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A SYSTEM APPROACH TO NAVY MEDICAL EDUCATION AND TRAINING. APPEN—ETC(U)

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APPENDIX 9.

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APPLICATION OF A SYSTEM APPROACH  
U.S. NAVY MEDICAL DEPARTMENT  
EDUCATION AND TRAINING PROGRAMS  
FINAL REPORT

Prepared under Contract to  
OFFICE OF NAVAL RESEARCH  
U.S. DEPARTMENT OF THE NAVY

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Program Manager  
Education and Training R&D  
Bureau of Medicine and Surgery (Code 71G)

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) The study objective consisted of a determination of what the health care personnel in the Navy's Medical Department, Bureau of Medicine and Surgery actually do in their occupations; improving the personnel process (education and training); and building a viable career pathway for all health care personnel. Clearly the first task was to develop a system of job analyses applicable to all system wide health care manpower tasks. A means of postulating simplified occupational clusters covering some 50		

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currently designated Navy enlisted occupations, 20 Naval Enlisted Classification Codes (NEC's) were computerized. A set of 16 groupings that cover all designated occupations was developed so as to enhance the effectiveness of professionals and sub-professionals alike.

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## FOREWORD

The project, "Application of a System Approach to the Navy Medical Department Education and Training Programs," was initiated in May of 1969 as a realistic, comprehensive response to certain objectives set forth in ADO 43-03X, and to memoranda from both the Secretary of Defense and the Assistant Secretary of Defense, Manpower and Reserve Affairs. The Secretary's concern was stated in his memorandum of 29 June 1965, "Innovation in Defense Training and Education." More specific concerns were stated in the Assistant Secretary's memorandum of 14 June 1968, "Application of a System Approach in the Development and Management of Training Courses." In this he called for "vigorous and imaginative effort," and an approach "characterized by an organized training program with precise goals and defined operational interrelation among instructional system components." He also noted, "Job analyses with task descriptions expressed in behavioristic terms are basic and essential to the development of precise training goals and learning objectives."

### The Project

System survey and analysis was conducted relative to all factors affecting education and training programs. Subsequently, a job-analysis sub-system was defined and developed incorporating a series of task inventories "...expressed in behavioristic terms..." These inventories enabled the gathering of job activity data from enlisted job incumbents, and data relating to task sharing and delegation from officers of the Medical, Nurse and Dental Corps. A data management sub-system was devised to process incumbent data, then carry out needed analyses. The development of initial competency curricula based upon job analysis was implemented to a level of methodology determination. These methods and curriculum materials constituted a third (instructional) sub-system.

Thus, as originally proposed, a system capability has been developed in fulfillment of expressed need. The system, however, remains untested and unevaluated. ADO 43-03X called for feasibility tests and cost-effectiveness determination. The project was designed to so comply. Test and evaluation through the process of implementation has not proved feasible in the Navy Medical Department within the duration of the project. As designed and developed the system does have "...precise goals and defined operational interrelation among instructional system components." The latter has been achieved in terms of a recommended career structure affording productive, rewarding manpower utilization which bridges manpower training and health care delivery functions.

### Data Management Sub-System

Job analysis, involving the application of comprehensive task inventories to thousands of job incumbents, generates many millions of discrete bits of response data. They can be processed and manipulated only by high speed computer capability using rigorously designed specialty programs. In addition to numerical data base handling, there is the problem of rapidly and accurately manipulating a task statement data base exceeding ten thousand carefully phrased behavioral statements. Through the use of special programs, task inventories are prepared, printouts for special purposes are created following a job analysis application, access and retrieval of both data and tasks are efficiently and accurately carried out, and special data analyses conducted. The collective programs, techniques and procedures comprising this sub-system are referred to as the Navy Occupational Data Analysis Language (NODAL).

### Job Analysis Sub-System

Some twenty task inventory booklets (and associated response booklets) were the instruments used to obtain job incumbent response data for more than fifty occupations. An inventory booklet contains instructions, formatted questions concerning respondent information ("bio-data"), response dimension definitions, and a list of tasks which may vary in number from a few hundred to more than a thousand per occupational field.

By applying NODAL and its associated indexing techniques, it is possible to assemble modified or completely different inventories than those used in this research. Present inventories were applied about three years ago. While they have been rendered in operational format, they should not be re-applied until their task content is updated.

Response booklets were designed in OPSCAN mode for ease of recording and processing responses.

Overall job analysis objectives and a plan of administration were established prior to inventory preparation, including the setting of provisional sample target sizes. Since overall data attrition was forecast to approximate twenty percent, final sample and sub-sample sizes were adjusted accordingly. Stratified random sampling techniques were used. Variables selected (such as rating, NEC, environment) determined stratifications, together with sub-population sizes. About fifteen percent of large sub-populations were sought while a majority or all members of small sub-populations were sought.

Administration procedures were established with great care for every step of the data collecting process, and were coordinated with sampling and data analysis plans. Once set, the procedures were formalized as a protocol and followed rigorously.

### Instructional Sub-System

Partial "competency curricula" have been composed as an integral sub-system bridging what is required as performance on the job with what is, accordingly, necessary instruction in the training process. Further, curriculum materials were developed to meet essential requirements for implementing the system so that the system could be tested and evaluated for cost effectiveness. However, due to the fact that test and evaluation was not feasible in the Navy Medical Department within the duration of the project, it was not possible to complete the development of the system through the test and evaluation phase. The inability to complete this phase also interrupted the planned process for fully developing the curricula; therefore, instead of completed curricula ready for use in the system, the curricula were partially developed to establish the necessary sub-system methodology. The competency curricula are based on tasks currently performed by job incumbents in 1971. (The currency of a given curriculum depends upon periodic analysis of incumbents' jobs, and its quality control resides in the evaluation of the performance competency of the program's graduates.)

A competency curriculum provides a planned course of instruction or training program made up of sequenced competency units which are, in turn, comprised of sequenced modules. These modules, emphasizing performance objectives, are the foundation of the curriculum.

A complete module would be comprised of seven parts: a cluster of related tasks; a performance objective; a list of knowledges and skills implied by the objective; a list of instructional strategies for presenting the knowledges and skills to the learner; an inventory of training aids for supporting the instructional strategies; a list of examination modes; and a statement of the required training time. In this project, curriculum materials have been developed to various levels of adequacy, and usually comprise only the first three parts; the latter four need to be prepared by the user.

The performance objective, which is the most crucial part of the module, is the basis for determining curriculum content. It is composed of five essential elements: the stimulus which initiates the behavior; the behavior; the conditions under which the behavior takes place; the criteria for evaluating the behavior; and the consequence or results of the behavior. A sixth element, namely next action, is not essential; however, it is intended to provide linkage for the next behavior.

Knowledges and skills listed in the module are those needed by the learner for meeting the requirements of the performance objective.

Instructional strategies, training aids, examination modes and training time have been specified only for the Basic Hospital Corps Curriculum. The strategies, aids and modes were selected on the basis of those considered to be most supportive in presenting the knowledges and skills so as to provide optimum learning effectiveness and training efficiency. The strategies extend from the classroom lecture as traditionally presented by a teacher to the more sophisticated mediated program for self-instruction. The training aids, like strategies, extend from the traditional references and handout material in the form of a student syllabus to mediated programs for self-instruction supported by anatomical models. Examination modes extend from the traditional paper and pencil tests to proficiency evaluation of program graduates on the job, commonly known as feedback. Feedback is essential for determining learning effectiveness and for quality control of a training program. The kind of instructional strategies, training aids and examination modes utilized for training are limited only by such factors as staff capability and training budget.

The training time specified in the Basic Hospital Corps Curriculum is estimated, based upon essential knowledge and skills and program sequence.

The competency curriculum module, when complete, provides all of the requirements for training a learner to perform the tasks set forth in the module. A module may be used independently or related modules may be re-sequenced into modified competency units to provide training for a specific job segment.

Since the curricula are based upon tasks performed by job incumbents in 1971, current analysis of jobs needs to be accomplished using task inventories that have been updated to reflect changes in performed tasks. Subsequent to job analysis, a revision of the curricula should be accomplished to reflect task changes. When the foregoing are accomplished, then faculty and other staff members may be indoctrinated to the competency curricula and to their relationship to the education and training system.

In addition to the primary use for the systematic training of job incumbents, these curricula may be used to plan for new training programs, develop new curricula, and revise existing curricula; develop or modify performance standards; develop or modify proficiency examinations; define billets; credentialize training programs; counsel on careers; select students; and identify and select faculty.

## The System

Three sub-systems, as described, comprise the proposed system for Education and Training Programs in The Navy Medical Department. This exploratory and advanced developmental research has established an overall methodology for improved education and training incorporating every possible means of providing bases for demonstrating feasibility and cost effectiveness. There remains only job analysis sub-system updating, instructional sub-system completion, and full system test and evaluation.

## Acknowledgements

The authors wish to acknowledge the invaluable participation of the several thousands of Naval personnel who served as respondents in inventory application. The many military and civilian personnel who contributed to developmental efforts are cited by name in the Final Report.

The authors also wish to acknowledge former colleagues for singularly important contributions, namely, Elias H. Porter, Ph.D., Carole K. Kauffman, R.N., M.P.H., Mary Kay Munday, B.S.N., R.N., Gail Zarren, M.S.W., and Renee Schick, B.A.

Identity and acknowledgement of the project Advisory Group during the project's final year is recorded in the Final Report.

Lastly, the project could not have been commenced nor carried out without the vision, guidance and outstanding direction of Ouida C. Upchurch, Capt., NC, USN, Project Manager.

NAVY MEDICAL DEPARTMENT

TASK INVENTORY BOOKLET

LABORATORY

## CONSTRAINTS AND ETHICAL USE

This task inventory was developed three years ago in a first-version key punch format for education and training research purposes.

The present "operational" format, using a mark-sense response booklet (Opscan), is recommended for future applications. The task and equipment statements comprising the bulk of the inventory are precisely the same (less duplicate entries) as in the original research tools but rearranged for Opscan mode. Biographical data questions have also been reformatted for Opscan (NEC codes should be updated).

The processing, administering and formatting of this inventory have thus been readied for operational application.

It is strongly recommended that this inventory be updated in its task and equipment statement sections before actual operational use. These reasons pertain:

- Changes in medical or related procedures or techniques
- Some tasks may violate current policy or be obsolete
- Equipment changes may have occurred
- The objective of task comprehensiveness may change
- Objectives may shift to embrace manpower utilization as well as education and training

In the latter regard, the present operational format includes a "time to perform" dimension (as well as frequency of performance and two additional optional blank response dimension fields). As a response dimension, "time to perform" has been validated within the context of inventories for professional personnel where the objectives embraced utilization (i.e., time associated with shared and delegable tasks). The original Enlisted inventory content was directed to education and training factors only. If "time to perform" is to be used operationally, each task and equipment statement should be examined by expert job incumbents to remove possible overlaps which could confound "time to perform" data. This review process would also serve other purposes cited above.

A general precaution is in order.

When task analysis inventories are poorly prepared, loosely administered, administered according to less than rigorous sampling, or are handled casually in processing or interpretation, they will inevitably produce poor or questionable data, at best. At worst, such practices will result in loss of money and time, and produce dangerous data. Inventories should be prepared, applied, processed and interpreted only by knowledgeable professional and technical personnel. As in the cases of ethically controlled behavior tests, inventories should not be casually copied or distributed, and should remain under the control of authorized, trained personnel. Factors effecting reliability and validity should be fully appreciated.

## GENERAL INSTRUCTIONS

There are two parts to be completed for this survey:

- Part I            Career Background Information  
                  (answers to be recorded in this  
                  TASK BOOKLET)
  
- Part II A        List of Tasks (answers to be  
                  recorded on the accompanying  
                  RESPONSE BOOKLET)
  
- B    List of Instruments and  
                      Equipment (answers to be  
                      recorded on the accompanying  
                      RESPONSE BOOKLET)

Each part is preceded by a set of instructions. Be sure to read them carefully before you start answering each part. All instructions are found on the tinted pages.

PLEASE USE ONLY NUMBER 2 LEAD PENCILS. ERASE ALL CHANGES CAREFULLY AND COMPLETELY. DO NOT PUT ANY MARKS OTHER THAN YOUR ANSWERS ON EACH RESPONSE PAGE.

DO NOT FOLD, WRINKLE, CREASE OR DETACH PAGES FROM EITHER TASK BOOKLET OR RESPONSE BOOKLET.

WHEN RECORDING YOUR ANSWERS YOU MAY WANT TO USE A RULER TO READ ACROSS ANSWER AND QUESTION COLUMNS.

WHEN YOU HAVE COMPLETED YOUR RESPONSES, PUT THE TASK INVENTORY BOOKLET AND THE RESPONSE BOOKLET IN THE ENCLOSED SELF-ADDRESSED ENVELOPE. SEAL AND RETURN TO THE OFFICER WHO GAVE YOU THIS PACKAGE. COMPLETED BOOKLETS SHOULD BE RETURNED WITHIN ONE WEEK OF RECEIPT.

Part I

CAREER BACKGROUND INFORMATION

Check that the Form and Serial Number in this box match those on the cover of this Booklet

Please fill out completely

Name of your Duty Station \_\_\_\_\_

City & State (if applicable) \_\_\_\_\_

Your Name \_\_\_\_\_

Social Security Number \_\_\_\_\_

DO NOT FILL IN

\_\_\_\_\_  
\_\_\_\_\_ (1)

N \_\_\_\_\_ (7)  
Form Serial No.

PLEASE ANSWER QUESTIONS BELOW BY ENTERING THE PROPER NUMBER IN THE BLANKS PROVIDED. TWO BLANKS REQUIRE A TWO-DIGIT ANSWER. DISREGARD NUMBERS IN PARENTHESIS.

ENTER ANSWERS HERE

Q1. Select the number to indicate the Corps to which you belong:

Q1. \_\_\_\_ (23)

- 1. Dental Technician
- 2. Hospital Corps

Q2. Indicate your military status:

Q2. \_\_\_\_ (24)

- 1. USN
- 2. USNR

Q3. Indicate your pay grade:

Q3. \_\_\_\_ (25)

- 1. E1
- 2. E2
- 3. E3
- 4. E4
- 5. E5
- 6. E6
- 7. E7
- 8. E8
- 9. E9

Q4. Indicate your total years of active duty in the Navy to date: (estimate to the nearest year)

Q4. \_\_\_\_ (26)

- 1. Less than 2 years
- 2. 2 to 4 years
- 3. 5 to 8 years
- 4. More than 8 years

ENTER  
ANSWERS  
HERE

- Q5. Select the number to indicate your present immediate supervisor:
1. Physician
  2. Dentist
  3. Nurse
  4. MSC Officer
  5. HM or DT
  6. Other (Specify) \_\_\_\_\_
- Q6. Select the number to indicate the average number of hours you work per week: (estimate to the nearest hour)
1. 35 to 40 hours
  2. 41 to 50 hours
  3. More than 50 hours
- Q7. Please give an estimate of the percent of time you spend on the following (write five percent as 05):
1. Inpatient care
  2. Outpatient care
  3. Teaching
  4. Administration
  5. Other (specify) \_\_\_\_\_
- Q8. Assuming that most or all of the following factors are of importance to you, select the three which, if improved, would contribute most to your job satisfaction:
- 01 Salary and/or promotion opportunities
  - 02 Retirement benefits
  - 03 Housing
  - 04 Educational advancement opportunities
  - 05 Stability of tour of duty
  - 06 Physical facilities and equipment
  - 07 Administrative and clerical support
  - 08 Work load
  - 09 Personal career planning
  - 10 Opportunity to attend professional meetings

Q5. \_\_\_ (27)

Q6. \_\_\_ (28)

Q7.

1. \_\_\_ % (29)

2. \_\_\_ % (31)

3. \_\_\_ % (33)

4. \_\_\_ % (35)

5. \_\_\_ % (37)

Q8. \_\_\_ (39)

\_\_\_ (41)

\_\_\_ (43)

ENTER  
ANSWERS  
HERE

- Q9. Using the list on page vii specify your current NEC by writing the last two digits of the CODE. Q9. \_\_ \_\_ (45)
- Q10. Select the number to indicate your years of experience corresponding to the NEC stated in Q9: (estimate to the nearest year) Q10. \_\_ \_\_ (47)
1. Less than 1 year      4. 6 to 10 years  
2. 1 to 2 years          5. 11 to 15 years  
3. 3 to 5 years          6. More than 15 years
- Q11. If you have other NEC(s) in addition to the one specified in Q9, check page vii and indicate the last two digits of the CODE(s). If you have none, enter "99" in answer space for Q11 and Q12. Q11a. \_\_ \_\_ (48)  
b. \_\_ \_\_ (50)
- Q12. Select the number to indicate the years of experience you had in the NEC(s) stated in Q11 (estimate to the nearest year). Q12a. \_\_ \_\_ (52)  
b. \_\_ \_\_ (53)
1. Less than 1 year      4. 6 to 10 years  
2. 1 to 2 years          5. 11 to 15 years  
3. 3 to 5 years          6. More than 15 years
- Q13. From the list below, write the two-digit CODE to indicate the specialty of the department in which you are currently functioning. Q13. \_\_ \_\_ (54)

CODE

01 Administration	18 Urology
02 Education	19 Intensive Care
03 Anesthesiology	20 Operating Room
04 Coronary Care	21 Emergency Room
05 Dermatology	00 Other (specify)
06 Medicine - OPD	
07 Medicine - Wards	
08 Obstetrics/Gynecology	
09 Ophthalmology	
10 Orthopedics	
11 Otolaryngology	
12 Medical Laboratory	
13 Pediatrics	
14 Psychiatry	
15 Public Health	
16 Radiology	
17 General Surgery-Wards	

ENTER  
ANSWER  
HERE

Q14. Select the number to indicate the type of duty station at which you currently work, and have been working for at least 30 days:

Q14. \_\_ (56)

1. Hospital
2. Dispensary
3. Aboard ship/sub, no M.O. (or D.O.) aboard
4. Aboard ship/sub, M.O. (or D.O.) aboard
5. Aviation squadron/wing, Navy or Marine
6. Marine ground forces
7. Administrative Commands
8. Research Commands or PMUs
9. Dental Clinic
0. Other \_\_\_\_\_

Q15. Indicate the number of people you normally supervise:

Q15. \_\_ (57)

- |         |            |
|---------|------------|
| 0. None | 3. 6-10    |
| 1. 1-2  | 4. 11-20   |
| 2. 3-5  | 5. over 20 |

MEDICAL/DENTAL NEC (NAVAL ENLISTED CODE) AND TITLE

0000 General Service, Hospital or Dental Corpsman  
3371 Health Physics & Process Control Technician  
3391 Nuclear Power Plant Operator  
8402 Nuclear Submarine Medicine Technician  
8403 Submarine Medicine Technician  
8404 Medical Field Service Technician  
8405 Advanced Hospital Corps Technician (Class B)  
8406 Aviation Medicine Technician  
8407 Nuclear Medicine Technician  
8408 Cardiopulmonary Technician  
8409 Aviation Physiology Technician  
8412 Clinical Laboratory Assistant Technician  
8413 Tissue Culture Technician  
8414 Clinical Chemistry Technician  
8415 Medical Technology Technician  
8416 Radioactive Isotope Technician  
8417 Clinical Laboratory Technician  
8432 Preventive Medicine Technician  
8433 Tissue Culture and Tissue Bank Technician  
8442 Medical Administrative Technician  
8452 X-ray Technician  
8453 Electrocardiograph/Basal Metabolism Technician  
8454 Electroencephalograph Technician  
8462 Optician (General) Technician  
8463 Optician Technician  
8466 Physical and Occupational Technician  
8472 Medical Photography Technician  
8482 Pharmacy Technician  
8483 Operating Room Technician  
8484 Eye, Ear, Nose, & Throat Technician  
8485 Neuropsychiatry Technician  
8486 Urological Technician  
8487 Occupational Therapy Technician  
8488 Orthopedic Appliance Mechanic  
8489 Orthopedic Cast Room Technician  
8492 Special Operations Technician  
8493 Medical Deep Sea Diving Technician  
8494 Physical Therapy Technician  
8495 Dermatology Technician  
8496 Embalming Technician  
8497 Medical Illustration Technician  
8498 Medical Equipment Repair Technician  
8703 DT General, Advanced  
8707 DT Field Service  
8713 DT Clinical Laboratory  
8714 DT Research Assistant  
8722 DT Administrative  
8732 DT Repair  
8752 DT Prosthetic, Basic  
8753 DT Prosthetic, Advanced  
8765 DT Maxillofacial Prosthetic

## RESPONSE BOOKLET INSTRUCTIONS

- To complete Part II, you need this TASK BOOKLET and the accompanying RESPONSE BOOKLET. Record all your answers to Part II in the RESPONSE BOOKLET.
- All pages of the RESPONSE BOOKLET are machine readable. In order for responses to be properly read, please be sure to:
  1. Use a No. 2 pencil only
  2. Carefully and completely shade the number corresponding to your answer under each column.
- Complete Page 00 of the RESPONSE BOOKLET first. Follow instructions given on the page. Fill in Line 1, and Boxes 2, 3, 4, and 5. Ignore all other boxes. BE SURE TO ENTER YOUR SOCIAL SECURITY NUMBER (WRITE DOWNWARD) IN THE BLANK SPACES IN BOX 3: then darkly shade the corresponding number on each line. An example of a completed Page 00 is shown on the next page (the handwritten notes in this example are for clarification only. Please do not make similar notes on your RESPONSE BOOKLET.)
- After completing Page 00, carefully read and follow instructions given on pages x through xiv.
- PLEASE HANDLE YOUR RESPONSE BOOKLET CAREFULLY. KEEP IT CLEAN AND AWAY FROM CHEMICALS. DO NOT DETACH, FOLD, WRINKLE OR CROSS OUT ANY PAGE.

DO NOT MARK IN THESE BOXES	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9
	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9
	<b>RESPONSE BOOKLET</b>			
	Serial No. <b>0233</b>			

My name is

1 NAME

Mary Smith

*Ignore these boxes*

INSTRUCTIONS	
1.	Use No. 2 pencil <u>ONLY</u> .
2.	Indicate responses with solid black mark in space provided.
3.	Erase <u>COMPLETELY</u> all changes.
4.	Do not detach forms from packet.
5.	Answer questions 2 through 5 below.
6.	See Task Statement Booklet for further instructions for completing boxes to the right.

Today is June 4, 1972  
 June = 06  
 1972 = 72

2	TODAY'S DATE	MONTH	0 1 2 3 4 5 6 7 8 9
		DAY	0 1 2 3 4 5 6 7 8 9
		YEAR	0 1 2 3 4 5 6 7 8 9

My Soc. Sec. No. is 304-26-9751

3	SOCIAL SECURITY NUMBER	3	0 1 2 3 4 5 6 7 8 9
		0	0 1 2 3 4 5 6 7 8 9
		4	0 1 2 3 4 5 6 7 8 9
		2	0 1 2 3 4 5 6 7 8 9
		6	0 1 2 3 4 5 6 7 8 9
		9	0 1 2 3 4 5 6 7 8 9
		7	0 1 2 3 4 5 6 7 8 9
		5	0 1 2 3 4 5 6 7 8 9
		1	0 1 2 3 4 5 6 7 8 9

**TASK ANALYSIS BACKGROUND DATA SHEET**

SEE TASK STATEMENT BOOKLET FOR INSTRUCTIONS TO COMPLETE THESE BOXES	6.	0 1 2 3 4 5 6 7 8 9	13 0 1
		0 1 2 3 4 5 6 7 8 9	14 0 1
		0 1 2 3 4 5 6 7 8 9	15 0 1
		0 1 2 3 4 5 6 7 8 9	16 0 1
	7.	0 1 2 3 4 5 6 7 8 9	17 0 1
		0 1 2 3 4 5 6 7 8 9	18 0 1
		0 1 2 3 4 5 6 7 8 9	19 0 1
		0 1 2 3 4 5 6 7 8 9	20 0 1
	8.	0 1 2 3 4 5 6 7 8 9	21 0 1
		0 1 2 3 4 5 6 7 8 9	22 0 1
		0 1 2 3 4 5 6 7 8 9	23 0 1
		0 1 2 3 4 5 6 7 8 9	24 0 1
9.	0 1 2 3 4 5 6 7 8 9	25 0 1	
	0 1 2 3 4 5 6 7 8 9	26 0 1	
	0 1 2 3 4 5 6 7 8 9	27 0 1	
	0 1 2 3 4 5 6 7 8 9	28 0 1	
10.	0 1 2 3 4 5 6 7 8 9	29 0 1	
	0 1 2 3 4 5 6 7 8 9	30 0 1	
11.	0 1 2 3 4 5 6 7 8 9	31 0 1	
	0 1 2 3 4 5 6 7 8 9	32 0 1	
12.	0 1 2 3 4 5 6 7 8 9	33 0 1	
	0 1 2 3 4 5 6 7 8 9	34 0 1	

SEE COVER OF YOUR TASK BOOKLET Form N20, Ser. No. 0233

4	TASK BOOKLET	FORM	A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
			0 1 2 3 4 5 6 7 8 9
		SERIAL NO.	0 1 2 3 4 5 6 7 8 9
			0 1 2 3 4 5 6 7 8 9

My birthday is May 10, 1940  
 May = 05 1940 = 40

5	DATE BIRTH	MONTH	0 1 2 3 4 5 6 7 8 9
		DAY	0 1 2 3 4 5 6 7 8 9
		YEAR	0 1 2 3 4 5 6 7 8 9
			0 1 2 3 4 5 6 7 8 9

*Ignore these boxes*

## PART II

PART II A LIST OF TASKS

PART II B LIST OF INSTRUMENTS AND EQUIPMENT

### HOW TO RESPOND TO TASK STATEMENTS AND INSTRUMENTS

Your responses to each statement should be marked on the corresponding page, column and item number in your RESPONSE BOOKLET.

Note that each page in your RESPONSE BOOKLET has two response blocks. The left-hand block (items 1-25) is for entering responses to statements printed on LEFT pages of this TASK BOOKLET; the right-hand block (items 26-50) is for the responses to statements printed on RIGHT pages. Make sure that your answers are recorded in the appropriate block on every page. DO NOT MAKE ANY MARKS OTHER THAN YOUR ANSWERS!

Each time you start a new page in your RESPONSE BOOKLET, check the page on your TASK BOOKLET. See that the numbers match; then mark the page number in "Box X" in the response page (see instructions at the top of response page.) This is necessary for computer processing.

Tear the Response Guide (p. xiii) at the perforation, and use the correct side to respond to each task or instrument found on the following white pages. Note the following detailed explanation of responses.

Column A - (the responses to Column A differ for Part II A and Part II B, be sure to use the appropriate set of responses.)

Part II A

How often did you do this task within the last month?  
(If you were on leave, consider your immediate past working month.)

- 0 - Did not do
- 1 - Did less than 5 times
- 2 - Did 5 to 20 times
- 3 - Did 21 to 50 times
- 4 - Did 51 to 100 times
- 5 - Did more than 100 times

Part II B

How often did you use this instrument or piece of equipment within the last month? (If you were on leave, consider your immediate past working month.)

- 0 - Did not use
- 1 - Used less than 5 times
- 2 - Used 5-20 times
- 3 - Used 21-50 times
- 4 - Used 51-100 times
- 5 - Used more than 100 times

If answer in Column A is 0, go to the next statement. If answer is 1, 2, 3, 4 or 5, answer also Columns B, C & D.

Column B

Indicate the approximate time you spent on a single performance the last time you performed this task.

0 = less than one minute

1 = 1 to 4 minutes

2 = 5 to 10 minutes

3 = 11 to 20 minutes

4 = 21 to 30 minutes

5 = 31 to 60 minutes

6 = 1 to 2 hours

7 = more than 2 hours

Column C

Do you feel you need additional training to perform this task?

0 = No

1 = Yes

RESPONSE GUIDE

(DO NOT LOSE THIS TAB)

HOW TO RESPOND TO PART IIA - LIST OF TASKS

ANSWER COL. A FIRST. IF A = 0, GO TO NEXT STATEMENT: IF A = 1-5, ANSWER COLUMNS B, C & D ALSO.

A	B	C	D
FREQUENCY	TIME CONSUMED (single performance the last time performed)	DO YOU FEEL YOU NEED ADDITIONAL TRAINING TO PER- FORM THIS TASK?	OPTION (Additional instructions will be given if this column is used)
0=DID NOT DO LAST MONTH	0=LESS THAN 1 MINUTE	0=NO	
1=DID LESS THAN 5 TIMES	1=1 TO 4 MINUTES	1=YES	
2=DID 5 TO 20 TIMES	2=5 TO 10 MINUTES		
3=DID 21 TO 50 TIMES	3=11 TO 20 MINUTES		
4=DID 51 TO 100 TIMES	4=21 TO 30 MINUTES		
5=DID MORE THAN 100 TIMES	5=31 TO 60 MINUTES		
	6=1 TO 2 HOURS		
	7=MORE THAN 2 HOURS		

RESPONSE GUIDE

(DO NOT LOSE THIS TAB)

HOW TO RESPOND TO PART IIB - LIST OF INSTRUMENTS AND EQUIPMENT

ANSWER COL. A FIRST. IF A = 0, GO TO NEXT STATEMENT: IF A = 1-5, ANSWER COLUMNS B, C & D ALSO.

A

B

C

D

FREQUENCY

0=DID NOT USE LAST MONTH  
1=USED LESS THAN 5 TIMES  
2=USED 5 TO 20 TIMES  
3=USED 21 TO 50 TIMES  
4=USED 51 TO 100 TIMES  
5=USED MORE THAN 100 TIMES

TIME CONSUMED  
(last time used)

0=LESS THAN 1 MINUTE  
1=1 TO 4 MINUTES  
2=5 TO 10 MINUTES  
3=11 TO 20 MINUTES  
4=21 TO 30 MINUTES  
5=31 TO 60 MINUTES  
6=1 TO 2 HOURS  
7=MORE THAN 2 HOURS

DO YOU FEEL YOU  
NEED ADDITIONAL  
TRAINING TO PER-  
FORM THIS TASK?

0=NO  
1=YES

OPTION

(Additional instructions  
will be given if this  
column is used)

Part II A  
LIST OF TASKS

TASK NO.	ENTER RESPONSES TO STATEMENTS BELOW IN LEFT SIDE OF PAGE 01 OF RESPONSE BOOKLET
1	ASSIST PATIENT IN COLLECTING CLEAN CATCH URINE
2	COLLECT RADIOACTIVE SPECIMEN
3	COLLECT URINE SPECIMEN FROM INFANTS
4	COLLECT BLOOD FROM CHILDREN/INFANTS
5	COLLECT TIMED SPECIMENS, E.G. 24 HOUR URINE, BLOOD FOR GLUCOSE TOLERANCE
6	COLLECT BLOOD BY VENIPUNCTURE
7	COLLECT CAPILLARY BLOOD SAMPLE, I.E. FROM FINGER TIP, TOE OR EAR LOBE
8	COLLECT BLOOD BY ARTERIAL PUNCTURE
9	TAKE VAGINAL SMEAR FROM PATIENT
10	SCRAPE CERVICAL ORIFICE FOR PAP SMEAR SPECIMEN
11	ASPIRATE POSTERIOR FORNIX FOR PAP SMEAR SPECIMEN
12	COLLECT SPUTUM SPECIMEN BY SUCTION TRAP
13	TAKE NASAL/EAR/THROAT SPECIMEN BY STERILE SWAB
14	COLLECT THROAT/NOSE/EAR CAVITY SECRETIONS/SPECIMEN BY SUCTION TRAP
15	TAKE WOUND SPECIMEN FROM PATIENT
16	SCRAPE EYE ULCERS/CONJUNCTIVA FOR MICROBIOLOGICAL SPECIMENS
17	TAKE PUS SPECIMEN FROM PATIENT
18	TAKE SKIN SCRAPE SPECIMEN FROM PATIENT
19	PERFORM PUNCH BIOPSY OF SKIN
20	PERFORM WEDGE SECTION BIOPSY OF SKIN
21	COLLECT CORD BLOOD SAMPLES
22	ASPIRATE BONE MARROW
23	ASPIRATE GASTRIC SECRETION FOR ANALYSIS
24	ASPIRATE DUODENAL SECRETIONS FOR ANALYSIS
25	DO A SALINE WASH OF G.I. TRACT FOR CYTOLOGY STUDIES

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| TASK NO. | ENTER RESPONSES TO STATEMENTS BELOW IN RIGHT SIDE OF PAGE 01  
OF RESPONSE BOOKLET

- 26 | COLLECT RECTAL SPECIMENS USING STERILE SWAB
- 27 | COLLECT HEEL PUNCH BLOOD SPECIMEN FOR PKU TESTING
- 28 | CLIP FINGER/TOENAILS FOR PKU TESTING
- 29 | PICK UP/DELIVER SPECIMENS
- 30 | WASH/PREPARE GLASSWARE FOR LAB USE, INCLUDING SPECIAL  
| PREPARATION, E.G. ACID WASH, SILICONE COAT
- 31 | LABEL/ACCESSION SPECIMEN CONTAINERS, E.G. TUBES, SLIDES
- 32 | TAKE PHOTOMICROGRAPHS OF SLIDE PREPARATIONS
- 33 | MEASURE/DILUTE/PRESERVE LAB SPECIMEN E.G. URINE, BLOOD FOR  
| SUBSEQUENT TESTING
- 34 | LYOPHILIZE (FREEZE DRY) SPECIMENS FOR FUTURE TESTING
- 35 | DO KOH PREPS OF FUNGAL/YEAST SPECIMEN
- 36 | PREPARE/PRESERVE ROUTINE (NON-TISSUE) LAB SPECIMEN FOR SHIPMENT
- 37 | PREPARE/PRESERVE TISSUE SPECIMEN FOR SHIPMENT
- 38 | CALCULATE AND PREPARE PERCENT SOLUTIONS
- 39 | CALCULATE AND PREPARE NORMAL/MOLAR SOLUTIONS
- 40 | CALCULATE AND PREPARE MOLAL SOLUTIONS
- 41 | CALCULATE MILLIEQUIVALENTS/MILLIMOLES
- 42 | CALCULATE MOLAR/NORMAL CONCENTRATIONS OF REAGENTS FOR BUFFER  
| PREPARATION
- 43 | PREPARE BUFFER SOLUTIONS
- 44 | PREPARE CHEMICAL STANDARDS
- 45 | PREPARE DRY ICE USING CARBONDIOXIDE (CO<sub>2</sub>)
- 46 | CHECK/ADJUST PH OF BUFFERS/REAGENTS
- 47 | PREPARE STANDARD CURVE
- 48 | STANDARDIZE REAGENTS
- 49 | PREPARE CULTURE MEDIA FROM BASIC INGREDIENTS, E.G. BEEF EXTRACT
- 50 | PREPARE CULTURE MEDIA USING COMMERCIALY DEHYDRATED PRODUCT,  
| E.G. MC CONKEY AGAR

TASK NO.	ENTER RESPONSES TO STATEMENTS BELOW IN LEFT SIDE OF PAGE 02 OF RESPONSE BOOKLET
1	STREAK CULTURE MEDIA
2	PREPARE ROUTINE STAINS
3	PREPARE SPECIAL STAINS
4	STAIN SMEARS TO DEMONSTRATE BACTERIA
5	STAIN SMEARS TO DEMONSTRATE CELL MORPHOLOGY
6	STAIN SMEARS TO DEMONSTRATE PARASITE
7	CENTRIFUGE URINE
8	CENTRIFUGE BLOOD AND SEPARATE SERUM OR PLASMA
9	CHECK SPECIFIC GRAVITY OF URINE
10	CHECK SPECIFIC GRAVITY OF CHEMICAL SOLUTIONS
11	DETERMINE SPERM COUNTS
12	EXAMINE SEMINAL FLUID FOR SPERM MORPHOLOGY
13	EXAMINE URETHRAL SMEARS FOR GONOCOCCUS
14	TEST FOR SYPHILLIS USING RPR CARD
15	PREPARE SMEARS FOR MICROSCOPIC ANALYSIS
16	PREPARE FECAL SMEAR
17	PREPARE URETHRAL SMEAR
18	DO SLIDE PREGNANCY TEST, E.G. GRAVINDEX
19	TEST FOR OCCULT BLOOD USING CHEMICAL SOLUTION E.G. GUAIAAC
20	TEST FOR OCCULT BLOOD USING HEMATEST TABLETS
21	LOOK UP NORMAL VALUES FOR LABORATORY TESTS FROM REFERENCE TABLE/BOOK
22	USE LOG TABLES
23	CONVERT CENTIGRADE TEMPERATURE TO FAHRENHEIT OR VICE VERSA
24	PLOT READING/VALUES ON SEMILOG PAPER
25	PLOT READING/VALUES ON RECTILINEAR GRAPH PAPER

TASK NO.	ENTER RESPONSES TO STATEMENTS BELOW IN RIGHT SIDE OF PAGE 02 OF RESPONSE BOOKLET
26	USE LOCALLY DEVELOPED MANUALS/GUIDES TO FOLLOW ANALYTICAL PROCEDURES
27	USE NAVY/DOD MANUALS TO STUDY ANALYTICAL PROCEDURES
28	USE COMMERCIAL MANUALS TO FOLLOW ANALYTICAL PROCEDURES
29	PREPARE ABSORPTION SPECTRAL CURVE OF REAGENTS/STANDARDS
30	MATCH CUVETTES OPTICALLY
31	DETERMINE FAT CONTENT OF MILK
32	DETERMINE CHLORINE CONTENT OF POTABLE WATER
33	DETERMINE PH AND CHLORINE CONTENT OF SWIMMING POOLS
34	TEST FOR FECAL FAT BY STAINING METHOD
35	DETERMINE FECAL FAT CONTENT BY ETHER OR ALCOHOL EXTRACTION METHOD
36	TEST FOR HEAVY (POISONOUS) METALS IN FOOD, WATER OR BEVERAGE
37	CHECK URINE PH BY PAPER STRIP/DIP STIK
38	CHECK URINE SUGAR BY DIP STIK/CLINITEST
39	CHECK URINE PROTEIN BY DIP STIK
40	EXAMINE URINE FOR CASTS /PUS/RBC
41	CHECK URINE FOR ACETONE/KETONE BODIES
42	CHECK URINE FOR PHENYLPYRUVIC ACID BY DIP STIK (PKU)
43	DO PKU DIAPER TEST
44	CHECK URINE FOR PRESENCE OF BILE
45	TEST URINE FOR BENCE-JONES PROTEIN
46	DETERMINE DYE EXCRETION, AS FOR PSP TEST
47	DETERMINE URINE CREATININE EXCRETION
48	DETERMINE UREA EXCRETION
49	SCREEN URINE FOR ALCOHOL
50	SCREEN URINE FOR DRUG OVERDOSE, E.G. BARBITURATES, SALICYLATES

TASK NO.	ENTER RESPONSES TO STATEMENTS BELOW IN LEFT SIDE OF PAGE 03 OF RESPONSE BOOKLET
1	SCREEN URINE FOR METALLIC POISONING, E.G. LEAD, ARSENIC
2	SCREEN URINE FOR HALLUCINOGENIC DRUG USE, E.G. LSD, AMPHETAMINE
3	TEST FOR PORPHYRIN
4	TEST FOR HOMOGENITISIC ACID
5	TEST FOR CYSTINE
6	TEST FOR MELANIN
7	TEST FOR HEMOSIDERIN
8	TEST FOR MYOGLOBIN
9	DO URINE PROTEIN ELECTROPHORESIS
10	DETERMINE URINE PROTEIN BY REFRACTION
11	TEST FOR PENTOSE
12	TEST FOR LACTOSE
13	TEST FOR URINARY INDICAN
14	TEST FOR FAT IN URINE
15	DETERMINE URINE OSMOLARITY
16	DETERMINE SHIAA IN URINE
17	DETERMINE XYLOSE EXCRETION
18	DETERMINE UROBILINOGEN IN URINE
19	DETERMINE URINE AMYLASE
20	DETERMINE URINE CALCIUM
21	DETERMINE URINE CHLORIDE
22	DETERMINE URINE SODIUM
23	DETERMINE URINE POTASSIUM
24	DETERMINE EXCRETION OF PHENOLS AND DERIVATIVES
25	DETERMINE EXCRETION OF CATECHOLAMINES

TASK NO.	ENTER RESPONSES TO STATEMENTS BELOW IN RIGHT SIDE OF PAGE 03 OF RESPONSE BOOKLET
26	DETERMINE URINARY 17 KETOSTEROIDS
27	DETERMINE URINARY 17 HYDROXYCORTICOSTEROIDS
28	DETERMINE URINARY ALDOSTERONE
29	DETERMINE URINARY ESTROGEN DERIVATIVES, E.G. ESTRIOL
30	DETERMINE URINARY PROGESTERONE DERIVATIVES, E.G. PREGNANETRIOL
31	CALCULATE KIDNEY CLEARANCE, EG. UREA, CREATININE, INULIN
32	MEASURE BLOOD GLUCOSE LEVEL BY DEXTROSTIK
33	CHECK BUN CONCENTRATION USING UROGRAPH STRIP
34	DETERMINE TOTAL PROTEIN BY REFRACTION
35	MEASURE BLOOD OR SERUM SPECIFIC GRAVITY
36	DETERMINE BLOOD PH
37	DO THYMOL TURBIDITY TEST
38	DO CEPHALIN-CHOLESTEROL FLOCCULATION TEST
39	DETERMINE DYE RETENTION IN PLASMA, E.G. BROMSULFALEIN TEST
40	PREPARE PROTEIN FREE FILTRATE
41	COLLECT BLOOD SAMPLES FOR DETERMINATION OF GASES
42	DETERMINE CO <sub>2</sub> CONTENT OF BLOOD/PLASMA
43	DETERMINE O <sub>2</sub> CONTENT OF BLOOD/PLASMA
44	DETERMINE CO CONTENT OF BLOOD/PLASMA
45	DETERMINE OXYGEN SATURATION USING OPTICAL DENSITY MEASUREMENTS
46	DO DIRECT MEASUREMENT OF BLOOD PO <sub>2</sub>
47	DO DIRECT MEASUREMENT OF BLOOD PCO <sub>2</sub>
48	CALCULATE PERCENT O <sub>2</sub> SATURATION OF BLOOD
49	CALCULATE ACID/BASE EXCESS/DEFICITS
50	CALCULATE PCO <sub>2</sub> USING A NOMOGRAM

TASK NO. | ENTER RESPONSES TO STATEMENTS BELOW IN LEFT SIDE OF PAGE 04  
| OF RESPONSE BOOKLET

- 1 | CALCULATE CO<sub>2</sub> CAPACITY OF PLASMA
- 2 | CALCULATE O<sub>2</sub> CAPACITY OF HEMOGLOBIN
- 3 | CALCULATE BLOOD VOLUMES FROM VALUES OBTAINED THROUGH DYE  
| DILUTION STUDIES
- 4 | CALCULATE BLOOD VOLUMES FROM VALUES OBTAINED THROUGH  
| RADIOISOTOPE STUDIES
- 5 | DETERMINE BICARBONATE CONCENTRATION
- 6 | DETERMINE CHLORIDE CONCENTRATION
- 7 | DETERMINE SODIUM CONCENTRATION
- 8 | DETERMINE POTASSIUM CONCENTRATION
- 9 | DETERMINE CALCIUM CONCENTRATION
- 10 | DETERMINE MAGNESIUM CONCENTRATION
- 11 | DETERMINE INORGANIC PHOSPHATE CONCENTRATION
- 12 | DETERMINE PROTEIN BOUND IODINE CONCENTRATION
- 13 | DETERMINE IRON-BINDING CAPACITY
- 14 | DETERMINE BUN CONCENTRATION
- 15 | DETERMINE ALBUMIN CONCENTRATION
- 16 | DETERMINE TOTAL PROTEIN CONCENTRATION
- 17 | CALCULATE A/G RATIO
- 18 | DETERMINE CREATININE CONCENTRATION
- 19 | DETERMINE URIC ACID CONCENTRATION
- 20 | DETERMINE ALPHA-AMINO NITROGEN CONCENTRATION
- 21 | DETERMINE AMINO ACID PATTERN
- 22 | DETERMINE GLUCOSE CONCENTRATION
- 23 | PREPARE LAB REPORT OF RESULTS OF CARBOHYDRATE TOLERANCE TEST,  
| EG. GLUCOSE, GALACTOSE
- 24 | DETERMINE TOTAL CHOLESTEROL CONCENTRATION
- 25 | DETERMINE TRIGLYCERIDE CONCENTRATION

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TASK NO. | ENTER RESPONSES TO STATEMENTS BELOW IN RIGHT SIDE OF PAGE 04  
| OF RESPONSE BOOKLET

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- |    |  |
|----|--|
| 26 | DETERMINE PHOSPHOLIPID CONCENTRATION             |
| 27 | DETERMINE TOTAL BILIRUBIN CONCENTRATION          |
| 28 | DETERMINE ALKALINE PHOSPHATASE ACTIVITY          |
| 29 | DETERMINE ACID PHOSPHATASE ACTIVITY              |
| 30 | DETERMINE AMYLASE ACTIVITY                       |
| 31 | DETERMINE LIPASE ACTIVITY                        |
| 32 | DETERMINE GOT ACTIVITY                           |
| 33 | DETERMINE GPT ACTIVITY                           |
| 34 | DETERMINE LDH ACTIVITY                           |
| 35 | DETERMINE CHOLINESTERASE ACTIVITY                |
| 36 | DETERMINE CPK ACTIVITY                           |
| 37 | DO ISOENZYME ASSAY USING GEL ELECTROPHORESIS     |
| 38 | DETERMINE ALCOHOL CONCENTRATION                  |
| 39 | DETERMINE BARBITURATE CONCENTRATION              |
| 40 | DETERMINE SALICYLATE CONCENTRATION               |
| 41 | DETERMINE BROMIDE CONCENTRATION                  |
| 42 | HOMOGENIZE TISSUES FOR CHEMICAL ANALYSIS         |
| 43 | DETERMINE ENZYME ACTIVITY OF TISSUES             |
| 44 | DETERMINE CHLORIDE CONCENTRATION OF SPINAL FLUID |
| 45 | DETERMINE GLUCOSE CONCENTRATION OF SPINAL FLUID  |
| 46 | DETERMINE PROTEIN CONCENTRATION OF SPINAL FLUID  |
| 47 | DETERMINE FREE/TOTAL GASTRIC ACIDITY             |
| 48 | DETERMINE PH OF GASTRIC JUICE                    |
| 49 | CALCULATE HCL CONCENTRATION OF GASTRIC JUICE     |
| 50 | CALCULATE TOTAL HCL OUTPUT                       |

TASK NO.	ENTER RESPONSES TO STATEMENTS BELOW IN LEFT SIDE OF PAGE 05 OF RESPONSE BOOKLET
1	MICROSCOPICALLY EXAMINE BILIARY DRAINAGE SEDIMENT FOR CHOLESTEROL CRYSTALS
2	MICROSCOPICALLY EXAMINE BILIARY DRAINAGE SEDIMENT FOR CALCIUM BILIRUBINATE PIGMENTS
3	MEASURE ABC BILE SECRETION FOR EVALUATION OF GALL BLADDER FUNCTION
4	ESTIMATE AMOUNT OF BILE PIGMENT IN BILIARY/PANCREATIC DRAINAGE
5	DETERMINE HCO <sub>3</sub> CONCENTRATION PANCREATIC DRAINAGE
6	DETERMINE PH OF BILIARY/PANCREATIC SECRETIONS
7	DETERMINE HEMOGLOBIN CONCENTRATION USING AUTOMATED ANALYSIS
8	DETERMINE HEMOGLOBIN CONCENTRATION USING CONVENTIONAL BENCH METHOD
9	CHECK HEMATOCRIT USING AUTOMATED ANALYSIS
10	CHECK HEMATOCRIT USING CONVENTIONAL BENCH METHOD
11	DO MICRO-HEMATOCRIT (NON-AUTOMATED METHOD)
12	DETERMINE WHITE BLOOD CELL COUNTS USING AUTOMATED ANALYSIS
13	DETERMINE WHITE BLOOD CELL COUNTS USING CONVENTIONAL BENCH METHOD
14	DETERMINE RED BLOOD CELL COUNTS USING AUTOMATED ANALYSIS
15	DETERMINE RED BLOOD CELL COUNTS USING CONVENTIONAL BENCH METHOD
16	DETERMINE RED CELL INDICES USING AUTOMATED ANALYSIS
17	DETERMINE RED CELL INDICES USING CONVENTIONAL BENCH METHOD
18	PREPARE BLOOD FILM ON SLIDE
19	PREPARE WHITE BLOOD COUNT SAMPLES FOR HEMOCYTOMETER COUNTING
20	DETERMINE DIFFERENTIAL BLOOD CELL COUNTS
21	DETERMINE PLATELET COUNT
22	DETERMINE RETICULOCYTE COUNT
23	DETERMINE TOTAL EOSINOPHILE COUNT
24	DETERMINE ERYTHROCYTE SEDIMENTATION RATE
25	DETERMINE PROTHROMBIN TIMES

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| TASK NO. | ENTER RESPONSES TO STATEMENTS BELOW IN RIGHT SIDE OF PAGE 05  
OF RESPONSE BOOKLET

- |    |   |
|----|---|
| 26 | DETERMINE PARTIAL THROMBOPLASTIN TIMES                        |
| 27 | DETERMINE CLOT RETRACTION TIME                                |
| 28 | DO THROMBOPLASTIN GENERATION TEST                             |
| 29 | DO PROTHROMBIN CONSUMPTION TEST                               |
| 30 | DO CLOTTING FACTOR ASSAY                                      |
| 31 | TEST FOR FIBRINOLYSINS  |
| 32 | DETERMINE COAGULATION (CLOTTING) TIME                         |
| 33 | DETERMINE BLEEDING TIME                                       |
| 34 | DETERMINE CAPILLARY FRAGILITY BY RUMPLE-LEADS TOURNIQUET TEST |
| 35 | DO AUTO-HEMOLYSIS TEST  |
| 36 | DO OSMOTIC FRAGILITY TEST                                     |
| 37 | DO RED CELL ENZYMES DETERMINATION USING COMMERCIAL KIT        |
| 38 | DO RED CELL ENZYMES DETERMINATION USING BENCH METHOD          |
| 39 | DO LEUKOCYTE ALKALINE PHOSPHATASE DETERMINATION               |
| 40 | TEST FOR MACROGLOBULINEMIA USING SIA WATER TEST               |
| 41 | EVALUATE NASAL SHEARS FOR EOSINOPHILIA                        |
| 42 | DETERMINE MORPHOLOGICAL VARIATIONS OF BLOOD CELLS             |
| 43 | DO SICKLE CELL EVALUATION                                     |
| 44 | PREPARE SPECIMEN FOR HEINZ BODY EVALUATION                    |
| 45 | EVALUATE HEINZ BODY STAIN PREPARATION                         |
| 46 | PREPARE SPECIMEN FOR L.E. CELL EVALUATION                     |
| 47 | EVALUATE L.E. CELL PREPARATION                                |
| 48 | PREPARE SPECIMEN FOR PEROXIDASE STAIN EVALUATION              |
| 49 | EVALUATE PEROXIDASE STAIN PREPARATION                         |
| 50 | PREPARE BONE MARROW SMEAR                                     |

TASK NO.	ENTER RESPONSES TO STATEMENTS BELOW IN LEFT SIDE OF PAGE 06 OF RESPONSE BOOKLET
1	EXAMINE BONE MARROW PREPARATIONS FOR RED CELL MORPHOLOGY
2	DETERMINE BODY FLUID CELL COUNTS
3	DETERMINE WBC COUNT OF SPINAL FLUID
4	SCREEN/PROCESS BLOOD DONORS
5	PREPARE DONORS ARM FOR PHLEBOTOMY
6	PERFORM PHLEBOTOMY
7	NUMBER TUBES AND UNITS FOR PROCESSING BLOOD
8	LABEL/STORE BLOOD ACCORDING TO GROUPING FACTORS
9	POOL PLASMA FROM EXPIRED BLOOD UNITS
10	DETERMINE ABO SLIDE GROUPING
11	DETERMINE ABO TUBE GROUPING
12	DETERMINE ABO REVERSE GROUPING
13	DETERMINE SUB-GROUPS OF A
14	DETERMINE CONFIRMATION OF O
15	DETERMINE NATURAL SERIAL DILUTION TITERS FOR ANTI-A AND ANTI-B
16	DETERMINE IMMUNE SERIAL DILUTION TITERS FOR ANTI-A AND ANTI-B
17	DETERMINE RHO TYPE USING SLIDE METHOD
18	DETERMINE RHO TYPE USING TUBE METHOD
19	DETERMINE DU TYPE
20	DETERMINE GENOTYPE
21	DO ANTIBODY SCREEN BY INDIRECT COOMBS
22	IDENTIFY ANTIBODIES
23	DO DIRECT COOMBS
24	DO ELUTION OF ANTIBODY
25	DO ABSORPTION OF COLD-REACTING AUTO-IMMUNE AGGLUTININS

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| TASK NO. | ENTER RESPONSES TO STATEMENTS BELOW IN RIGHT SIDE OF PAGE 06  
OF RESPONSE BOOKLET

- |    |   |
|----|---|
| 26 | TEST FOR HAPTOGLOBIN                                      |
| 27 | RUN TESTS FOR LEUKO-AGGLUTININS                           |
| 28 | DETERMINE RED CELL SURVIVAL BY DIFFERENTIAL AGGLUTINATION |
| 29 | PREPARE PACKED RED BLOOD CELLS                            |
| 30 | PREPARE SINGLE DONOR PLASMA FOR COMPONENT THERAPY         |
| 31 | PREPARE FRESH FROZEN PLASMA                               |
| 32 | PREPARE PLATELET RICH PLASMA                              |
| 33 | PREPARE PLATELET CONCENTRATE                              |
| 34 | PREPARE LEUKOCYTE-POOR PACKED RED BLOOD CELLS             |
| 35 | PREPARE WASHED PACKED RED BLOOD CELLS                     |
| 36 |   |
| 37 | PREPARE FROZEN BLOOD CELLS                                |
| 38 | RECONSTITUTE FROZEN RED BLOOD CELLS                       |
| 39 | PREPARE CORD BLOOD FOR DIRECT AND INDIRECT AHG TESTS      |
| 40 | DO ABO AND RH TYPING OF CORD BLOOD                        |
| 41 | CROSSMATCH BLOOD FOR TRANSFUSION                          |
| 42 | EVALUATE PROSPECTIVE CANDIDATE FOR RHOGAM THERAPY         |
| 43 | PERFORM RHOGAM COMPATIBILITY TESTS                        |
| 44 | INVESTIGATE TRANSFUSION REACTION                          |
| 45 | INVESTIGATE CAUSE OF AUTO-IMMUNE HEMOLYTIC ANEMIA         |
| 46 | PERFORM PLASMAPHERESIS                                    |
| 47 | DO VDRL TEST, QUALITATIVE                                 |
| 48 | DO VDRL DETERMINATION, QUANTITATIVE                       |
| 49 | DO FTA-ABS TEST FOR SYPHILLIS                             |
| 50 | TEST FOR ANTI NUCLEAR FACTOR                              |

ENTER RESPONSES TO STATEMENTS BELOW IN LEFT SIDE OF PAGE 07  
OF RESPONSE BOOKLET

- 1 DO FEBRILE AGGLUTINATION TEST BY TUBE METHOD
- 2 DO FEBRILE AGGLUTINATION TEST BY SLIDE METHOD
- 3 DO COLD AGGLUTINATION TEST
- 4 DO HETEROPHILE PRESUMPTIVE AND DIFFERENTIAL ANTIBODY TEST
- 5 TEST FOR C-REACTIVE PROTEIN
- 6 TEST FOR RHEUMATOID FACTOR BY LATEX FIXATION
- 7 TEST FOR RHEUMATOID FACTOR BY MICROTITRATION, E.G. ROSE WAALER
- 8 TEST FOR INFECTIOUS MONO BY AGGLUTINATION
- 9 DO ASO FOR B HEMOLYTIC STREP
- 10 DO THYROID ANTIBODY AGGLUTINATION TEST
- 11 ISOLATE VIRUS BY TISSUE CULTURE
- 12 ISOLATE RICKETTSIA BY TISSUE CULTURE
- 13 DO COMPLEMENT FIXATION FOR VIRAL IDENTIFICATION
- 14 DO COMPLEMENT FIXATION FOR RICKETTSIAL IDENTIFICATION
- 15 DO COMPLEMENT FIXATION FOR FUNGAL IDENTIFICATION
- 16 DO HA/IHA/MI FOR VIRAL IDENTIFICATION
- 17 DO SEROLOGICAL TESTS FOR TOXOPLASMOSIS
- 18 DO SEROLOGICAL TESTS FOR AMOEBIASIS
- 19 DO SEROLOGICAL TESTS FOR MELIOIDOSIS
- 20 DO VIRAL TESTS FOR INFLUENZA
- 21 DO VIRAL TESTS FOR PARAINFLUENZA
- 22 DO VIRAL TESTS FOR MUMPS
- 23 DO VIRAL TESTS FOR HERPES
- 24 DO VIRAL TESTS FOR POLIO
- 25 DO VIRAL TESTS FOR RUBELLA

TASK NO.	ENTER RESPONSES TO STATEMENTS BELOW IN RIGHT SIDE OF PAGE 07 OF RESPONSE BOOKLET
26	DO VIRAL TESTS FOR CHICKEN POX
27	PREPARE CONTROL SERUM FOR SEROLOGICAL STUDIES
28	VERIFY STRENGTH OF ANTI-SERA
29	TEST FOR THE PRESENCE OF BACTERIA IN BLOOD/SERUM/PLASMA
30	TEST FOR THE PRESENCE OF BACTERIA IN URINE
31	TEST FOR THE PRESENCE OF BACTERIA IN OTHER BODY SECRETIONS, E.G. NASAL, SPINAL
32	TEST FOR THE PRESENCE OF BACTERIA IN TISSUE/CELLS
33	CHECK FOR BACTERIAL PRESENCE IN URINE USING COMMERCIAL KIT
34	CHECK FOR BACTERIAL PRESENCE IN URINE BY MICROSCOPIC EXAMINATION
35	DO MOTILITY TEST FOR BACTERIAL DIFFERENTIATION
36	RUN CITRATE/UREA/SUGAR CULTURE SERIES FOR BACTERIAL GENUS/SPECIES DIFFERENTIATION
37	TEST FOR THE PRESENCE OF BACTERIAL TOXINS IN BLOOD/SERUM/PLASMA
38	TEST FOR THE PRESENCE OF BACTERIAL TOXINS IN FOOD/MILK
39	DO BACTERIAL COUNTS BY FILTRATION, E.G. MILLIPORE
40	DO BACTERIAL COUNTS BY DILUTION
41	DO BACTERIAL COUNTS BY CALIBRATED LOOP
42	CONCENTRATE AND NEUTRALIZE SPECIMEN FOR TB TESTING
43	CULTIVATE MYCOLOGY SPECIMENS FOR PRIMARY ISOLATION
44	PRESERVE/FREEZE SPECIMENS FOR VIRAL ISOLATION
45	PREPARE/PRESERVE MILK/WATER/FOOD SAMPLES FOR SHIPMENT
46	PREPARE QUALITY CONTROL CULTURES
47	TAKE SWAB CULTURES FROM HOSPITAL EQUIPMENT/FLOORS
48	TAKE SWAB TEST SAMPLES FROM FOOD AND BEVERAGE OUTLET/CONTAINERS
49	RUN CONTROL TESTS TO VALIDATE MEDIA
50	IDENTIFY BACTERIA BY STAINING METHODS

TASK NO.	ENTER RESPONSES TO STATEMENTS BELOW IN LEFT SIDE OF PAGE 08 OF RESPONSE BOOKLET
1	IDENTIFY BACTERIA BY BASIC CULTURE TECHNIQUES
2	IDENTIFY BACTERIA BY ANAEROBIC METHODS
3	IDENTIFY ENTERIC BACTERIA USING BIOCHEMICAL FERMENTATION
4	IDENTIFY ENTERIC BACTERIA USING ANTISERA
5	IDENTIFY PATHOGENIC BACTERIA USING FLUORESCENT AB TECHNIC E.G. F-A
6	IDENTIFY PATHOGENIC BACTERIA USING PAPER STRIP TECHNIC E.G. PATHOTEC
7	IDENTIFY PATHOGENIC STREPTOCOCCI USING BACITRACIN DISKS E.G. A DISK
8	IDENTIFY PATHOGENIC ENTERIC BACTERIA USING R & B SYSTEM
9	DO COAGULASE TEST TO IDENTIFY PATHOGENIC STAPHYLOCOCCI
10	IDENTIFY HAEMOPHILUS USING X AND V FACTORS
11	IDENTIFY BACTERIAL TYPE BY PHAGE TYPING
12	SCREEN FOR AFB USING AFB STAIN
13	TEST FOR AFB USING FLUOROCHROME STAIN
14	TEST FOR AFB USING CULTURE TECHNIQUES
15	IDENTIFY/CONFIRM TB USING BIOCHEM/SEROLOGICAL TECHNIQUES
16	TEST FOR BACTERIAL TOXINS BY IN-VITRO METHODS
17	TEST FOR BACTERIAL TOXINS BY ANIMAL INNOCULATION
18	IDENTIFY MYCOLOGY CULTURE SPECIMENS
19	TEST FOR FUNGUS USING STAINING TECHNIQUES
20	TEST FOR FUNGUS USING CULTURE TECHNIQUES
21	TEST FOR FUNGUS USING UVL
22	IDENTIFY GROSS AND MICROSCOPIC CHARACTERISTICS OF FUNGI
23	IDENTIFY PATHOGENIC FUNGI USING BIOCHEMICAL/SEROLOGICAL TECHNIQUES
24	TEST FOR MYCOPLASMA/PPLO UTILIZING CULTURAL TECHNIQUES
25	TEST FOR MYCOPLASMA/PPLO UTILIZING COMPLEMENT FIXATION TECHNIQUES

TASK NO.	ENTER RESPONSES TO STATEMENTS BELOW IN RIGHT SIDE OF PAGE 08 OF RESPONSE BOOKLET
26	PREPARE AUTOGENOUS VACCINES
27	DO BACTERIAL ASSAY FOR VIT C
28	DO BACTERIAL ASSAY FOR VIT D
29	DO BACTERIAL ASSAY FOR VIT B12
30	DO BACTERIAL ASSAY FOR FOLIC ACID
31	RUN ANTIBIOTIC SENSITIVITY AGAINST AFB
32	RUN ANTIBIOTIC SENSITIVITY AGAINST FUNGUS
33	RUN ANTIBIOTIC DISK SENSITIVITY AGAINST BACTERIA
34	RUN ANTIBIOTIC SENSITIVITY AGAINST BACTERIA BY KIRBY BAUER METHOD
35	RUN ANTIBIOTIC SENSITIVITY AGAINST BACTERIA BY TUBE DILUTION METHOD
36	INTERPRET ANTIBIOTIC SENSITIVITY BY ZONE-NO-ZONE METHOD
37	INTERPRET ANTIBIOTIC SENSITIVITY WITH RESTRICTIONS ON ZONE SIZE
38	RUN/INTERPRET GANTRISIN SENSITIVITY AGAINST BACTERIA
39	INNOCULATE BACTERIA IN BROTH PRIOR TO PLATING SENSITIVITY
40	DO A CULTURE TEST ON DRUGS SUSPECTED OF BACTERIAL CONTAMINATION
41	DEPYROGENATE/STERILIZE CHEMICAL COMPOUNDS
42	RUN BACTERIOLOGICAL TESTS ON SEWAGE
43	DO BACTERIAL COUNTS ON HOSPITAL EQUIPMENT
44	DO BACTERIAL COUNTS ON FOOD/MILK
45	DO BACTERIAL COUNTS ON WATER
46	DO BACTERIAL COUNTS ON ENVIRONMENTAL SAMPLE E.G. AIR, SOIL
47	PREPARE STAINED SPECIMENS USING VITAL STAIN
48	PREPARE STAINED SPECIMENS USING CELLULAR STAIN E.G. GRAM
49	TAKE CULTURE SAMPLES OF AIR
50	PREPARE STAINED SPECIMENS USING SPORE STAIN

TASK NO.	ENTER RESPONSES TO STATEMENTS BELOW IN LEFT SIDE OF PAGE 09 OF RESPONSE BOOKLET
1	PREPARE STAINED SPECIMENS USING FLAGELLAR STAIN
2	PREPARE STAINED SPECIMENS USING CAPSULE STAIN
3	DEMONSTRATE CAPSULE BY INDIA INK METHOD
4	TAKE FOOD/WATER SAMPLE FOR BACTERIAL/PARASITE TESTING
5	TAKE SAMPLES OF SEWER EFFLUENT FOR ANALYSIS
6	COLLECT WATER SAMPLES FROM BEACH AND STREAM BATHING AREAS
7	DO BUFFER-PRECIPITATION TEST FOR MALARIA
8	DO MALARIOLOGY EXAMINATIONS USING THICK SMEAR
9	DO MALARIOLOGY EXAMINATIONS USING THIN SMEAR
10	DO MICROFILARIAL EXAMINATIONS USING THICK SMEAR
11	DO MICROFILARIAL EXAMINATIONS USING THIN SMEAR
12	EMULSIFY FECES FOR TESTING
13	MICROSCOPICALLY EXAMINE BLOOD FOR PARASITES
14	MICROSCOPICALLY EXAMINE FECES FOR OVA AND PARASITES
15	MICROSCOPICALLY EXAMINE DOUDENAL DRAINAGE FOR OVA AND PARASITES
16	IDENTIFY PARASITIC AND DISEASE CARRYING ARTHROPODS
17	IDENTIFY CESTODES, NEMATODES, OR TREMATODES
18	IDENTIFY AMOEBA
19	IDENTIFY PROTOZOA
20	COLLECT INSECT SPECIMENS
21	IDENTIFY GENUS AND SPECIES OF INSECTS
22	IDENTIFY GENUS AND SPECIES OF ANIMALS
23	IDENTIFY PLAGUE BACILLUS IN FLEA SPECIMENS
24	EMBED SPECIMENS IN CLEAR PLASTIC (ACRYLIC RESIN)
25	PREPARE PERMANENT WET MOUNTS

TASK NO.	ENTER RESPONSES TO STATEMENTS BELOW IN RIGHT SIDE OF PAGE 09 OF RESPONSE BOOKLET
26	DO MOSQUITO DISSECTION TO DETERMINE INFECTION BY MALARIAL PARASITES
27	RECOVER OOCYST FROM INFECTED MOSQUITOES
28	RECOVER INTESTINAL PROTOZOA BY FLOTATION METHOD
29	RECOVER INTESTINAL PROTOZOA BY ETHER CONCENTRATION
30	PREPARE MIF
31	ASSIST PATHOLOGIST IN GROSSING SURGICAL SPECIMENS
32	ACCESSION GROSS SPECIMENS
33	SEPARATE (CENTRIFUGE/FILTER) CELLS FROM BODY FLUIDS FOR CYTOLOGIC EXAM
34	MAKE SMEARS OF CELLS FROM BODY FLUIDS FOR CYTOLOGIC EXAMINATION
35	PROCESS TISSUE WITH THE AUTOMATIC TISSUE PROCESSING MACHINE
36	DECALCIFY TISSUE
37	IMBED TISSUE
38	DO FIXATION OF TISSUE FOR SPECIAL STUDIES
39	STAIN TISSUE SECTION WITH ROUTINE STAINS
40	STAIN TISSUE SECTIONS WITH SPECIAL STAINS
41	MOUNT TISSUE SLIDES
42	PERFORM PIGMENT REMOVAL FROM TISSUE
43	RESTORE COLOR TO TISSUE FOR PHOTOGRAPHIC PURPOSES
44	ADMIT AND RELEASE REMAINS FROM THE MORGUE
45	PREPARE/PRESERVE CORPSE/BODY PARTS FOR SHIPMENT
46	PREPARE REMAINS FOR AUTOPSY
47	REMOVE BRAIN AT AUTOPSY
48	WEIGH AND RECORD BODY ORGANS DURING AUTOPSY
49	COLLECT BLOOD, TISSUE, BODY FLUIDS FOR BACTERIOLOGICAL AND VIRAL STUDIES DURING AUTOPSY
50	OPEN AND CLEAN G. I. TRACT DURING AUTOPSY

TASK NO. | ENTER RESPONSES TO STATEMENTS BELOW IN LEFT SIDE OF PAGE 10  
| OF RESPONSE BOOKLET

- 1 | EXTRACT SPINAL CORD DURING AUTOPSY
- 2 | PREPARE CELL BUTTONS FROM VARIOUS BODY FLUIDS
- 3 | CLOSE BODY CAVITY AFTER AUTOPSY
- 4 | DO FINGERPRINTING OF HUMAN REMAINS
- 5 | FIX ROUTINE AUTOPSY SPECIMENS
- 6 | PREPARE AUTOPSY INSTRUMENT TRAYS
- 7 | PREPARE MUSEUM SPECIMENS
- 8 | MAKE SMEARS FOR RABIES STUDIES
- 9 | PRESERVE ANIMAL BRAINS OR HEADS FOR RABIES STUDIES
- 10 | STAIN AND MOUNT FROZEN SECTION SPECIMENS
- 11 | PREPARE CARBOXYLENE
- 12 | MELT AND FILTER PARAFFIN
- 13 | PREPARE LUBRICATING COMPOUND FOR KNIFE SHARPENERS
- 14 | MAKE CONTAINERS FOR IMBEDDING TISSUE
- 15 | PREPARE MAYER'S EGG ALBUMIN
- 16 | PREPARE 10% NEUTRAL FORMALIN
- 17 | PREPARE SPECIAL FIXATIVES
- 18 | PREPARE HEMATOXYLIN AND EOSIN STAINS
- 19 | SET UP AND MAINTAIN STAINING PROCEDURE
- 20 | SCREEN PAP SMEAR
- 21 | DETERMINE CRYSTAL RESOLUTION OF SCINTILLATION COUNTERS
- 22 | PREPARE COLLIMATOR ISO-RESPONSE CURVE
- 23 | PREPARE RADIOACTIVE COUNTING STANDARDS
- 24 | PREPARE LARGE VOLUME RADIOACTIVE COUNTING STANDARDS
- 25 | DO T3 TEST USING COMMERCIAL KIT

TASK NO.	ENTER RESPONSES TO STATEMENTS BELOW IN RIGHT SIDE OF PAGE 10 OF RESPONSE BOOKLET
26	DO T3 TEST USING CONVENTIONAL BENCH METHOD
27	DO T4 TEST USING COMMERCIAL KIT
28	DO T4 TEST USING CONVENTIONAL BENCH METHOD
29	DO RADIOISOTOPE DISTRIBUTION STUDIES IN ANIMALS
30	DETERMINE GLUCOSE CATABOLISM VIA THE PENTOSE PATHWAY (HMP) USING GLUCOSE 14-C TRACER
31	REVIEW DOCTOR'S ORDERS AND INSTRUCTIONS WITH DOCTOR
32	MAKE SUGGESTION REGARDING NEED FOR DIAGNOSTIC TESTS
33	OBTAIN CLARIFICATION OF CONFLICTING DOCTOR'S ORDERS
34	ASCERTAIN IF PATIENT HAS BEEN PREPPED FOR TEST/TREATMENT PROCEDURE
35	ASK PATIENT/CHECK CHART FOR CONTRAINDICATION FOR TREATMENT, PROCEDURE, TEST
36	VERIFY IDENTIFICATION OF PATIENT, E.G. FOR TREATMENT, MEDICATIONS, EXAMINATION
37	RECEIVE PATIENTS ON ARRIVAL, I.E. INTRODUCE SELF, OBTAIN PATIENT'S NAME
38	ASSIST PATIENTS IN/OUT OF BED, EXAM OR O.R. TABLES
39	POSITION/HOLD PATIENT FOR EXAMINATION, TREATMENT, SURGERY
40	RESTRAIN/CONTROL CHILDREN FOR EXAMINATION/TREATMENT/TEST
41	MEASURE/WEIGH PATIENT OR PERSONNEL
42	CHECK PATIENTS TEMPERATURE
43	TAKE BLOOD PRESSURE
44	CHECK RADIAL (WRIST) PULSE
45	CHECK FEMORAL PULSE FOR PRESENCE AND QUALITY
46	CHECK PEDAL PULSE FOR PRESENCE AND QUALITY
47	DETERMINE APICAL PULSE RATE/RHYTHM WITH STETHESCOPE
48	TAKE BASAL METABOLIC RATE
49	RESTRAIN/CONTROL PATIENT PHYSICALLY, E.G. ARM HOLD
50	RESTRAIN/CONTROL PATIENT VERBALLY

TASK NO.	ENTER RESPONSES TO STATEMENTS BELOW IN LEFT SIDE OF PAGE 11 OF RESPONSE BOOKLET
1	TRANSPORT NON AMBULATORY PATIENT TO OTHER DEPARTMENTS/CLINICS
2	ACCOMPANY PATIENT TO OTHER DEPARTMENTS/CLINICS
3	INFORM PATIENT OF PROCEDURES REQUIRED PRIOR TO/DURING EXAMINATION/TEST/TREATMENT
4	EXPLAIN/ANSWER PATIENT'S QUESTIONS REGARDING EXAMINATION/TEST/TREATMENT PROCEDURES
5	EXPLAIN/ANSWER QUESTIONS ABOUT DOCTOR'S INSTRUCTIONS TO PATIENT/FAMILY
6	REVIEW WITH PATIENT PRINTED INSTRUCTIONS FOR EXAMINATION/THERAPY PROCEDURES
7	WRITE STANDARD INSTRUCTIONS FOR PATIENT CONCERNING EXAMINATIONS/THERAPY OR PROCEDURES
8	INSTRUCT OR HELP PATIENT/FAMILY FILL OUT FORMS
9	ASK/INSTRUCT PATIENT TO COLLECT SPECIMEN
10	CHECK WITH PATIENT TO ENSURE THAT HE HAS COLLECTED SPECIMEN AS INSTRUCTED
11	ADMINISTER ORAL MEDICATION
12	ADMINISTER MEDICATION BY INTRAMUSCULAR INJECTION
13	ADMINISTER INTRADERMAL INJECTION
14	ADMINISTER I.V. MEDICATION DIRECTLY INTO VEIN
15	ADMINISTER MEDICATION BY SUBCUTANEOUS INJECTION
16	TERMINATE INTRAVENOUS DYE FLOW AND REMOVE INJECTOR
17	OBSERVE/RECORD PATIENT'S PHYSICAL/EMOTIONAL RESPONSE TO TREATMENT/DIAGNOSTIC PROCEDURES
18	OBSERVE/REPORT SYMPTOMS OF SIDE EFFECTS TO TREATMENT/MEDICATION
19	TEST FOR ALLERGIC RESPONSE TO A SPECIFIC AGENT, E.G. DYE/DRUG
20	REASSURE/CALM APPREHENSIVE (ANXIOUS) PATIENT
21	REASSURE APPREHENSIVE PARENTS OF PEDIATRIC PATIENT
22	REASSURE/CALM CHILDREN FOR EXAMINATION OR TREATMENT
23	MODIFY OR WRITE NEW TECHNICAL PROCEDURES
24	INITIATE NEW OR CHANGED TECHNICAL PROCEDURES
25	CONSULT WITH STAFF TO DESIGN/AMEND/UPDATE PROCEDURES /TECHNIQUES

TASK NO. | ENTER RESPONSES TO STATEMENTS BELOW IN RIGHT SIDE OF PAGE 11  
| OF RESPONSE BOOKLET

- 26 | CALCULATE LAB/DIAGNOSTIC TEST RESULTS
- 27 | CHECK/CORRECT CALCULATIONS PERFORMED BY OTHER TECHNICIANS
- 28 | PREPARE LAB REPORT OF RESULTS OF ROUTINE URINALYSIS
- 29 | WEIGH/MEASURE CHEMICALS
- 30 | CHECK WEIGHING/MEASUREMENTS DONE BY OTHER TECHNICIANS
- 31 | CALCULATE DOSAGE OF DIAGNOSTIC PHARMACEUTICAL, E.G. BSP DYE
- 32 | DILUTE OR MIX POWDERED MEDICATIONS
- 33 | PREPARE RADIOPHARMACEUTICAL FOR I.V. INJECTION
- 34 | ORDER STOCK MEDICATIONS FROM PHARMACY
- 35 | ORDER DRUGS LISTED IN FEDERAL SUPPLY CATALOGUE
- 36 | SCHEDULE APPOINTMENTS FOR CLINIC/DEPARTMENT, E.G., MAINTAIN  
| APPOINTMENT BOOK
- 37 | LOG ANALYSIS RESULTS
- 38 | LOG SPECIMENS RECEIVED
- 39 | MAINTAIN DAILY RECORDS ON PATIENT PROCEDURES/EXAMINATIONS  
| PERFORMED
- 40 | MAINTAIN LOG OF QUALITY CONTROL PROCEDURES
- 41 | ASSESS ACCURACY OF ANALYSIS PERFORMED BY OTHER LABORATORIES
- 42 | ASSESS COMPLETENESS OF LABORATORY REPORTS
- 43 | MAINTAIN SUPPLY LEVEL OF IN-DATED ANTI-SERAS
- 44 | MAINTAIN TRANSFUSION FILE
- 45 | MAINTAIN DONOR FILES
- 46 | MAINTAIN PROBLEM CROSS-MATCH FILE
- 47 | MAINTAIN TICKLER FILE FOR SERUM DISPOSAL
- 48 | IDENTIFY PATIENT FOR COMPATABILITY TESTING
- 49 | MAINTAIN COMPONENT THERAPY LOG
- 50 | MAINTAIN TEMPERATURE LOG FOR CRYOPRECIPITATES

TASK NO. | ENTER RESPONSES TO STATEMENTS BELOW IN LEFT SIDE OF PAGE 12  
| OF RESPONSE BOOKLET

- 1 | MAINTAIN TEMPERATURE LOG OF BLOOD BANK REFRIGERATOR
- 2 | MAINTAIN TEMPERATURE LOG FOR FROZEN BLOOD
- 3 | MAINTAIN BLOOD PROCESSING RECORDS
- 4 | INVENTORY STOCK BLOOD
- 5 | MAINTAIN TIME CONTROL OF ANTI-SERA
- 6 | RELEASE BLOOD ON HOLD AND RETURN TO STOCK SUPPLY
- 7 | MAINTAIN STOCK OF BLOOD/BLOOD COMPONENTS WITHIN PRESCRIBED TIME LIMITS
- 8 | LOG MONTHLY USAGE OF BLOOD FOR RED CROSS
- 9 | ARRANGE FOR BLOOD EXCHANGE PROGRAMS BETWEEN HOSPITALS
- 10 | MONITOR EXPIRATION DATED PHARMACEUTICALS
- 11 | PREPARE AND MAINTAIN ANTIDOTE SECTION/LOCKER
- 12 | SAFEGUARD POISONS
- 13 | MAKE ENTRIES ON NAVMED 6710/1 (NARCOTIC AND CONTROLLED DRUG ACCOUNT RECORD)
- 14 | CHECK/COUNT NARCOTICS/CONTROLLED DRUGS
- 15 | INVESTIGATE/REPORT ON INJURIES/INCIDENTS TO PATIENTS/STAFF/VISITORS
- 16 | COMPLETE POISON REPORT
- 17 | DISPOSE OF HAZARDOUS MATERIAL E.G. CULTURES/ ACIDS
- 18 | CHECK EQUIPMENT FOR ELECTRICAL HAZARDS AND GROUNDS
- 19 | CHECK COMPRESSED GAS TANKS FOR LEAK, E.G. OXYGEN
- 20 | DO PERIODIC MECHANICAL SAFETY CHECKS ON POWER OPERATED EQUIPMENT
- 21 | ENFORCE ACCIDENT PREVENTION MEASURES
- 22 | REQUEST SPECIFIC LAB TEST/PHYSICALS FOR PERSONNEL EXPOSED TO TOXIC GASES/FUMES
- 23 | READ EQUIPMENT MANUALS FOR OPERATION AND MAINTENANCE OF EQUIPMENT
- 24 | RUN TEST STANDARD TO CHECK ACCURACY OF EQUIPMENT
- 25 | CALIBRATE EQUIPMENT

GO TO RIGHT HAND PAGE

TASK NO.	ENTER RESPONSES TO STATEMENTS BELOW IN RIGHT SIDE OF PAGE 12 OF RESPONSE BOOKLET
26	DO MINOR REPAIR ON EQUIPMENT
27	SUPERVISE ROUTINE EQUIPMENT MAINTENANCE FOR SECTION/UNIT
28	PREPARE SCHEDULE FOR CONTRACT PREVENTIVE MAINTENANCE
29	PREPARE PAPERWORK FOR EQUIPMENT REPAIR/MAINTENANCE
30	ARRANGE FOR REPLACEMENT/REPAIR OF EQUIPMENT AS REQUIRED
31	COORDINATE WITH MANUFACTURERS/CONTRACTORS FOR EQUIPMENT REPAIR/MAINTENANCE
32	MAINTAIN INVENTORY/STOCK OF EQUIPMENT/FURNITURE
33	SURVEY EQUIPMENT TO DETERMINE CONTINUED SERVICEABILITY/USABILITY
34	EVALUATE THE MAINTENANCE AND USE OF SUPPLIES, EQUIPMENT AND WORK SPACE
35	DETERMINE SUPPLIES AND EQUIPMENT BUDGET
36	CONFER/VISIT MANUFACTURERS/CONTRACTORS TO OBTAIN FIRST HAND KNOWLEDGE OF EQUIPMENT/SUPPLIES
37	ORDER SUPPLIES/EQUIPMENT THROUGH FEDERAL SUPPLY SYSTEM
38	SUPERVISE/DIRECT UNITS'S OJT PROGRAM
39	PLAN CONTENT FOR OJT PROGRAM
40	SCHEDULE LECTURES
41	DESIGN TRAINING AIDS, ILLUSTRATIONS, GRAPHICS
42	SELECT CLINICAL MATERIAL FOR INSTRUCTIONAL PURPOSES, E.G. PATIENTS, CASE STUDIES
43	EVALUATE/SELECT AUDIOVISUAL MATERIALS, E.G. FILMS
44	CONDUCT SEMINARS
45	PLAN CONFERENCES FOR STUDENTS DURING PRACTICAL TRAINING
46	TEACH FORMAL CLASSES
47	ADMINISTER EXAMINATIONS
48	COMPUTE TEST GRADES
49	DEMONSTRATE CLINICAL PROCEDURES USING PATIENT/SUBJECT
50	SELECT WORK EXPERIENCES FOR STUDENT/TRAINEE

TASK NO.	ENTER RESPONSES TO STATEMENTS BELOW IN LEFT SIDE OF PAGE 13 OF RESPONSE BOOKLET
1	EVALUATE STUDENTS PERFORMANCE/PROGRESS
2	COORDINATE WITH SUPERVISORS/INSTRUCTORS ON STUDENT TRAINING
3	DESIGN SPECIAL RESEARCH EQUIPMENT/DEVICES
4	BUILD SPECIAL EQUIPMENT/DEVICES FOR RESEARCH
5	CALCULATE DOSAGES FOR PRESCRIBED EXPERIMENTS
6	RECORD/MAINTAIN RECORDS OF EXPERIMENTAL FINDINGS/TESTS
7	CONDUCT RESEARCH LITERATURE SEARCH/SURVEY
8	CALCULATE MEANS, STANDARD DEVIATIONS
9	PERFORM CALCULATIONS FOR ANALYSIS OF VARIANCE, CORRELATIONS, OR RELIABILITY MEASURES
10	MAINTAIN ANIMAL COLONY
11	MAINTAIN AN INSECTORY
12	ACT AS OBSERVER OF EXPERIMENTAL SUBJECTS/ANIMALS
13	OPERATE/CONTROL EQUIPMENT FOR EXPERIMENTAL TESTS
14	CALIBRATE/TEST EXPERIMENTAL EQUIPMENT/APPARATUS
15	SELECT EXPERIMENTAL SUBJECTS/ANIMALS
16	WRITE RESEARCH PROGRESS REPORTS
17	WRITE TECHNICAL PAPERS/REPORTS FOR PUBLICATION
18	PARTICIPATE/PRESENT PAPERS AT SCIENTIFIC/PROFESSIONAL MEETINGS
19	COMPILE EXPERIMENTAL DATA FOR REPORTS
20	WRITE CORRESPONDENCE ON RESEARCH MATTERS
21	PROVIDE CONSULTATION ON RESEARCH DESIGN
22	CONSULT WITH STATISTICIAN/OTHERS ON RESEARCH DESIGN/ANALYSIS
23	COORDINATE OWN RESEARCH PROGRAMS WITH OTHER NAVY COMMANDS
24	DESIGN/PREPARE DATA FOR COMPUTER PROCESSING
25	LAYOUT/DESIGN RESEARCH FACILITIES/SPACES

| TASK NO. | ENTER RESPONSES TO STATEMENTS BELOW IN RIGHT SIDE OF PAGE 13  
| OF RESPONSE BOOKLET

- |    |  |
|----|--|
| 26 | EVALUATE NEW CHEMICAL PRODUCTS                           |
| 27 | POSITION RESEARCH ANIMAL FOR SURGERY                     |
| 28 | DRAPE RESEARCH ANIMAL FOR SURGERY                        |
| 29 | ADMINISTER INTRAMUSCULAR MEDICATION TO RESEARCH ANIMAL   |
| 30 | ADMINISTER INTRAPERITONEAL MEDICATION TO RESEARCH ANIMAL |
| 31 | ADMINISTER INTRACARDIAC MEDICATION TO RESEARCH ANIMAL    |
| 32 | PREPARE OPERATIVE SITE OF RESEARCH ANIMAL                |

Part II B

LIST OF INSTRUMENTS AND EQUIPMENT

TASK NO.	ENTER RESPONSES TO STATEMENTS BELOW IN LEFT SIDE OF PAGE 14 OF RESPONSE BOOKLET
1	CLINICAL WEIGHT AND HEIGHT SCALES
2	BASAL METABOLISM RATE MACHINE
3	STETHOSCOPE
4	SPHYGMOMANOMETER (BLOOD PRESSURE APPARATUS)
5	VACUTAINER BLOOD COLLECTING SYSTEM
6	SYRINGE/NEEDLES
7	GLASS SLIDES/COVERS/COUNTING CHAMBERS
8	THERMOMETER LABORATORY
9	THERMOMETER, CLINICAL
10	AUTOMATIC PIPETTING MACHINE
11	MICROPIPETTE
12	PIPET
13	PIPET FILLER (RUBBER BULB)
14	VOLUMETRIC GLASSWARE (OTHER THAN BURETS AND PIPETS)
15	GLASS WASHER/DRYER
16	AUTOCLAVE, DRY HEAT
17	AUTOCLAVE, GAS
18	AUTOCLAVE, STEAM
19	ULTRASONIC CLEANER
20	NEEDLE WASHER
21	WATER DEMINERALIZER
22	DISTILLING APPARATUS, WATER
23	MICROFILTRATION SYSTEM
24	BURET, MICRO
25	BURETTE, MACRO

ENTER RESPONSES TO STATEMENTS BELOW IN RIGHT SIDE OF PAGE 14  
OF RESPONSE BOOKLET

- |    |   |
|----|---|
| 26 | AUTOMATIC BURETTES                            |
| 27 | PHOTOMETRIC TITRATOR                          |
| 28 | PH METER                                      |
| 29 | APPARATUS FOR BLOOD PH DETERMINATION          |
| 30 | COLOR COMPARATOR                              |
| 31 | COLORIMETER, E.G. KLETT                       |
| 32 | SPECTROPHOTOMETER, NONRECORDING, E.G. COLEMAN |
| 33 | SPECTROPHOTOMETER, AUTO-RECORDING, E.G. DK-2  |
| 34 | SPECTROPHOTOFUORIMETER                        |
| 35 | REFRACTOMETER                                 |
| 36 | URINOMETER                                    |
| 37 | OSMOMETER                                     |
| 38 | FLUORIMETER                                   |
| 39 | TURBIDIMETER                                  |
| 40 | CHLORIDIMETER                                 |
| 41 | FLAME PHOTOMETER                              |
| 42 | SPENCER HEMOGLOBINOMETER                      |
| 43 | HEMOPHOTOMETER                                |
| 44 | HEMOCYTOMETER                                 |
| 45 | AUTOCYTOMETER                                 |
| 46 | AUTOMATIC TISSUE PROCESSOR                    |
| 47 | AUTOMATIC SAMPLE CHANGER                      |
| 48 | AUTO-ANALYZER, SINGLE OR DUAL CHANNEL         |
| 49 | SEQUENTIAL MULTIPLE ANALYZER 4 CHANNEL        |
| 50 | SEQUENTIAL MULTIPLE ANALYZER 12 CHANNEL       |

TASK NO. | ENTER RESPONSES TO STATEMENTS BELOW IN LEFT SIDE OF PAGE 15  
| OF RESPONSE BOOKLET

- 1 | STRIP CHART RECORDER
- 2 | XY PLOTTER
- 3 | DENSITOMETER WITH WRITER/RECORDER
- 4 | POLYGRAPH RECORDER
- 5 | MANOMETRIC GAS ANALYZER, E.G. VAN SLYKE, WARBURG
- 6 | MICRO-ASTRUP APPARATUS FOR BLOOD PO<sub>2</sub> ANALYSIS
- 7 | CORNING BLOOD GAS ANALYZER
- 8 | RADIOMETER GAS ANALYZER
- 9 | IL BLOOD GAS ANALYZER
- 10 | CO<sub>2</sub> ANALYZER
- 11 | NITROGEN ANALYZER
- 12 | O<sub>2</sub> PERCENT ANALYZER
- 13 | SCHOLANDER MICRO GAS ANALYSER
- 14 | CRYSTAL SCINTILLATION COUNTER, SINGLE CHANNEL ANALYZER
- 15 | CRYSTAL SCINTILLATION COUNTER, MULTI CHANNEL ANALYZER
- 16 | AUTOMATED HEMATOLOGY ANALYZER E.G. COULTER S
- 17 | AUTOMATED CELL COUNTER
- 18 | COLONY COUNTER
- 19 | PAPER CHROMATOGRAPHY APPARATUS
- 20 | COLUMN CHROMATOGRAPHY APPARATUS
- 21 | THIN LAYER CHROMATOGRAPHY APPARATUS
- 22 | GAS CHROMATOGRAPH
- 23 | FLOW METER
- 24 | GEL ELECTROPHORESIS APPARATUS
- 25 | PAPER ELECTROPHORESIS APPARATUS

GO TO RIGHT HAND PAGE

TASK NO. ENTER RESPONSES TO STATEMENTS BELOW IN RIGHT SIDE OF PAGE 15  
OF RESPONSE BOOKLET

- |    |  |
|----|--|
| 26 | LABORATORY MICROSCOPE (LIGHT)          |
| 27 | DARKFIELD CONDENSOR                    |
| 28 | WHITEFIELD CONDENSOR                   |
| 29 | STEREO MICROSCOPE                      |
| 30 | ULTRAVIOLET MICROSCOPE                 |
| 31 | ELECTRON MICROSCOPE                    |
| 32 | DISSECTING MICROSCOPE                  |
| 33 | PHOTOGRAPHIC MICROSCOPE                |
| 34 | PHASE ILLUMINATION MICROSCOPE          |
| 35 | CENTRIFUGE, REFRIGERATED               |
| 36 | CENTRIFUGE, CLINICAL (TABLE MODEL)     |
| 37 | CENTRIFUGE, LABORATORY (FLOOR MODEL)   |
| 38 | ULTRACENTRIFUGE                        |
| 39 | HEMOFUGE                               |
| 40 | SERO-FUGE                              |
| 41 | HEMATOCRIT READER                      |
| 42 | MICRO HEMATOCRIT CENTRIFUGE AND READER |
| 43 | CYTOGLOMERATOR                         |
| 44 | PLASMA EXTRACTOR                       |
| 45 | RH TYPING BOX                          |
| 46 | DIRECT READ-OUT BALANCE, E.G. METTLER  |
| 47 | ANALYTICAL BALANCE                     |
| 48 | TRIP BALANCE                           |
| 49 | MELTING POINT APPARATUS                |
| 50 | WATER BATH WITH THERMOSTAT             |

TASK NO. | ENTER RESPONSES TO STATEMENTS BELOW IN LEFT SIDE OF PAGE 16  
| OF RESPONSE BOOKLET

- 1 | SAND BATH
- 2 | TISSUE WATER FLOAT BATH
- 3 | BATH COOLER (CRYOS)
- 4 | ANAEROBIC INCUBATOR
- 5 | CO2 INCUBATOR
- 6 | INCUBATORS LABORATORY
- 7 | DESSICATOR
- 8 | FURNACE (FOR ASHING)
- 9 | DRYING OVEN
- 10 | BLOOD REFRIGERATOR
- 11 | FREEZER
- 12 | FREEZER, PLASMA STORAGE
- 13 | TIMER, LABORATORY
- 14 | COAGULATION TIMER, PHOTOMETRIC DETECTION OF END POINT
- 15 | COAGULATION TIMER, MECHANICAL DETECTION OF END POINT
- 16 | STOP WATCH
- 17 | CALIPER
- 18 | DISSECTING INSTRUMENTS
- 19 | AUTOPSY INSTRUMENTS
- 20 | MORGUE BODY HOIST
- 21 | MICROTOME, SLIDING
- 22 | MICROTOME, FREEZING
- 23 | MICROTOME, ROTARY
- 24 | MICROTOME KNIFE SHARPENER
- 25 | TISSUE GRINDER

TASK NO. | ENTER RESPONSES TO STATEMENTS BELOW IN RIGHT SIDE OF PAGE 16  
| OF RESPONSE BOOKLET

- |    |  |
|----|--|
| 26 | ELECTRIC TISSUE KNIFE                              |
| 27 | LYOPHILIZER AND ASSOCIATED EQUIPMENT               |
| 28 | SLIDE ROTATOR (VORL)                               |
| 29 | FLASK SHAKER                                       |
| 30 | TUBE AGITATOR/MIXER/SHAKER                         |
| 31 | AIR COMPRESSOR                                     |
| 32 | SUCTION/VACUUM PUMP                                |
| 33 | SUCTION FUNNEL                                     |
| 34 | LIGHT, ULTRAVIOLET, SPECIMEN EXAMINING             |
| 35 | GAS BURNERS, E.G. BUNSEN                           |
| 36 | LABORATORY STIRRER-HOT PLATE                       |
| 37 | COMPRESSED GAS TANKS/CYLINDERS (OTHER THAN OXYGEN) |
| 38 | OXYGEN CYLINDER/TANK, PORTABLE                     |
| 39 | CHEMICAL FUME HOOD                                 |
| 40 | BACTERIOLOGICAL HOOD                               |
| 41 | MYCOLOGY ISOLATION HOOD                            |
| 42 | VIROLOGY ISOLATION ROOM                            |
| 43 | FOGGING, APPARATUS, BIOLOGICAL                     |
| 44 | FIRE EXTINGUISHER                                  |
| 45 | NUMBERING MACHINE                                  |
| 46 | SLIDE RULE   |
| 47 | ELECTRIC DESK CALCULATOR                           |
| 48 | TYPEWRITER   |
| 49 | SLIDE/FILM STRIP/STILL PROJECTOR                   |
| 50 | MOVIE PROJECTOR/ACCESSORIES                        |

TASK NO. | ENTER RESPONSES TO STATEMENTS BELOW IN LEFT SIDE OF PAGE 17  
| OF RESPONSE BOOKLET

- 1 | WATER TESTING KIT (POISON)
- 2 | MILK TESTING KIT
- 3 | WATER TESTING KIT
- 4 | FOOD TESTING KIT
- 5 | BLOOD TESTING KITS
- 6 | FIRST AID KIT
- 7 | MID-STREAM URINE KIT
- 8 | BIOLOGICAL IDENTIFICATION KEYS (ANIMAL)
- 9 | BIOLOGICAL IDENTIFICATION KEYS (PLANT)

TASK NO. | ENTER RESPONSES TO STATEMENTS BELOW IN RIGHT SIDE OF PAGE 15  
| OF RESPONSE BOOKLET

- |    |  |
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| 31 | ELECTRON MICROSCOPE                    |
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| 47 | ANALYTICAL BALANCE                     |
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| 49 | MELTING POINT APPARATUS                |
| 50 | WATER BATH WITH THERMOSTAT             |

TASK NO. | ENTER RESPONSES TO STATEMENTS BELOW IN LEFT SIDE OF PAGE 16  
| OF RESPONSE BOOKLET

- |    |   |
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| 2  | TISSUE WATER FLOAT BATH                               |
| 3  | BATH COOLER (CRYOS)                                   |
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| 5  | CO2 INCUBATOR   |
| 6  | INCUBATORS LABORATORY                                 |
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| 8  | FURNACE (FOR ASHING)                                  |
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| 18 | DISSECTING INSTRUMENTS                                |
| 19 | AUTOPSY INSTRUMENTS                                   |
| 20 | MORGUE BODY HOIST                                     |
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| 23 | MICROTOME, ROTARY                                     |
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