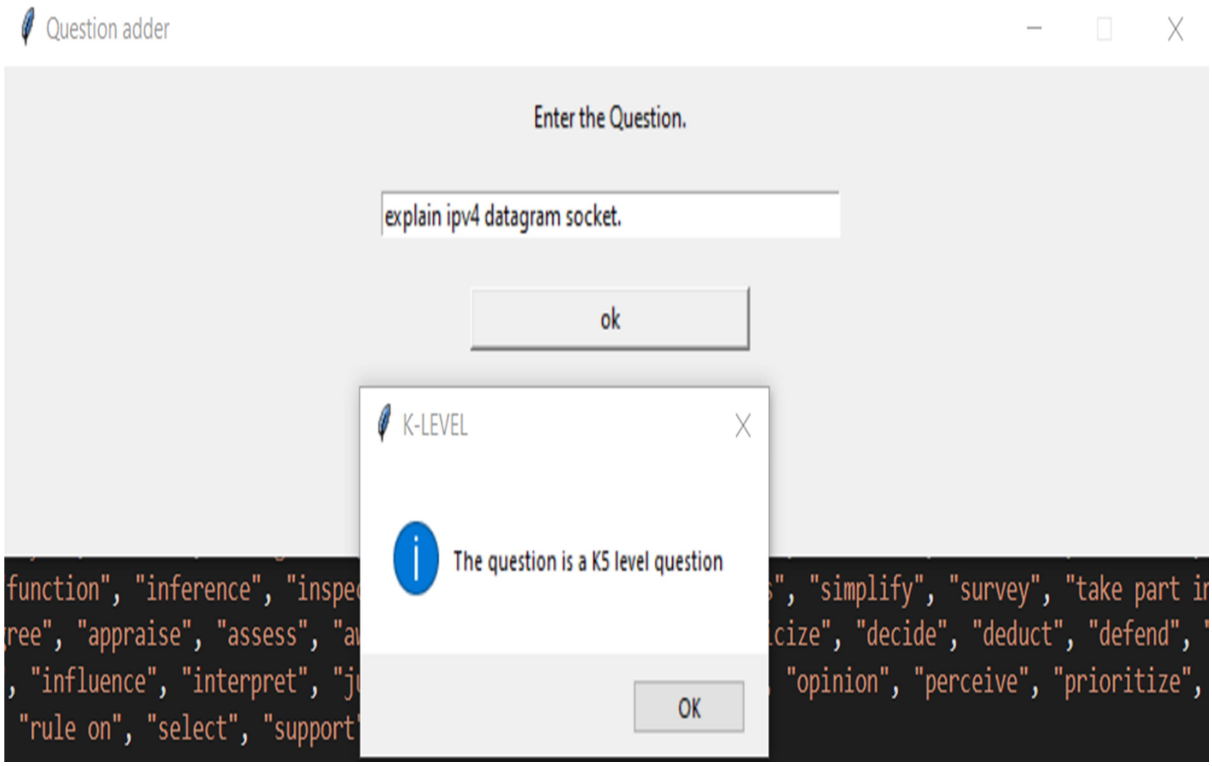
SYSTEM REQUIREMENTS:

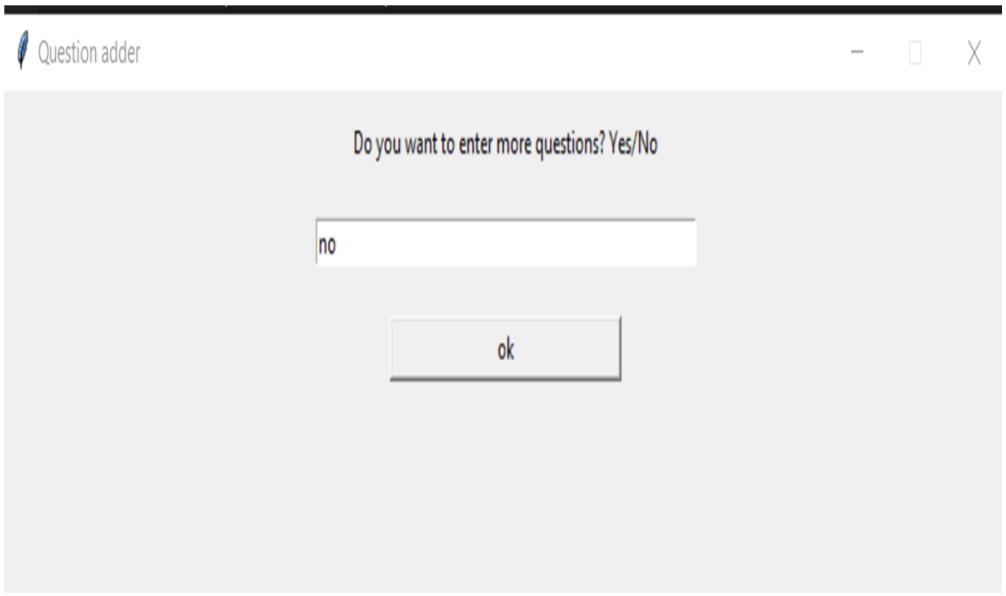
1. Windows 8/10/11
2. 8 GB RAM
3. Visual Studio Application
4. Python IDLE 3.8 with Tkinter

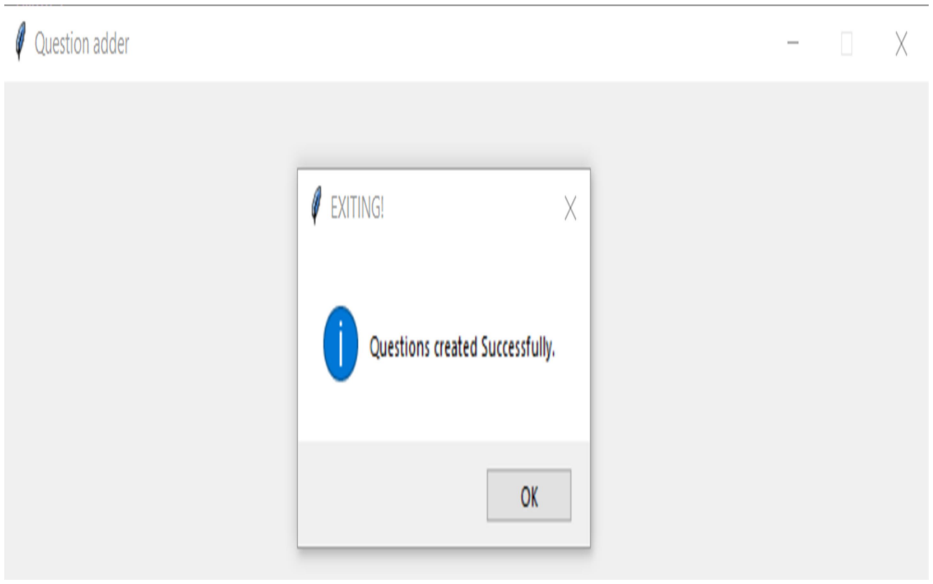
VALIDATION (OUTPUT SNAPSHOTS):



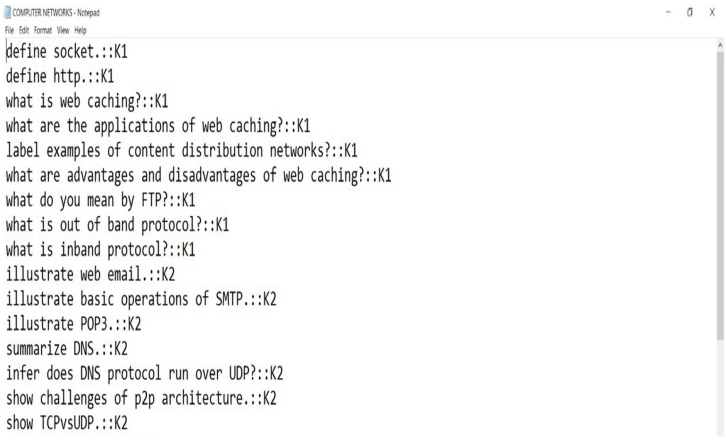

Question adder
Do you want to enter more questions? Yes/No
yes
ok

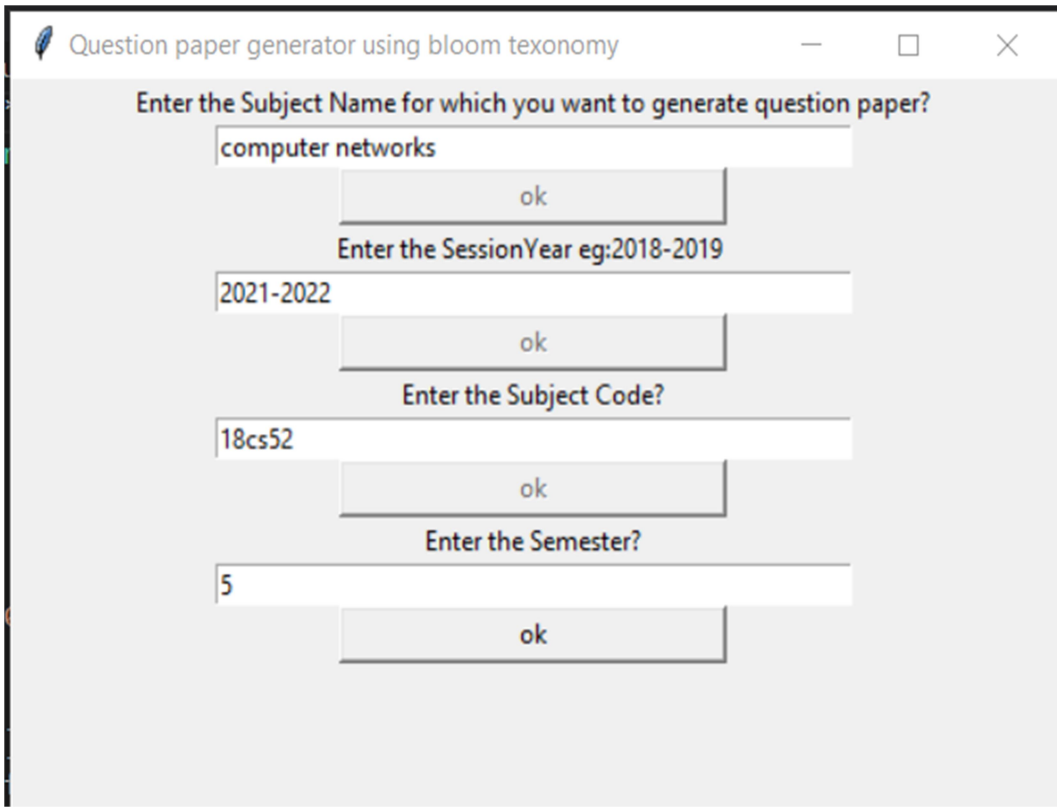

Question adder
Enter the Question.
explain ipv4 datagram socket.
ok
K-LEVEL
The question is a K5 level question
OK
function", "inference", "inspe
", "simplify", "survey", "take part i
ree", "appraise", "assess", "a
cize", "decide", "deduct", "defend",
, "influence", "interpret", "j
"opinion", "perceive", "prioritize",
"rule on", "select", "support

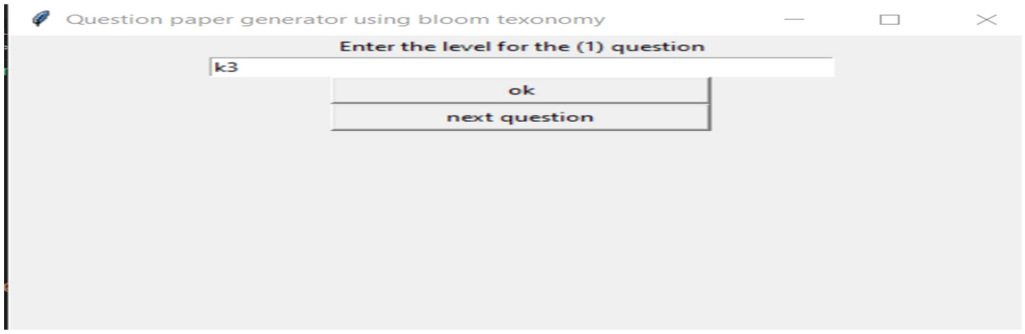

Question adder
Do you want to enter more questions? Yes/No
no
ok

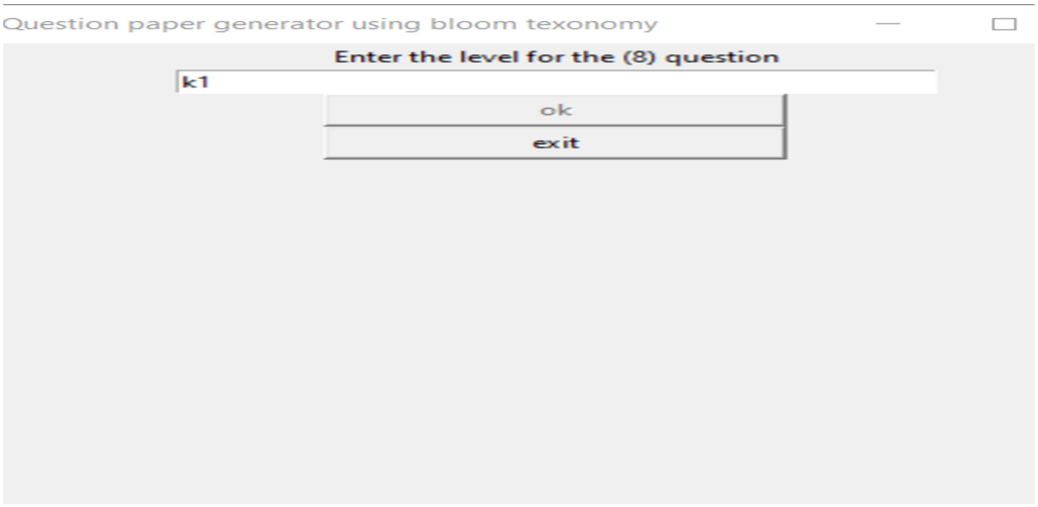

Question adder
EXITING!
Questions created Successfully.
OK

QUESTION BANK GENERATED









QUESTION PAPER GENERATED

COMPUTER NETWORKS Question Paper - Notepad

File Edit Format View Help

----------BMS INSTITUTE OF TECHNOLOGY AND MANAGEMENT----------

----------2021-2022----------

----------COMPUTER NETWORKS|18CS52|M.M=80----------

----------Semester-5----------

PART A

2)explain three way hand shaking property used for connection establishment. [10M]|K5

---

3)label examples of content distribution networks? [10M]|K1

OR

4)illustrate web email. [10M]|K2

---

5)design TCP segment structure. [10M]|K6

OR

PARTB

7)identify the time out interval in given problem. [10M]|K3

8)what are the applications of web caching? [10M]|K1

FUTURE ENHANCEMENT:

- Novelty of our project is that we are using BLOOM'S TAXONOMY to create the question paper. Other question paper generators won't use this method for creating question paper, so it's a new feature.
- We can include the course outcomes (CO's) in the question paper.
- The point of the project is basically most questions for internal paper won't change every day. The question stays the same for the syllabus so what our project does it basically we can use the same question from a list of question to create a question paper for every year with ease. Also if the teacher wishes he/she can create multiple question papers for different student each student having different question paper in exam.

REFERENCES:

1. https://youtube.com
2. https://google.com
3. https://geeksforgeeks.com
4. https://cft.vanderbilt.edu/guides-sub-pages/blooms-taxonomy/
5. https://github.com