1. What is the primary difference between regression and classification tasks in machine learning as applied to computer vision?

A. Classification outputs continuous values
B. Regression outputs continuous values
C. Regression outputs discrete class labels
D. Classification requires manual feature definition

2. In the context of feature detection, what is a significant challenge that affects the accuracy of identifying objects in images?

A. The number of color channels in an image
B. The size of the image
C. Variations in scale, orientation, lighting, and occlusions
D. The resolution of the image

3. How are color images represented in numerical form for processing in deep learning?

A. As 1D arrays
B. As 3D arrays with RGB channels
C. As 2D arrays
D. As binary data

4. What is the primary function of the early layers in a Convolutional Neural Network (CNN)?

A. Detect simple features like edges
B. Detect complex hierarchical features
C. Classify every pixel in an image
D. Predict continuous control signals

5. In the context of object detection using CNNs, what is the advantage of using Region Proposal Networks (R-CNN) over the naive sliding window approach?

A. It learns to propose regions and classify them end-to-end
B. It classifies each box independently
C. It requires less computational power
D. It simplifies the feature extraction process