

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -3 EXAMINATION- Dec-2021

B.Tech VII Semester

COURSE CODE: 20B1WEC735

MAX. MARKS: 35

COURSE NAME: Artificial Intelligence Techniques for Genomics Signal Processing

COURSE CREDITS: 03

MAX. TIME: 2 Hours

Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means.

Q.1 Write the KNN and CpG islands features based algorithm for the classification of the Covid-19 positive and negative gene sequences. [07 Marks, CO-5]

Q.2 Explain the following features used in Helitron classification-

(i) Temporal features (ii) Spectral features (iii) Time-frequency [07 Marks, CO-2]

Q3. Compare the following pre-trained models in terms of depth size, number of parameters, image input size. [08 Marks, CO-4]

(i) Squeeze net

(ii) Shuffle net

(iii) Nasnet mobile

(iv) Xception

(v) Alexnet

(vi) Google net

(vii) VGG-16

(vii) Resnet-50

Q.4 Explain the entropy mapping and pre-trained model based algorithm for the classification Intron and Exon in the DNA sequences. [07 Marks, CO-5]

Q.5. Explain the following performance evaluation parameters-

(i) Sensitivity (ii) Specificity (iii) F-measure (iv) Precision (v) Recall (vi) ROC curves

[6 Marks, CO-5]