

Annexure-II**DATA CAPTURING MANUAL FOR DISTRICT MIS COORDINATOR**

Data Capture, Extraction, Generating '.csv' files from NAS OMR Sheets–
Achievement tests, Questionnaires (Pupil-PQ, Teacher-TQ and School-SQ)

1. Key points to check, while procurement of OMR data capturing software and scanning device

The solution should comprise of OMR software and ADF scanner (support 300 dpi scanning) that will ensure successful processing of NAS OMR sheets.

Key features of solution should be:

- Completely customized to automatically configure and process NAS Classes III, V and VIII OMR sheets (as per OMR design provided by NCERT) of Achievement tests and Questionnaires– Pupil (PQ), Teacher (TQ) and School (SQ).
- The solution should have been successfully used to process OMR sheets in educational surveys.
- Should provide automatic error detection and correction module.
- Software should process minimum 300-500 OMR sheets in a minute.
- Software should be integrated with Scanner SDK.
- Should have in-built Microsoft Excel based OMR Form designer.
- Should allow automatic creation of output '.csv' file 100% compatible with NCERT's NAS Web Application.
- Should follow '.csv' templates available on NAS Web-application (can be downloaded).

You may also look (optional):

- Preferably have facility for automatic creation of Customized District Level Learning Outcome based Reports (as per template of District Report Card shared with States/UTs by NCERT).
- Should have capability of completion of data processing/data verification/data upload/Report creation at District level within a week time, based on the coverage of NAS 2017.

NOTE: Share this manual with your OMR scanning vendor/firm just after procurement of software and scanning device.

2. OMR Sheet Designing

- OMR sheet designs will be provided by NCERT for NAS Classes III, V and VIII.
- There are total 12 OMR sheets for Classes III, V and VIII (4 OMR sheets for each class) as below:
 - 1 OMR sheet for achievement test
 - 1 OMR sheet for PQ
 - 1 OMR sheet for TQ
 - 1 OMR sheet for SQ
- You MUST follow the design provided by NCERT, while preparing the OMR sheets (Any change/modification will lead to invalid data).

3. OMR Sheet Printing

- You have to get the NAS OMR sheets printed as per the design provided at Annexure.
- Following points should be taken care of while printing these OMR sheets:
 - To be printed on 100 gsm, A4 paper size.
 - Print quality should be good, faded printing may result in distorted results.

4. Filling up of OMR Sheet

- Use only blue/black ball point pen to fill OMR sheet.
- Ensure not to leave blank any field/column in the OMR sheet.
- Please fill the full circle/bubble for responding to each question.
- Do not put any ink marks on the circular registration marks printed at the border of the OMR sheet.
- Do not allow students to alter/change/overwrite responses, once marked.

5. Naming FOLDERS and FILES for Achievement Tests

- **Make master folder name by using UDISE code as below:**

E.g.: If the state is Madhya Pradesh and district name is Bhopal then use first four digits from left of UDISE code. In this, first two digits from left represent State and next two digits for district. As per UDISE code first two digits from left for Madhya Pradesh are '23' and next two for Bhopal it is '32' so the master folder name for Bhopal district is– '2332'.

- **Inside the master folder, make three sub-1 folders for each class as–**

'class_3' (under master folder '2332')

'class_5' (under master folder '2332')

'class_8' (under master folder '2332')

- **Inside the sub-1 folders make two sub-2 folders for achievement test ('at') and questionnaires ('qs') as–**

'c3_at' and 'c3_qs' (under folder 'class_3')

'c5_at' and 'c5_qs' (under folder 'class_5')

'c8_at' and 'c8_qs' (under folder 'class_8')

- **Scan all OMR sheets (achievement test and questionnaires) and place '.csv' files in their respective folders as below:**

- **FOR ACHIEVEMENT TEST : Make three separate '.csv' files for all sampled schools of a district in their respective class folders as–**

'[master folder name]_c3_at.csv' (under folder 'c3_at')

'[master folder name]_c5_at.csv' (under folder 'c5_at')

'[master folder name]_c8_at.csv' (under folder 'c8_at')

Eg., in case of Bhopal district of Madhya Pradesh the '.csv' files names are as below:

2332_c3_at.csv

2332_c5_at.csv

2332_c8_at.csv

- **FOR QUESTIONNAIRES : Make nine separate '.csv' files for PQ, TQ and SQ for each class in their respective class folders as–**

'[master folder name]_c3_pq.csv' (under folder 'c3_qs')

'[master folder name]_c3_tq.csv' (under folder 'c3_qs')

'[master folder name]_c3_sq.csv' (under folder 'c3_qs')

'[master folder name]_c5_pq.csv' (under folder 'c5_qs')

'[master folder name]_c5_tq.csv' (under folder 'c5_qs')

'[master folder name]_c5_sq.csv' (under folder 'c5_qs')

'[master folder name]_c8_pq.csv' (under folder 'c8_qs')

'[master folder name]_c8_tq.csv' (under folder 'c8_qs')

'[master folder name]_c8_sq.csv' (under folder 'c8_qs')

Eg., in case of Bhopal district of Madhya Pradesh the '.csv' files names are as below:

'2332_c3_pq.csv'	(under folder 'c3_qs')
'2332_c3_tq.csv'	(under folder 'c3_qs')
'2332_c3_sq.csv'	(under folder 'c3_qs')
'2332_c5_pq.csv'	(under folder 'c5_qs')
'2332_c5_tq.csv'	(under folder 'c5_qs')
'2332_c5_sq.csv'	(under folder 'c5_qs')
'2332_c8_pq.csv'	(under folder 'c8_qs')
'2332_c8_tq.csv'	(under folder 'c8_qs')
'2332_c8_sq.csv'	(under folder 'c8_qs')

Note: '.csv' files for each class of a district **MUST** follow the above folder and file formats to avoid any invalid entries on the NAS Web Application.

6. OMR Sheet Scanning and Processing of data

- Instruct vendor/firm from which the scanning device and software are procured to follow the instructions mentioned in this manual.
- Download the '.csv' templates (achievement test, PQ, TQ and SQ) from the NAS Web-application and hand over the same to the vendor/firm well-before starting the OMR scanning process.
- Instruct vendor/firm to strictly follow data structure for generating '.csv' files.

7. Generating '.csv' file from Achievement Tests OMR sheets

Once the data is processed, the next step is generating '.csv' file for uploading on the NAS Web Application. The '.csv' file must be in the following field order, field name, field type, field length and possible values as mentioned below:

8. Data structure for generating '.csv' files

Column order	Field/column name	Field type	Field length	Possible Values	Field Validation	Remarks
A	UDISE School Code	numeric	11		Mandatory	
B	Date of Birth	numeric	8		Optional *In case of filled-in OMR, this field received blank or has multiple responses then the field should be treated as no response (blank in '.csv' file)	DD/MM/YYYY ONLY
C	Aadhaar Number	numeric	12		Optional *In case of filled-in OMR, this field received blank or has multiple responses then the field should be treated as no response (blank in '.csv' file)	Leave blank for no response
D	Year of Admission in the School	numeric	4		Optional *In case of filled-in OMR, this field received blank or has multiple responses then the field should be treated as no response (blank in '.csv' file)	YYYY ONLY
E	Section	character	1	A to P	Optional *In case of filled-in OMR, this field received blank or has multiple responses then the field should be treated as no response (blank in '.csv' file)	
F	Student ID	numeric	2	01 to 30	Mandatory	
G	Social Group	numeric	1	1 to 4	Mandatory	
H	CWSN	numeric	1	1 to 7	Optional *In case of filled-in OMR, this field received blank or has multiple responses then the field should be treated as no response (blank in '.csv' file)	
I	Area Code	numeric	1	1 to 2	Mandatory	

Column order	Field/column name	Field type	Field length	Possible Values	Field Validation	Remarks
J	School Management	numeric	1	1 to 2	Optional *In case of filled-in OMR, this field received blank or has multiple responses then the field should be treated as no response (blank in '.csv' file)	
K	Gender	numeric	1	1 to 2	Mandatory	
L	Medium	numeric	2	01 to 29	Mandatory	
M	Test Form	numeric	2	31,32, 51,52, 81,82	Mandatory	31, 32 (Class III); 51, 52 (Class V); and 81, 82 (Class VIII)
Student's Responses						
N to BF	Q1 to Q45	numeric	1	1 to 4, 8, 9	Mandatory	<ul style="list-style-type: none"> • N to BF for Classes III & V; • (1 to 4 are options; '8' for multiple response and '9' for no response)
N to BU	Q1 to Q60	numeric	1	1 to 4, 8, 9	Mandatory	<ul style="list-style-type: none"> • N to BU for Class VIII • (1 to 4 are options; '8' for multiple response and '9' for no response)

9. Uploading '.csv' files on NAS Web Application

Upload '.csv' file to NCERT's NAS Web Application (follow upload instructions as stated in NAS Web Application Manual)

10. Report Generation

Generate District Report Card after '.csv' file uploading from NAS Web Application (follow instructions as stated in NAS Web Application Manual)