PROCESO SELECTIVO PARA INGRESO, POR EL SISTEMA GENERAL DE ACCESO LIBRE, EN LA ESCALA DE TECNÓLOGOS DE LOS ORGANISMOS PÚBLICOS DE INVESTIGACIÓN

ÁREA: «A2-VIDA» ESPECIALIDAD: «V5- "TÉCNICAS EN BIOMEDICINA Y SALUD"

OPI: «INSTITUTO DE SALUD CARLOS III»

FASE OPOSICIÓN-SEGUNDA PARTE

SUPUESTO PRÁCTICO Nº1

You are requested to design the scientific-technical infrastructure for a new Biomedical Research and Diagnostics Center specializing in infectious diseases, rare genetic disorders, and chronic diseases.

I. Define the core scientific and technical service units required for this center. For each unit, describe:

- Equipment
- Services provided

II. Describe the decision-making workflow from sample reception to diagnostic reporting of the following units:

- Chromatography and mass spectrometry for omics applications
- Molecular biology techniques
- Microscopy
- Cytometry

III. Describe a simple system to check how well these units are working during the first months. Indicate:

- The essential indicators needed to monitor analytical performance and service efficiency (for example: number of samples processed, time needed for each analysis, equipment availability).
- How these indicators can help decide future needs, such as buying new instruments or requesting more staff.

SUPUESTO PRÁCTICO Nº2

A Biomedical Research Center working on infectious and chronic diseases receives biological samples from research groups and clinical collaborators. The center has molecular biology and sequencing capabilities, but the workflow is not fully standardized. Sample traceability is incomplete, bioinformatics support is provided late in the process, and the results are not always delivered in a clear and homogeneous way.

I. Identify the main technical and organizational problems described in this scenario and explain why they affect the quality and efficiency of the center's activity.

II. Propose a general workflow from sample reception to final delivery of results.

III. Explain how this workflow should be adapted for

- Infectious diseases
- Chronic diseases.

IV. For each field, indicate the most relevant types of samples and data, the main analytical objective, and the expected result. Finally, mention three priority actions that should be implemented in the short term to improve the service.