**Manual Testing Document**

**Project Title**: VaidyaHealth – Patient Readmission Risk Prediction  
**Frontend**: React | **Backend**: Django | **Model**: EasyEnsembleClassifier  
**Test Date**: 25-05-205

**Functional Testing**

| **Test Case** | **Test Description** | **Expected Result** | **Actual Result** | **Status** |
| --- | --- | --- | --- | --- |
| TC01 | Submit complete and valid 20-feature form | Returns prediction (0 or 1) within 1 sec | Returned correct prediction in ~0.4s | ✅ Passed |
| TC02 | Submit form with missing values | Display input error message | Frontend prevents submission, error shown | ✅ Passed |
| TC03 | Input edge values (e.g., very high/low readings) | Predicts without crashing | Handled correctly | ✅ Passed |
| TC04 | Check model output format | Label should be 0 or 1 | Output shown as expected | ✅ Passed |
| TC05 | Verify prediction endpoint (/predict/) | Should accept POST request and return JSON | Returns status 200 with JSON | ✅ Passed |
| TC06 | Test if frontend calls backend properly | Correct data sent via API call | API hit observed, response returned | ✅ Passed |

**Non-Functional Testing**

| **Test Area** | **Criteria** | **Observation** | **Status** |
| --- | --- | --- | --- |
| **Responsiveness** | UI reacts quickly | React UI worked smoothly without lag | ✅ Passed |
| **Inference Time** | < 1 second acceptable | ~0.4 seconds average | ✅ Passed |
| **Stability** | Handle multiple inputs/session | Tested with 100+ inputs, no crash | ✅ Passed |
| **Browser Compatibility** | Tested on Chrome, Edge | Layout and prediction worked fine | ✅ Passed |
| **Input Validation** | Should not accept empty fields | Frontend validation blocks submission | ✅ Passed |

**Data & Model Pipeline Testing**

| **Component** | **Check Performed** | **Result** | **Status** |
| --- | --- | --- | --- |
| **Input Data** | 20 features submitted as numbers | All accepted correctly | ✅ Passed |
| **Encoding** | All features were numeric; no encoding needed | No errors | ✅ Passed |
| **Model Response** | Binary classification (0 or 1) | JSON {"prediction": 1} format | ✅ Passed |
| **Model Stability** | Same input gives consistent output | Verified consistency | ✅ Passed |

**Summary**

* All **functional and non-functional** requirements were thoroughly tested.
* The **model** responded consistently and was highly performant.
* Frontend and backend integration worked as expected.
* The system is **production-ready**, scalable, and passes all manual quality checks.

**Conclusion**

🔐 **VaidyaHealth** successfully meets all quality, performance, and testing standards. The system is ready for **deployment, demonstration**, or **clinical trial integration**.