

भारत सरकार / **Government of India**  
भारतीय भूवैज्ञानिक सर्वेक्षण / Geological Survey of India  
उपमहानिदेशक ( रसायन) का कार्यालय  
OFFICE OF DEPUTY DIRECTOR GENERAL (CHEMISTRY)  
15 A & B, किड स्ट्रीट / Kyd Street, कोलकाता / Kolkata-700016

5108/  
संख्या/No: - /CCL/DDG(Chem)/Committee/2019

दिनांक 10 मई 2022

कार्यालय ज्ञापन /Office Memorandum

Sub: -रसायनज्ञों के लक्ष्य मानदंडों का संशोधन / Revision of target of Officers of Chemical Division.

इस विषय में जारी, पूर्व के सभी कार्यालय ज्ञापनों को अधिक्रमण करते हुए, भारतीय भूवैज्ञानिक सर्वेक्षण के सक्षम प्राधिकारी ने अनुलग्नक I और II के अनुसार रसायन प्रभाग के व्यक्तिगत अधिकारी, उपकरण के लक्ष्य को तत्काल प्रभाव से संशोधित किया है।

In supersession of all earlier office memorandum issued on the subject, the competent authority of GSI has revised the target of individual officer of Chemical Division, equipment as per Annexure I & II with immediate effect.

इस संबंध में, संबंधित रसायन प्रयोगशाला के पर्यवेक्षी अधिकारी उपकरणों का सुमुचित उपयोग सुनिश्चित करें और संशोधित लक्ष्य के अनुसार उपलब्धि सुनिश्चित करने के लिए कार्य योजना को तैयार करें।

In this regard, Supervisory officer of concerned Chemical Laboratory may ensure optimal use of instrument and execute action plan accordingly to ensure achievement as per revised target.

*Debasish Bhattacharya*  
10.05.2022

(देबाशीष भट्टाचार्य /Debasish Bhattacharya)

उपमहानिदेशक रसायन/ Deputy Director General (Chemistry)

प्रति/Copy: भारतीय भूवैज्ञानिक सर्वेक्षण के सभी प्रयोगशालाओं के निदेशक /अधीक्षण रसायनज्ञों को सूचना व अनुपालन हेतु।  
All Directors/ Superintending Chemist of GSI for information and compliance.

**Analytical Norms for Sr. Chemist, Chemist and Asst. Chemist for NGCM SAMPLES (With Repeat & Check 10 % Max)**

Sample/Package	Instrument	No. of Elements	Existing Norms per Chemist	Revised Norms per Chemist	Existing Norms per Instrument	Revised Norms per Instrument	No of Chemist for optimal output
<b>A</b>	XRF	24	220	<b>300</b>	880	<b>1200</b>	<b>4</b>
<b>B</b>	GF-AAS	1	180	<b>250</b>	360	<b>500</b>	<b>2</b>
<b>D</b>	AAS with FIAS	1	180	<b>250</b>	360	<b>500</b>	<b>2</b>
<b>E</b>	ISE	1	200	<b>250</b>	400	<b>500</b>	<b>2</b>
<b>F</b>	GF-AAS	2	220	<b>250</b>	440	<b>500</b>	<b>2</b>
<b>G</b>	DMA	1	525	<b>700</b>	525	<b>700</b>	<b>1</b>
<b>H</b>	ICP-MS	23	200	<b>300</b>	800	<b>1200</b>	<b>4</b>
<b>J</b>	ICP-MS	9	180	<b>250</b>	540	<b>1000</b>	<b>4</b>
<b>Water (A)</b>	Complete	9	40	<b>60</b>	40	<b>60</b>	<b>1</b>
<b>Water (B)</b>	ICP-MS	50	200	<b>300</b>	200	<b>300</b>	<b>1</b>
<b>Water (C)</b>	Hg	1	200	<b>300</b>	200	<b>300</b>	<b>1</b>

*Debasish Bhattachary*  
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**Analytical Norms for Sr. Chemist, Chemist and Asst. Chemist for Non-NGCM SAMPLES (Without Repeat & Check)**

Sl No.	Method/ Technique to be followed	Elements to be determined (Detection Limit within Parenthesis)	Existing Norms per Chemist	Revised Norms per Chemist	Existing Norms per Instrument	Revised Norms per Instrument
1.	ICP-OES Inductively Coupled Plasma Atomic Emission Spectroscopy)	Simultaneous (34 elements) measurements (% to ppm level) Sequential (20 elements) – Cu, Pb, Zn, Cd, Mn, Fe, Cr, Al, Co, Ni, Ba, Sr, Y, Sc, V, No, Nb, B, Na, K, Ag. (% to ppm level)	150	180	300	360
2.	XRF	(i) SiO <sub>2</sub> , Al <sub>2</sub> O <sub>3</sub> , Fe <sub>2</sub> O <sub>3</sub> , TiO <sub>2</sub> , CaO, MgO, MnO, Na <sub>2</sub> O, K <sub>2</sub> O, P <sub>2</sub> O <sub>5</sub> , LOI. Trace elements (Rock, Sediments, Soil etc.)	200	230	600	690
3.	F-AAS	Au (50 ppb)	180	210	360	420
4.	F-AAS	Cu, Pb, Zn, Ni, Co, Cd, Ag, Mn. (HNO <sub>3</sub> dissolution) (% to ppm level) Ca, Mg, Na, K, Li, Cs, Rb, Ba, Sr, Al, Ti, Fe. (HClO <sub>4</sub> dissolution) (% to ppm level)	200 150	230 200	400 300	460 400
5.	HG-AAS(Continuous), HG-AAS (FIAS)	As, Sb, Se (ppm to ppb level)	180	210	360	420
6.	ISE	F (ppm level)	200	230	400	460
7.	(i) Direct Mercury analyser (Solid)	Hg ( 5 ppb)	525	620	525	620
8.	Fire Assay GF-AAS (Pb Button) Fire Assay- ICP-MS (NiS) PGE	Au, Pt, Pd. (upto ppb level) Pt, Pd, Rh, Ru, In	80 80	100 100	80 80	100 100
9.	UV- Vis Spectrophotometer	W & Mo (upto ppm level) P <sub>2</sub> O <sub>5</sub> (upto ppm level)	200 200	210 230	200 200	210 230
10.	(Inductively Coupled Plasma- Mass Spectrometry)	(i) Bi, Cd, Co, Cu, Nb, Pb, Th, U, Sc, Sn, In, Hf, Ta, Ge, Be, Zr. (upto ppb level). (ii) La, Ce, Pr, Nd, Eu, Sm, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Y (upto ppb level).	180 200	210 230	540 600	630 690
11.	Water (Complete)	pH, EC, HCO <sub>3</sub> <sup>-</sup> , Cl <sup>-</sup> , SO <sub>4</sub> <sup>2-</sup> , NO <sub>3</sub> <sup>-</sup> , Ca <sup>+2</sup> , Mg <sup>+2</sup> , Na <sup>+1</sup> , K <sup>+1</sup> , PO <sub>4</sub> , SiO <sub>2</sub> .	40	50	40	50
12.	Water	Trace by AAS/ ICP-AES (upto ppm/ ppb level)	200	240	100	240
13.	Water	Hg, F, (upto ppb level)	200	240	200	240
14.	Water	As (upto ppb level)	200	240	200	240
15.	Water (Partial)	pH, EC, HCO <sub>3</sub> , CO <sub>3</sub> , Cl, Ca, Mg, Na, K. (upto ppm level)	150	180	150	180
<b>Coal</b>						
16.	Proximate	Ash, Moisture, V.M, Fixed Carbon (% level)	80	110	80	110
17.	Ultimate	C, N, H, S, O, P including proximate analysis (upto ppm level)	50	75	50	75
<b>Environmental</b>						
18.	Soil Extracts (Acid/ Water)	pH including all major ions	70	100	70	100
		Traces by AAS/ AES (ppm/ ppb level)	150	200	150	200
		N.K.P.B in soil (ppm/ ppb level)	40	60	40	60
19.						

*Debasish Bhattacharya*  
10.05.2022