Technical exam for Business Central developers

Candidate: _______________

Position: _________________

Start: ____________________

Deadline: _________________

Task 1 (Data model)

Create 3 tables (at least 6 fields per table):

- Customer Order Header
  - Create 1 flow field for showing order amount value
  - Use "No. Series" feature
- Customer Order Line
- Customer Order Payment

Install "No. Series" settings during your extension installation (create "On Install" codeunit)

Create a table extension for Customer table:

- Add 2 fields for showing value of all the posted Customer Orders total and paid amounts based for this customer

Task 2 (UI/UX)

- Create list and card pages for showing information based on the tables from Task 1
  - Use fact boxes for both of pages
- Create list part for showing Customer Order Line subforum (add this part to the card page)
- Add "Post" action to Customer Order card and list pages:
  - User can post only a Customer Order that has "Order Amount" is not equal to zero

Create page extensions for Customer card and list pages:

- Change position and caption for 3 standard fields
- Add your custom fields from Task 1 to the standard card page and to the standard fact box
- Add logic for showing list of orders and payments on pressing these fields

Task 3 (Posting)

- Create a codeunit for posting
- Transfer Customer Order data to posted tables (create these tables, use different "No. Series")
- Delete non-posted data after
- Add a field for showing sum of all the Posted Customer Orders payments amount based on this order to Posted Customer Order table. Show list of payments on pressing this field.
- Disable "Set payment" action if paid amount is equal to order amount. User cannot pay for the order more than this one costs.

Task 4 (Payments)

- Add "Set payment" action to the Customer Order card:
  - Run modal form after pressing the action.
  - Put some payment information there.
  - Transfer this info to a new payment record in the journal from Task 1 on closing the form.
  - User should have a possibility to create more than one payment per a header record

Task 5 (Reports)

- Create a report for showing information (like a receipt) of Posted Customer Order and Customer Order Payment records on the report layout (use RDLC layout, build this one in MS Report Builder):
  - Call the report from Card page action
  - Do not publish this report for calling from search panel in Business Central
- Create a report extension for any standard report that uses RDLC layout:
  - Add 3-4 custom columns to the report and its layout
  - Create custom labels for these fields
  - Add 2 custom fields to Request Page of the report

Task 6 (Integration with Base App)

- Create a subscriber for sales orders posing flow.
  - Add confirmation window before starting of the posting process If a customer that was used in the record (36 "Sales Header") is related with any Posted Customer Order.
    - If a user confirms - continue the standard flow else, you should interrupt the posting process.
- Prevent Customer record deletion with a confirmation window
  - If a user confirms - continue the standard flow else, you should interrupt the deletion process.

Task 7 (Auto Tests)

Cover all the logic you developed in the earlier steps with auto tests (create at least 10 test methods) using:

- ATDD (GIVEN, WHEN THEN);
- PageHandlers, HyperlinkHandlers;
- TestPage, TestRequestPage data types;
- At least 2 test libraries for each method;
- TransactionModel property;
- Asserterror method.

Task 8 (Installation & Upgrading)

Build OnInstall codeunit using:

- OnInstallAppPerCompany trigger;
- OnInstallAppPerDatabase trigger.

Build OnUpgrade codeunit using:

- OnCheckPreconditionsPerCompany trigger;
- OnCheckPreconditionsPerDatabase trigger;
- OnUpgradePerCompany trigger;
- OnUpgradePerDatabase trigger;
- OnValidateUpgradePerCompany trigger;
- OnValidateUpgradePerDatabase trigger.

These triggers must have some implementation inside, like:

- Upgrade scripts.
- Module Info.
- Version checking etc.

Do not create empty triggers, please!

Task 9 (Theory)

Answer the questions:

- Business Central system topology in Saas.
- What is the life cycle of a Business Central extension in Saas?
- What are Business Central's integration patterns (names, usages)? What is the main difference between them?
- What is Branching strategy? (Usages examples are needed