UTILAIZATION OF ALGORITHM, DYNAMIC PROGRAMMING OPERATIONS

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Project Name	Efficient water quality analysis & predicition using machine learning
Maximum Marks	8 Marks

Introduction

Utilization of resources related to the consumptive and non-consumptive use of biological and non biological resources without interrupt the ecological process of the ecosystem for the benefit of the communities in WMA and conservation of biodiversity that conform to the written laws of the respective sectors.

• Wildlife Management Area is Area declared by the Minister of Natural Resources and Tourism under WCA sect 32,where by local communities in natural resources management and its wise use in order to improve their livelihoods and sustain biodiversity

Allowed Types of Resource Utilization

• Hunting for meat by the Authorized Association under Regulation 41 (Hunting for meat shall utilized the off-take quota issued to the authorized association under supervision of district game officer during the hunting season).

• Resident hunting under regulation 48 (Authorized association apply for resident hunting quota to D.W after get it, issue a resident to holder of a resident hunting license for hunting in WMA under supervision of wildlife officer or village game scout in WMA)

• Tourism hunting under regulation 51 (Authorized association appoint a tourist hunting company to conduct tourism hunting activities in WMA under advice of the Director whereby the income generate shall be shared between WMA and Government)

• Non-consumptive tourism under regulation 44 (Authorized shall contact non-consumptive use in WMA in accordance with wildlife conservation (Non-consumptive wildlife utilization) regulation, 2008gphotograph tourism)

• Life animal capture under regulation 54 (An Authorized association allow trophy dealer's licenses holder issued with a permit to capture animals in a WMA from its off-take quota. It may consult the D.W on charge additional fee for every animal).

CONDITIONAL RESOURCE UTILIZATION IN A WMA

The AA may issue a permit for utilization of the following type of resource subjected to licenses issued to responsible authorities

• Forestry products (Trees) under regulation 55 (AA may in consultation with director of forestry charge additional fee for the utilization of forest. Village game scout with the assistant of forest officer supervise the harvest of forest products).

• Bee resources under regulation 56 (An AA may in consultation with the director responsible for bee-keeping on charge additional fee for the utilization of bee products. Village game scout with the assistant of the bee-keeping officers, supervise bee-keeping activities in a WMA).

• Fish resources under regulation 57 (AA shall charge fee for commercial or spot fishing in WMA accordance with the wildlife conservation (Non-consumptive wildlife utilization) regulations, 2008. Village game scout with the assistance of the fisheries officer, supervise utilization of fish products in a WMA).\

Mining resource under regulation 58 of WMA 2012

(Any person authorized to operate within the WMA may extract minerals after conducted Environmental Impact Assessment and pay to the AA).

• Wildlife farming and ranching. Utilization of resources in WMA under appropriate regulations improving local community livelihoods and sustain natural resource for the benefits of present and future generations.

Algorithm 3: ComputeAlignment.

Input: Sequences X and Y, scoring matrix M, and a dynamic programming table S.
Output: A global pairwise alignment of X and Y using the DP table S and scoring matrix M.

```
i ← |X|;   j ← |Y|;
X' ← ε;   Y' ← ε;
while i ≠ 0 and j ≠ 0 do
    if S[i, j] = S[i − 1, j − 1] + M_{X_{i−1}, Y_{j−1}} then
1       X' ← ...;
2       Y' ← ...;
        i ← i − 1; j ← j − 1;
    else
        if S[i, j] = S[i − 1, j] + M_{X_{i−1}, −} then
3           X' ← ...;
4           Y' ← ...;
            i ← i − 1;
        else
5           X' ← ...;
6           Y' ← ...;
            j ← j − 1;
while i ≠ 0 do
    X' ← X_{i−1} + X';   Y' ← " − " + Y';
    i ← i − 1;
while j ≠ 0 do
    X' ← " − " + X';   Y' ← Y_{j−1} + Y';
    j ← j − 1;
return (X', Y')
```

3. Convert the following C code to HLSM.

```
Inputs: byte a[256], byte b, bit go
Outputs: byte freq, bit done
FREQUENCY:
while(1){
        while(!go);
        done = 0;
        i = 0;
        freq = 0;
        while(i < 256){
                if (a[i] == b){
                        freq = freq + 1;
                }
                i = i + 1
        }
        done = 1;
}
```

Conclusion

Channel access scheduling is one of the key components in the design of multi wireless mesh networks (WMNs). This paper addresses the allocation/demand mismatch problem observed in oblivious WMN channel access scheduling schemes and proposes Utilization-Based Scheduling (UBS).

UBS is a Spatial-TDMA- (STDMA-) based dynamic channel access scheduling scheme designed with the aim of increasing the application-level throughput. In UBS, each node has a weight, which is dynamically adjusted in accordance with the node's slot usage history and packet-queue occupancy. UBS is a fully distributed algorithm, where each node adjusts its own weight and makes

pseudorandom transmission attempts using only the locally available information. To demonstrate the performance improvements of the dynamic weight adjustment the performance of UBS is compared against other channel access scheduling schemes through extensive ns-2 simulations under both uniform and traffic patterns.