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| --- | --- |
| Date | 26/06/2025 |
| Team ID | LTVIP2025TMID33042 |
| Project Name | HematoVision-Blood Cell Classifier |
| Maximum Marks | 4 MARKS |

FUNCTIONAL TESTING

| **Test Case ID** | **Feature** | **Test Description** | **Expected Result** | **Status** |
| --- | --- | --- | --- | --- |
| TC-01 | Image Upload | Upload a valid blood smear image | Image is accepted and previewed | ✅ Pass |
| TC-02 | Preprocessing | Image is resized and normalized before inference | Pre-processed image is passed to model | ✅ Pass |
| TC-03 | Model Inference | Run model on uploaded image | Top-3 predictions with confidence scores are displayed | ✅ Pass |
| TC-04 | Explanation Module | Generate heatmap overlay | Heatmap is shown on top of original image | ✅ Pass |
| TC-05 | PDF Export | Export results to A4-format PDF | PDF is downloaded with predictions and branding | ✅ Pass |
| TC-06 | Offline Functionality | Run app without internet | All features work offline | ✅ Pass |

## **Performance Testing**

| **Metric** | **Test Description** | **Expected Threshold** | **Observed Result** | **Status** |
| --- | --- | --- | --- | --- |
| Inference Time | Time taken to generate predictions after image upload | ≤ 5 seconds | 3.2 seconds | ✅ Pass |
| PDF Export Time | Time taken to generate and download PDF report | ≤ 2 seconds | 1.4 seconds | ✅ Pass |
| Memory Usage | RAM usage during inference and report generation | ≤ 500 MB | ~320 MB | ✅ Pass |
| CPU Utilization | CPU load during peak processing | ≤ 70% | ~58% | ✅ Pass |
| Cold Start Time | Time taken to launch app from .bat file | ≤ 10 seconds | 6.8 seconds | ✅ Pass |