**BMS Institute of Technology and Management**

**(An Autonomous Institution, Affiliated to VTU, Belagavi)**

**Department of Master of Computer Applications**

**(Accredited by NBA, New Delhi)**

**Alternate Assessment Tool (AAT) #**

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| **Course Code** | 22MCA107 | **Course Title** | Research Methodology & IPR |
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| **AAT Question or Topic or Problem Statement**   1. **Do Data collection for the relevant scope of the topic you identified.** 2. **Write the review article and identify the journals / conferences / publishers to publish your compile work.** 3. **Write the future work of existing problem you identified.** |

**Domain Name:** Agricultural Technology.

**1. Do Data collection for the relevant scope of the topic you identified.**

1. Conduct online research: You can search for relevant articles, reports, and research papers on agricultural technology from academic journals, government agencies, and international organizations.

2. Attend Agricultural Technology conferences: Attending conferences and workshops on agricultural technology is an excellent way to learn about the latest advances in the field, network with industry experts and researchers, and gain insights into the challenges facing the sector.

3. Interview agricultural technology experts: You can interview experts in the field, including academics, researchers, and professionals, to get their perspectives on agricultural technology and their experiences with implementing new technologies.

4. Conduct surveys: You can conduct surveys of farmers and agricultural businesses to gather data on their use of technology, their experiences with different technologies, and their opinions on the benefits and drawbacks of various technologies.

5. Analyze government data: You can analyze data from government agencies that track agricultural technology adoption, funding, and research.

6. Consult with agricultural technology vendors: You can consult with vendors who provide agricultural technology solutions to learn about the latest products and services and gain insights into the market trends and customer needs.

**2. Write the review article and identify the journals / conferences / publishers to publish your compile work.**

1. Identify the scope of the review: Specify the research questions and objectives of the review, and define the boundaries of the topic.

2. Conduct a comprehensive literature search: Gather relevant articles, reports, and research papers on agricultural technology from academic journals, government agencies, and international organizations.

3. Analyze the literature: Identify the key themes, trends, and challenges in the literature, and critically evaluate the quality and relevance of the studies.

4. Synthesize the literature: Organize the literature into themes or categories and synthesize the findings across studies.

5. Identify gaps and opportunities for future research: Identify gaps in the literature and suggest opportunities for future research.

6. Provide conclusions and recommendations: Summarize the main findings of the review and provide recommendations for future research and practice.

Some of the top journals to consider for publishing compiled work in agricultural technology include:

1. Agricultural Systems

2. Agricultural and Forest Meteorology

3. Journal of Agricultural Engineering Research

4. Precision Agriculture

5. Biosystems Engineering

6. Computers and Electronics in Agriculture

7. Field Crops Research

In addition to journals, there are also several conferences and publishers that specialize in agricultural technology, including:

1. International Conference on Agricultural Technology and Engineering (ICATE)

2. International Conference on Agricultural and Biological Sciences (ICABS)

3. Springer Nature Publishing - Agriculture and Environmental Sciences

4. Elsevier Publishing - Computers and Electronics in Agriculture

When selecting a journal, conference, or publisher, it is important to consider the audience, scope, and impact of the outlet. Additionally, be sure to follow the submission guidelines and formatting requirements of the chosen outlet to increase the chances of acceptance.

**3. Write the future work of existing problem you identified.**

One of the most pressing issues in agricultural technology is the need to develop sustainable and efficient practices to ensure food security for a growing global population while mitigating the impact of agriculture on the environment. There are several areas for future work to address this problem:

1. Precision agriculture: The use of precision agriculture technologies, such as GPS, sensors, and drones, can help farmers optimize crop yields while minimizing waste and reducing the use of harmful chemicals. Future research can focus on developing more accurate and efficient precision agriculture tools and methods.

2. Climate-smart agriculture: Climate change is affecting agricultural production and increasing the risk of crop failures, which can lead to food shortages and price spikes. Future research can focus on developing climate-smart agricultural practices that are resilient to climate change, such as drought-resistant crops, agroforestry, and conservation agriculture.

3. Artificial intelligence and machine learning: The use of artificial intelligence and machine learning in agriculture can help farmers make data-driven decisions and optimize crop production. Future research can focus on developing more advanced AI and machine learning tools for agriculture, including predictive analytics and automated decision-making systems.

4. Renewable energy: Agriculture is a significant contributor to greenhouse gas emissions, particularly through the use of fossil fuels for farming equipment and transportation. Future research can focus on developing and scaling up renewable energy solutions for agriculture, such as solar-powered irrigation and electric tractors.

5. Food waste reduction: Up to a third of all food produced globally is wasted, contributing to food insecurity and environmental problems. Future research can focus on developing technologies and practices to reduce food waste throughout the supply chain, from farm to table.

In summary, the future work of existing problems in agricultural technology should focus on developing sustainable and efficient practices that ensure food security while mitigating the impact of agriculture on the environment. Precision agriculture, climate-smart agriculture, artificial intelligence and machine learning, renewable energy, and food waste reduction are all important areas for future research and development.