BOCUNENT RESUME

ED 032 571

• •

CC 004 388

By-Christal, Raymond E.

Inputs to Vocational Technical Education from Occupational Research.

American Personnel and Guidance Association, Washington, D.C.

Pub Date Mar 69

ERIC.

Note-22p. Paper presented at the American Personnel and Guidance Association Convention, Las Vegas, Nevada, March 30--April 3, 1969.

EDRS Price MF - \$0.25 HC - \$1.20

Descriptors-*Computers, Computer Storage Devices, Curriculum Development, *Data Collection, Information Retrieval, *Information Storage, *Job Analysis, Job Skills, Military Personnel, *Occupational Information, Task Analysis

The Air Force has developed a data bank which classifies job descriptions into occupational clusters. A retrieval system, also recently developed computes and publishes a consolidated description of the work being performed by any group which can be defined in terms of the background information. Other retrieval programs are available which enable the user to obtain background information on a specific job group, or to study the differences between two background groups. Suggestions are offered for ways in which similar data banks and retrieval systems might be of help to the civilian section, permitting rapid matching between job opportunities and job applicants. (CJ) Dr. Raymond E. Christal Occupational Research Branch Personnel Research Division Air Force Human Resources Laboratory (AFSC) Lackland Air Force Base, Texas

Today I would like to describe a new movement which is taking place in the military services which is causing a great deal of excitement. It has to do with the establishment of occupational data banks and with the development of computerized occupational information retrieval programs.

Until about ten years ago, personnel psychologists in the military services paid very little attention to occupations. With millions of men working in thousands of jobs throughout the world, it simply wasn't feasible to systematically collect and analyze job information until the optical scanner and the electronic computer came along. Therefore, personnel research was limited almost exclusively to testing and to training. Research during World War II led to the development of comprehensive batteries of tests which were used for selecting men and for classifying them into occupational areas. But these tests were not designed to maximize success on-the-job. They were designed to maximize success in

IT. POINTS OF VIEW OR OPINION

EXACTLY AS RECEIVED FROM

THIS DOCUMENT HAS BEEN REPRODUCED Person or organization originating IOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION

OR POLICY

POSTION

STATED DO

571

35

00

1

^{*}Presented at the American Personnel and Guidance Association, National Vocational Guidance Association Division annual convention, March 30 - April 3, 1969, Las Vegas, Nevada.

technical training courses. The services conducted hundreds of studies on training techniques - that is, on <u>how to train</u>. But very few studies were conducted on course content - that is, <u>what to</u> <u>train</u>. Curriculum development was an art which was often practiced in the absence of detailed information concerning what tasks individuals were likely to encounter in the operational world. At best, course elements were based upon relatively global job descriptions, written by job analysts who studied a limited number of work positions.

Once a curriculum was established, changes were introduced slowly, and then only when strong recommendations came from users in the operational setting. These recommendations generally were for training on new tasks, or for more training on difficult-toperform tasks. Seldom was there information from the field indicating what training could be eliminated or abbreviated. Thus, the pressure was always for more courses and longer courses.

Now I am going to hazard the guess that those of you working in the areas of vocational training and vocational counseling are faced with somewhat the same problems. I doubt if you get a great deal of feedback information from your graduates, once they have left the school setting. I would guess that curriculum experts could use more detailed information about the jobs your graduates

are likely to encounter in future years. I would guess that the pressures are always for more training, and that there is very little information concerning what would be the effect of dropping or abbreviating course content. I would guess that the tests you use for helping students make career choices have generally been developed and validated against academic grades. Finally, I would guess that your students have many specific questions about jobs which they do not even bother to ask, because they know you are not likely to have the answers.

What has been needed for a long time by vocational trainers in and out of the military services has been better and more detailed job information. Fortunately, in the Air Force we have found that such information can be collected by having large samples of workers in each occupational area fill out job inventories.

Now let me describe a job inventory to you. It contains two sections. The first section is composed of background questions to be answered by a worker concerning his job and himself - - questions relating to previous education, time on-the-job, tools utilized, equipment worked on, interest in job, felt utilization of talent, pay grade, and so on. For jobs in the civilian sector one might wish to include questions about union membership, size

ERIC

of company, number of employees supervised, products manufactured, fringe benefits, time with company, and job location. Any items can be included in the background information section which will help answer questions about the occupational area.

The <u>second section</u> of a job inventory is simply a list of the significant tasks being performed by workers in a single vocational career ladder. That is, it contains tasks being performed by apprentices, journeymen, lst line supervisors, and superintendents working in a single occupational area, such as metal working, automotive repair, or firefighting. If this task list is properly constructed, then any job being performed by a worker in the occupational area should be definable in terms of a subset of tasks in the inventory. Let me repeat this concept, because it is central to the method. Since the job inventory contains every significant task being performed by workers in an occupational area, then every worker in the area can define his individual job by checking the tasks which he performs.

A job inventory is normally administered by mail to two thousand or more workers in an occupational area. Each worker provides identifying and background information, checks the tasks he performs as part of his normal job, and writes in any significant

ERIC

3

tasks he does which do not appear in the inventory. This writein feature is important, since it makes the instrument self-repairing. The worker also provides estimates of the relative amount of his work time spent on each task. The completed inventory booklets are sent to a central agency, where the data are keypunched or read by an optical scanner in readiness for computer analysis.

Now before I talk about what you can do with this information, once it is in the computer, let me mention some of the reasons we like the job-inventory survey approach. First, the technique is economical. Data can be collected using job inventories from thousands of cases throughout the world for less than it would cost to collect data on a few cases using trained job analysts. Second, the information is quantifiable. That is, you can actually count the number of people that perform any given task, and describe their characteristics. Data collected by job analysts are not quantifiable. No two analysts will describe a job in exactly the same terms.

The fact that information collected with task inventories is quantifiable means that it can be stored, manipulated, analyzed, and reported by computer. The fact that it is quantifiable also means that it can be subjected to research - - - that is, it can be validated and checked for stability using conventional statistical techniques.

ERIC

We have conducted many studies to determine the quality of information collected with job inventories. We know that when a worker fills out an inventory on two occasions, he gives essentially the same information both times. Split-sample correlations for information concerning the percent of employees in an occupational area performing tasks in an inventory run in the neighborhead of .95 to .99, even for sample sizes of 50 to 100 cases. Supervisors agree with the information provided by their subordinates. Information collected with daily work records is consistent with information collected with inventories. Workers do not inflate their job descriptions in terms of the number or difficulty levels of tasks reported. There is a high probability that significant tasks missing from the inventory will be written in by workers who perform them. In summary, we know that we get good information using job inventories.

at the state of th

ERIC

Now let's suppose we have a data bank which has been established for jobs in a particular occupational area. It should be obvious that if so much information would be available, no one could possibly become fariliar with all of it. Nor would it be feasible to publish reports which would answer all of the questions individuals might have about jobs, even in a single occupational area. The new concept is to develop an occupational information retrieval system which will quickly select and report information relevant to each specific

question as it is asked. We have developed such a system in the Air Force, and have been making daily use of it for several years. Today, I will describe a few of the retrieval programs which are already available, and will illustrate by example how they are used.

First, we have a program which will compute and publish a <u>con-</u> <u>solidated description</u> of the work being performed by any group which can be defined in terms of the background information. For example, in the Air Force we may wish to see a description of the work being performed by men in an occupational area who have been on the job less than one year; who are working at overseas locations; who have been in the Air Force more than three years but less than seven years; who feel that their talents are not being utilized, or who find their jobs dull. Such a description could be obtained almost immediately. In the civilian situation, one might wish to see a description of work being performed by graduates of vocational high schools; working in a particular industry; in a given geographical area of the country; who have been out of school less than one year.

I have passed out an example group job description to give you a general idea of what one looks like. This one happens to be one for Air Force Medical Laboratory Technicians working at the

-<u>ERIC</u>

journeyman level in hospitals and clinics throughout the world. Every task performed by members of this group is listed, and information is provided concerning the percentage of cases performing each task, as well as the amount of worktime spent on it.

Notice that a description like this provides information which is ideal for use in curriculum validation or development. If one were developing a course for medical laboratory technicians, he certainly would want to include training on those tasks which appear at the top of this description. These are the tasks which the graduate is most likely to encounter on the job. On the other hand, it is questionable whether training should be given on many of the tasks listed near the bottom of the description. For example, only about one and one-half percent of the workers in this field are required to "perform serum magnesium tests using biochemical procedures" - - whatever that means. Even these workers spend less than four-tenths of one percent of their worktime on this activity. When training time is at a premium, this is the type of content that can best be eliminated from the curriculum.

Returning to the information retrieval system, you can ask for a description of the work being performed by any group of special interest, that can be defined in terms of background information

items included in the first section of the inventory.

Perhaps you would like to know more about a group than simply the tasks performed. Fine! Another program will compute and present a detailed description of the background information available on the group. Provided such questions are included in the survey questionnaire, the report will summarize salary data, union membership, job satisfaction, educational background, tools utilized, equipment worked on, travel required, number of individuals supervised - - or any other data that was collected in the background information section of the inventory.

Or, maybe you wish to study the differences between two groups. For example, you might wish to know the differences in the types of jobs performed by graduates from vocational high schools and graduates from academic high schools, who are working in a given occupational area. No problem. Programs have already been written which will compute separate descriptions for the two groups of interest, compare their jobs, and present a consolidated description of the differences in work being performed by the two groups.

Again, you may wish to know something about career progression in an occupational area. A program is available which computes

ERIC

the percentage of individuals at each experience level who perform each task in the inventory, and then presents this information in an easy-to-read format. A student could study such a report to determine the types of tasks he is most likely to encounter when he goes to his first job. He also could see the tasks which are likely to be added to his job as he gains more experience. A vocational high school may wish to center its curriculum on those tasks which tend to be assigned to employees during their first few years on-the-job. In the Air Force, we have found that training must be timely, if cost effectiveness is a consideration.

Instead of studying the percentage of individuals at each of several experience levels who perform various tasks in the inventory, you may wish to determine the percentage of individuals in each of several industrial settings who perform such tasks. The same retrieval program can provide this information.

Instead of seeing a consolidated description of the work being performed by a class of workers, you might like to study all of the jobs in that class, one at a time. No problem. You define the class of jobs you wish to study, tell the computer whether you wish to see all of them or a representative sample, and push the button. The computer prints out descriptions, one at a time, for each individual worker's job, until it has met your specification.

ERIC

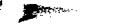
Of course, this last program could quickly fill up the room with paper if one were not conservative in his request. For these types of data, display on a cathode-ray tube would probably be more efficient. A hard copy of any particular description could be then published, if specifically requested.

Mary and a second

nables an Alastication and an

ERIC

We all know that there are many different types of jobs in most occupational areas. For this reason, a consolidated job description may not define very well the work performed by any particular individual in the group. Yet, one would hate to look at every individual job, when what he really wants is a description of each type of job that exists in the occupational area. We have developed a program which computes the similarity of every job with every other job in an occupational domain, groups similar jobs into clusters, and then publishes a consolidated description for each cluster. When we apply this program, we find that many types of jobs exist in some occupational areas. In the Air Force, for example, there are fifty-five distinct job types in the Accounting and Finance area. We have identified and described each of these types of jobs, and can provide information concerning the number of individuals working in them; the characteristics of these individuals; and the geographical location of their jobs. This job-type identification program is very sophisticated. It may evaluate as many as threeand-one-third billion job combinations in arriving at the best



ERIC

set of job clusters in a single occupational area. We now accomplish analyses of this type on a routine basis.

I won't bore you by describing any more of the available information retrieval programs. However, you should be aware that the programs I have described are not a promise for the future. They are already fully developed and have been operating in the Air Force for several years. One of these days I would hope that an occupational data bank will be maintained by the Department of Labor and that vocational counselors will have access to a remote inquiry station hooked into a time-shared computer. When that time arrives, you will have a new service you can provide to your students.

Now let me quickly move on to a few related topics which might be of interest to you. First, since all of the jobs in an occupational area can be defined in terms of subsets of tasks in a job inventory, this inventory becomes an ideal framework for maintaining individual experience records. The Air Force does not currently maintain experience records at the task level, but we hope to in the near future.

In the civilian setting, an individual could also maintain his experience record in terms of the tasks found in the job inventory for his career area. This would solve the serious problem

that people now have in communicating their occupational experiences and background to potential employers. A potential employer could immediately relate such task experience information to his needs, since his job openings would be definable in the same task terms. To turn the matter around, the potential employer could define his job openings in terms of the same set of task statements - - thus communicating in precise terms to potential employees the nature of the jobs to be filled. It might not be too far fetched to suggest that the beginning of a background and experience record for an individual could be in terms of training given by a vocational high school.

The day may come when all job openings are defined and fed into a central data bank. Mobility is getting to be a matter of routine, and an individual looking for employment should have information concerning job opportunities, wherever they exist. An information retrieval system hooked into a data bank of this sort has interesting possibilities. One could seek out the jobs matching his interests and experiences, which exist in specified geographical regions. Scientists having access to the same data bank could determine skill demands at the task level - - - which might have implications for vocational training curricula.

When a job inventory is administered to samples of workers in an occupational area every few years, a comparison of jobs

ERIC

across time can produce useful information. For example, by comparing the number of workers performing tasks at time 1 against the number performing them at time 2, one can identify those tasks which are dying out, and those that are appearing more often in jobs. Such information would be of utility in keeping vocational training curricula up-to-date. If an inventory could be administered to the <u>same</u> individual worker at two points in time, then one could determine the flow rate of individuals from each type of job to every other type of job; from one salary level to another; from one part of the country to another; and so on.

In the Air Force we are now routinely collecting data on job interest and felt utilization of talent. Because of this, we are in a unique position to research the impact of work assigned on job attitude and morale. We can already present evidence that there are differences in the work being performed by individuals who feel misused and dissatisfied compared with the work performed by those who are happy - - - even in the same occupational area. We currently are conducting studies to determine aptitude levels above which individuals feel under-utilized in specific job types. Such data could be useful to counselors in helping students to identify job areas which are likely to prove unchallenging. On the other hand, employers need to recognize that low aptitude employees are apt to be happier and more productive in certain types of jobs than are employees with higher aptitudes.

ERIC

Now, I have only mentioned a few of the many applications of occupational data collected with job invertories.

In the Air Force, we have already collected and analyzed occupational information collected with inventories from over 100,000 cases, in a variety of occupational areas. The data have been so useful, we are now contemplating establishment of an occupational data bank containing job information from workers in all areas, and we are looking forward to the time when we will maintain data on every person and every job in the Air Force. The Army has already begun establishing a similar data bank, - - - and the Navy, Marine Corps, and Coast Guard are finalizing plans to go in the same direction. The Canadian Forces have surveyed about half of their occupational trades, and the Australians are thinking about adopting the Canadian System. The Public Health Service has surveyed its professional jobs using job inventories. - It seems obvious that there is a rapidly growing movement in the direction of establishing occupational data banks, using job inventories, and I predict that this movement will soon take hold in the civilian sector. I realize that some of the things I have described may seem a little futuristic in terms of resolving your problems today. However, I do feel that both students and schools need and deserve better information about the operational world, and I hope some day to see it available to you.

SPCOO3 PAGE 1

JOB DESCRIPTION FOR AIRMEN IN MEDICAL LABORATORY CAREER LADDER AFSC 904X0

TASK JOB DESCRIPTION, CASES= 619, TASKS= 301, DUTIES= 17, MBRS= 394 AIRMEN WITH 904508 DAFSC TIME PERFECTLY DESCRIBED ON DUTIES= 71.70, TASKS= 55 44

		CUMULATIVE SUM OF AVERAGE PERCENT TIME S	PENT BY	ALL MEM	BERS	
		AVERAUE FERGENI IIME SPENI BY ALL MERBER	5			•
		AVERAGE PERCENT TIME SPENT BY ALL MEMBER AVERAGE PERCENT TIME SPENT BY MEMBERS PE PERCENT OF MEMBERS PERFORMANCE	RFORMI NG		•	•
		PERCENT OF MEMBERS PERFORMING		•	•	•
D .	-TSK	DUTY/TASK TITLE	•	•	•	•
		PERCENT OF MEMBERS PERFORMING	•	•	•	•
E	16					
- F	1	CULLECT BLUUD SPECIMENS DIRECTLY FROM PATIENTS	93.40	1.70	1.58	1.58
	1	PERFURM BLUUD CUUNI	89.09	1.56	1.39	2.98
	24	PERFORM HEMATULUGY PROCEDURES FOR DIFFERENTIAL CELL COUNTS	88.83	1.49	1.33	4.30
J	67	PERFURM HEMATOLOGY PROCEDURES FOR HEMATOCRIT TESTS	89.09	1.45	1.30	5.60
		EXAMINE URINE SPECIMENS MICROSCOPICALLY	88.07	1.43	1.26	4.85
J	2	PREPARE OLOOD SMEARS	89.85	1.39	1.25	8.10
-	10	PREPARE AND PROCESS SPECIMENS	87.56	1.39	1.22	9-32
N	9	PERFORM URINALYSES FOR GLUCOSE TESTS	87.82	1.38	1.21	10.53
N	15	PERFORM URINALYSES FOR SPECIFIC GRAVITY TESTS	87.06	1.38	1.20	11.73
N	6	PERFORM URINALYSES FOR ALBUNIN TESTS	87-06	1.34	1.10	12 02
F	3	CLEAN AREA AND EQUIPMENT ASEPTICALLY	80.96	1.44	1.18	16.10
N	1	EXAMINE URINE SPECIMENS MACROSCOPICALLY	87.82	1.32	1 14	15 24
J	6	SEPARATE SERUN FROM BLOOD	87.31	1 10	1 14	17.20
F	- 11	PREPARE REAGENTS	93.40	1 10	1 11	10.70
J	2	IDENTIFY MORPHOLOGICAL VARIATIONS OF BLOOD CELLS	88.07	1 21	1 04	1/071
M	- 4	OPERATE SPECTRO-PHOTOMETER	77.44	1 94	1.00	
J	21	PERFORN HENATOLOGY PROCEDURES FOR ERYTHROCYTE	67 64	1.34	1.04	17.02
		COLLECT BLOOD SPECIMENS DIRECTLY FROM PATIENTS PERFORM BLOOD COUNT PERFORM HEMATOLOGY PROCEDURES FOR DIFFERENTIAL CELL COUNTS PERFORM HEMATOLOGY PROCEDURES FOR HEMATOCRIT TESTS EXAMINE URINE SPECIMENS MICROSCOPICALLY PREPARE BLOOD SMEARS PREPARE AND PROCESS SPECIMENS PERFORM URINALYSES FOR GLUCOSE TESTS PERFORM URINALYSES FOR ALBUMIN TESTS CLEAN AREA AND EQUIPMENT ASEPTICALLY EXAMINE URINE SPECIMENS MACROSCOPICALLY SEPARATE SERUM FROM BLOOD PREPARE REAGENTS IDENTIFY MORPHOLOGICAL VARIATIONS OF BLOOD CELLS OPERATE SPECTRO-PHOTOMETER PERFORM HEMATOLOGY PROCEDURES FOR ERYTHROCYTE SEDIMENTATION RATE	0/074	1.14	1.04	20.07
K	7	PERFORM SEROLOGICAL PROCEDURES FOR CARDIOLIPIN	70 03	1 20		
		MICROFLOCCULATION	(0•7 <i>)</i>	1.30	1.03	21.68
G	1	EXAMINE SPECIMENS MICROSCOPICALLY				
G	2	IDENTIFY AND CLASSIFY PATHOGENIC BACTEDIA		1.10	1.01	22.69
Ĝ	10	PREPARE CULTURE MENTA	/0.00	1.27	1.00	23.69
F	12	PREPARE SOLUTIONS AND STANDARDS	78.83	1.20	0.99	24.68
Ň	25	MICROFLOCCULATION EXAMINE SPECIMENS MICROSCOPICALLY IDENTIFY AND CLASSIFY PATHOGENIC BACTERIA PREPARE CULTURE MEDIA PREPARE SOLUTIONS AND STANDARDS PERFORM BIOCHEMICAL PROCEDURES FOR LIVER FUNCTION TESTS PERFORM BIOCHEMICAL PROCEDURES FOR NPN AND BUN TESTS	80.33	1.09	0.94	25.62
M	27	PERFORM BIOCNENTCAL PROCEDURES FOR LIVER FUNCTION TESTS	78.93	1.18	0.93	26.55
G	11	STAIN BACTERICAL PROCEDURES FUR NPN AND BUN TESTS	79.95	1.16	0.93	
Ĩ	- 1	PERFORM BIOCHENICAL PROCEDURES FOR LIVER FUNCTION TESTS STAIN BACTERIOLOGICAL SMEARS CROSSMATCH BLOOD TEST BLOOD FOR ABO GROUPING AND ABO SUBGROUPING IDENTIES IMMATURE ALOOD CELLS	85.28	1.08	0.92	28.41
	34		72.59	1.24	0.90	29.30
7	- 40 1	TRENTIEN INNATURE ALOOD AND ABO SUBGROUPING	80.20	1.12	0.90	30.20
•	-	ARAITEL THREADE DEADA CELES	86.29	1.04	0.89	31.09
I	6	EXAMINE SPECIMENS MICROSCOPICALLY	81.47	1.08	0.88	31.97
		PERFORM ANTIBIOTIC SENSITIVITY TEST	75.38	1.17	0.88	32.85
F		PREPARE SPECIMENS FOR SHIPMENT	84.26	1.03	0.87	33.72
E	3	LOG INCOMING OR OUTGOING SPECIMENS	71.83	1.16	0.83	34.55
L	18	TYPE BLOOD OF DONORS AND RECIPIENTS	74.87	1.10	0.83	35.38
L	2	LOG INCOMING OR OUTGOING SPECIMENS TYPE BLOOD OF DONORS AND RECIPIENTS CENTRIFUGE AND SEPARATE SERUM FROM CLOT PERFORM BIOCHEMICAL PROCEDURES FOR TOTAL PROTEIN AND	73.10	1.11	0.81	36.19
M	33	PERFORM SIOCHEMICAL PROCEDURES FOR TOTAL PROTEIN AND	75.13	1.06	0.79	36.99
		A/G KAIIU			~~~~	
L	17	TEST BLOOD FOR RHO OR DU FACTORS	76.14	1.04	0.79	17.70
L		PERFORM DIRECT AND INDIRECT COOMBS TESTS	75.38	1.04	0.78	
Ħ	5	PREPARE REAGENTS AND STANDARDS	75.38	1.01	0.76	
				1.41	V. / V	37036

ŕ.

-

.

The state of the s

				SPC003 PAGE		2
Ĵ	21	PERFORM HEMATOLOGY PROCEDURES FOR PROTHROMBIN TIME PERFORM SPINAL FLUID CELL COUNTS Examine specimens macroscopically	70 10			
J	-4	PERFORM SPINAL FLUID CELL COUNTS	17.17	0.95		40.08
Ī	1	EXAMINE SPECIMENS MACROSCOPICALLY	89.76	0.68		40.82
Ī	6	IDENTIFY PROTOZOANS, CESTENES, NEWATODES, OR TACHATODES	/9.73	0.92	0.73	
Ē	1	COLLECT SECAL OF HETE CRECIMENT DYCECTLY COON DATIONES	74.62	0.95		42.26
Ĵ	21	PERFORM HENATOLOGY PROCEDURES FOR REVIEW OF THE COUNT	52.79	1.33		42.96
Ň		PERFORM HETALULUUT PROCEDURES FUR REALCULUCATE COUNT	54.26	0.82		43.65
Ĩ	2	PERION CONCENTRATION AND SUCRATION TRAINING	85.28	0.80		44.34
	17	PERFORM CONCENTRATION AND PLUTATION TECHNIQUES	72.84	0.93		45.02
•		EXAMINE SPECIMENS MACROSCOPICALLY IDENTIFY PROTOZOANS, CESTGDES, NEMATODES, OR TREMATODES COLLECT FECAL OR URINE SPECIMENS DIRECTLY FROM PATIENTS PERFORM HEMATOLOGY PROCEDURES FOR REFICULOCYTE COUNT PERFORM URINALYSES FOR BILE TESTS PERFORM CONCENTRATION AND FLOTATION TECHNIQUES PERFORM HEMATOLOGY PROCEDURES FOR COAGULATION TIMES BY CAPILLARY METHOD	79.70	0.85	0.68	45.70
M	- 34	PERFORM BIOCHENICAL PROCEDURES FOR URIC ACID TESTS	70.81	0.96	0 48	46.37
						47.05
J	- 30	PERFORM HEMATOLOGY PROCEDURES FOR THROMBOCYTE COUNT PERFORM HEMATOLOGY PROCEDURES FOR COAGULATION TIMES BY		0.83		
J	14	PERFORM HEMATOLOGY PROCEDURES FOR COAGULATION TIMES BY	43 33			47.72
		LEE [®] WHITE HEIMUD			V • 00	48.38
M	- 37	UTILIZE METHODS FOR COLORNETRIC PROCEDURE	52-03	1.25	0.45	49.03
J	- 11	PERFURM HEMATOLOGY PROCEDURES FOR CERERROSPINAL FLUTO COUNT	A0 04	A #A		49.68
M	- 32	PERFORM BIOCHEMICAL PROCEDURES FOR TOTAL CHOLESTEROL AND	48-27	0.93		50.32
		PALEKA JENIA				JV 8 3 6
	17	PERFORM BIOCHEMICAL PROCEDURES FOR CHLORIDES TESTS	71.07	0.89	0.63	50.95
N	12	PERFORM URINALYSES FOR OCCULT BLOOD TESTS	82.49	0.76		51.58
E	5	MAINTAIN FILES OF CLINICAL LABORATORY REQUESTS	54.82	1.14	0.63	
J	8	PERFORM BIOCHEMICAL PROCEDURES FOR CHLORIDES TESTS PERFORM URINALYSES FOR OCCULT BLOOD TESTS MAINTAIN FILES OF CLINICAL LABORATORY REQUESTS PERFORM HEMATOLOGY PROCEDURES FOR BLEEDING TIME,	71.83	0.86	0.62	
		WVRE MEINUU				2000
M	- 38	UTILIZE METHODS FOR ELECTROLYTE DETERMINATIONS PERFORM HEMATOLOGY PROCEDURES FOR ERYTHROCYTE INDICES PERFORM BIOCHEMICAL PROCEDURES FOR CALCIUM AND PHOSPHORUS TESTS	61.68	1-00	0.61	53.43
J	20	PERFORM HEMATOLOGY PROCEDURES FOR ERYTHROCYTE INDICES	79.44	0.75	0.59	
M	11	PERFORM BIOCHEMICAL PROCEDURES FOR CALCIUM AND	64.72	0-92	0.59	54.62
		TINGTOUNNA ISALA			•• • • •	74045
E	7	MAINTAIN FILES OF LABORATORY RECORDS OR REPORTS PERFORM HEMATOLOGY PROCEDURES FOR L. E. TEST DRAW BLOOD FOR TRANSFUSIONS	51-27	1.14	0.59	55.20
J	25	PERFORM HEMATOLOGY PROCEDURES FOR L. E. TEST	75-38	0.77		
L	5	DRAW BLOOD FOR TRANSFUSIONS	64-67	0.90	0.58	56.35
K	13	DRAW BLOOD FOR TRANSFUSIONS PERFORM SEROLOGICAL PROCEDURES FOR HETEROPHILE PRESUMPTIVE AND DIFFERENTIAL ANTIBODY TEST	63.45	0.90	0.57	56.94
		AND DIFFERENTIAL ANTIBODY TEST		•• ••	••//	20074
J	18	PERFORM HEMATOLOGY PROCEDURES FOR EDSINOPHILE COUNT	80.46	0.71	0.57	57-51
•	Z	UPERATE FLAME PHOTOMETER	64.97		0.57	
		PERFORM SPERM COUNTS	79.44	0.71	0.57	58.65
J	29	PERFORM HEMATOLOGY PROCEDURES FOR SICKLE CELL PREPARATIONS	82.74	0.68		
M	14	PERFURM BIUCHEMICAL PROCEDURES FOR CARBON DIDXIDE				59.77
		DETERMINATIONS				27011
Ε	11	RECEIVE INCOMING SUPPLIES STORE BLOOD ACCORDING TO GROUPING AND FACTOR COLLECT PUS SPECIMENS DIRECTLY FROM PATIENTS PERFORM URINALYSES FOR UROBILINOGIN TESTS PERFORM SEROLOGICAL PROCEDURES FOR LATEX FIXATION TEST PERFORM SEROLOGICAL PROCEDURES FOR LATEX FIXATION TEST	55.58	0.96	0.53	60.31
L	15	STORE BLOOD ACCORDING TO GROUPING AND FACTOR	59.90	0.89	0.53	60.84
F	20	COLLECT PUS SPECIMENS DIRECTLY FROM PATIENTS	65.99	0.80	0.53	61.37
N	20	PERFORM URINALYSES FOR UROBILINOGIN TESTS	75.89	0.66	C.50	61.87
K	14	PERFORM SEROLOGICAL PROCEDURES FOR LATEX FIXATION TEST	59.64	0.84	0.50	62.37
K	6	PERFORM SEROLOGICAL PROCEDURES FOR "C" REACTIVE	61.42	0.80	0.49	62.86
					V077	
Η	4	PROTEIN TESTS PERFORM KOH PREPARATION FOR DERMATOPHYTES DEVELOP AND INPROVE WORK METHODS AND PROCEDURES DISPOSE OF BLOOD AFTER TIME LIMIT PERFORM BIOCHEMICAL PROCEDURES FOR BLOOD ALCOHOL TESTS PERFORM BIOCHEMICAL PROCEDURES FOR CREATININE TESTS MAINTAIN DONOR FILES	68-02	0.72	0.49	63.35
A	10	DEVELOP AND IMPROVE WORK METHODS AND PROCEDURES	53,54	0.91		63.84
Ł	4	DISPOSE OF BLOOD AFTER TIME LIMIT	67.1 0	0.77		64.32
M	8	PERFORM BIOCHEMICAL PROCEDURES FOR BLOOD ALCOMOL TESTS	44 - 7K	0.71		
M	20	PERFORM BIOCHEMICAL PROCEDURES FOR CREATINING TERTS	41.42	0.76		64.79
L	6	MAINTAIN DONOR FILES	58.63	V./U		65.26
		PERFORM URINALYSES FOR KETONE STUDIES	55.33			65.73
			JJ 0 J J	0.84	0.46	66.19

·····

Marra - - -

~

#

•

.

- --

•					03 PAGE	3
H	2	EXAMINE SPECIMENS MICROSCOPICALLY	60-15	0.77	0.46	66.65
J	12	PERFORM HEMATOLOGY PROCEDURES FOR CLOT RETRACTION TEST	73.35	0.63		
	- 5	ASSURE THE AVAILABILITY OF EQUIPMENT AND SUPPLIES	42.64	1.06		
A	26	REQUISITION SUPPLIES AND EQUIPMENT	44.67	1.01		
E	12	REQUISITION SUPPLIES	44.42	1.00		68.46
N	16	PERFORM URIMALYSES FOR TOTAL PROTEIN	63.45	0.70	0.44	68.90
M	21	PERFORM BIOCHEMICAL PROCEDURES FOR ENZYME ANALYSES	46.70	0.95	0.44	69.35
M	42	UTILIZE METHODS FOR TITRIMETRIC PROCEDURE	55.33	0.40		
	13	EXAMINE SPECIMENS MICROSCOPICALLY PERFORM HEMATOLOGY PROCEDURES FOR CLOT RETRACTION TEST ASSURE THE AVAILABILITY OF EQUIPMENT AND SUPPLIES REQUISITION SUPPLIES AND EQUIPMENT REQUISITION SUPPLIES PERFORM URINALYSES FOR TOTAL PROTEIN PERFORM BIOCHEMICAL PROCEDURES FOR ENZYME ANALYSES UTILIZE METHODS FOR TITRIMETRIC PROCEDURE PERFORM BIOCHEMICAL PROCEDURES FOR CARBOHYDRATES TOLERANCE TESTS	44.67	0.98		
H		PREPARE CULTURE MEDIA	57.87	0.76		70.67
H	1	CULTIVATE MYCOLOGY SPECIMENS FOR PRIMARY ISOLATION	56.09	0.77		
D		PREPARE CULTURE MEDIA CULYIVATE MYCOLOGY SPECIMENS FOR PRIMARY ISOLATION GIVE ON-THE-JOB INSTRUCTION IN MEDICAL LABORATORY ACTIVITIES				71.51
N	1	PERFORM URINALYSES FOR BENCE-JONES PROTEIN TESTS STAIN PARASITOLOGICAL SMEARS COLLECT SKIN SPECIMENS DIRECTLY FROM PATIENTS PERFORM SEROLOGICAL PROCEDURES FOR COLD AGGLUTINATIONS DEPENDENT PRECIMENCY TESTS	68.78	0.60		71.93
I F	7	STAIN PARASITOLOGICAL SMEARS	53.81	0.77		72.34
K	22	CULLECT SKIN SPECIMENS DIRECTLY FROM PATIENTS	58.12	0.71		72.75
Ň		PERFURM SERVIDUGICAL PROCEDURES FOR COLD AGGLUTINATIONS PERFORM PREGNANCY TESTS	57.11	0.72	0.41	73.16
Ĉ	7	FERFURM FREUMANUT (ESIJ BVALUATE THE ACCURACY OF BOUTTME BEDODTS	45.45	0.84	0.41	73.57
ĸ	Š	PERFORM PREGNANCY TESTS Evaluate the accuracy of routine reports Perform serological procedures for antistreptolysin	39.09	1.04		73.98
		''O'' TITERS RECORD INFORMATION ON BLOOD RECORD CARD MAINTAIN FILES OF BLOOD BANKING FORMS PERFORM PREVENTIVE MAINTENANCE ON LABORATORY EQUIPMENT COLLECT SPUTUM SPECIMENS DIRECTLY FROM PATIENTS ATTACH SERIAL NUMBERS TO UNITS CALIBRATE INSTRUMENTS SCREEN AND SCHEDULE DONORS PERFORM URINALYSES FOR ADDIS COUNTS DETERMINE EQUIPMENT REPAIRS OR REPLACEMENTS NEEDED PREPARE SPECIMENS FOR SHIPMENT PREPARE BLOOD FOR SHIPMENT UTILIZE METHODS FOR GASOMETRIC PROCEDURE			0.40	74.37
.	13	RECURD INFORMATION ON BLOOD RECORD CARD	53.05	0.74		74.77
Ē	6	PRIMIAIN FILES UF BLUUD BANKING FURMS	53.30	0.74		75.16
6	24	COLLECT SOUTHIN SOECTMENS DIRECTLY FROM DATIENTS	41.12	0.82		
i.	1	ATTACH CEDIAL MUMBERS TO HATTE	72.20	0.72 0.78		
Ň	ī	CALIBRATE INSTRUMENTS	40.22 52 A2	0.72		76.30 76.68
Ë	14	SCREEN AND SCHEDULE DONORS	52.03	0.72		77.04
Ň	5	PERFORM URINALYSES FOR ADDIS COUNTS	63.96	0.56		77.40
C	1	DETERMINE EQUIPMENT REPAIRS OR REPLACEMENTS NEEDED	47.21	0.76		77.76
0	9	PREPARE SPECIMENS FOR SHIPMENT	39.85	0.89		78.12
L	11	PREPARE BLOOD FOR SHIPMENT	46.70	0.72		78.46
M	40	UTILIZE METHODS FOR GASOMETRIC PROCEDURE	41.37	0.81	0.34	78.79
		PERFORM SEROLOGICAL PROCEDURES FOR FEBRILE AGGLUTINATIONS		0.72	0.33	79.12
	- 21	ALAN BERNRTS EAR THE COOTAN		0.99	0.33	79.45
E	- 4	MAINTAIN AND REVISE STOCK LEVELS	35.53	0.92	0.33	79.77
A	20	PLAN RECORD KEEPING FOR THE SECTION	30.71	1.06	0.33	80.10
J		MAINTAIN AND REVISE STOCK LEVELS PLAN RECORD KEEPING FOR THE SECTION PERFORM HEMATOLOGY PROCEDURES FOR ERYTHROCYTE FRAGILITY TESTS		0.55	0.32	80.42
		PERFORM BIOCHEMICAL PROCEDURES FOR SERUM FROG TEST FOR PREGNANCY			0.32	80.74
F	6	PERFORM BACTERIOLOGICAL OR CHENICAL EXAMINATIONS OF WATER	41.37	0.74	0.31	81.05
H					0.30	
N	17	PERFORM URINALYSES FOR URINARY CALCIUM	54.57	0.54	0.30	81.64
N	14	STAIN MYCOLOGY SPECIMENS PERFORM URINALYSES FOR URINARY CALCIUM PERFORM URINALYSES FOR PORPHYRINS TESTS MAINTAIN STOCK CULTURES EVALUATE THE ADEQUACY OF ROUTINE REPORTS SUBMIT TISSUE SPECIMENS TO AFIP OR HISTOPATHOLOGY CENTERS COORDINATE WORK ACTIVITIES WITH OTHER SECTIONS ESTABLISH PROCEDURES FOR SPECIAL TESTS DIRECT SUBORDINATES IN MAINTAINING PERFORMANCE STANDARDS PROCURE AND STORE BIOLOGICAL ITEMS	54.57	0.54	0.30	81.94
G	3	MAINTAIN STOCK CULTURES	35.79	0.82	0.29	82.23
C	.7	EVALUATE THE ADEQUACY OF ROUTINE REPORTS	29.44	0.98	0.29	
0	12	SUBALI LISSUE SPECIMENS TO AFIP OR HISTOPATHOLOGY CENTERS	32.99	0.87	0.29	
		CUURUINALE WURK ACTIVITIES WITH OTHER SECTIONS	36.55	0.77	0.28	83.09
A	14	COLADLISM PRULEUURES FUR SPECIAL JESTS	36.29	0.74	0.27	83.36
BE	2	DIRECT JUDURUTATES IN MAINTAINING PERPURMANCE STANDARUS	30.96	0.87	0.27	83.63
6	10	PROCURE AND STORE BIOLOGICAL ITEMS	35.53	0.75	0.27	83.89

•

Į,

-

. •

٠

•

SPC003 PAGE 4 H **3 IDENTIFY AND CLASSIFY FUNGI** 0.26 84.16 36.04 0.73 0 2 ASSIST WITH AUTOPSY 0.26 84.42 39.34 0.66 F 4 PERFORM BACTERIOLOGICAL OR CHEMICAL EXAMINATIONS OF 40.86 0.63 0.26 84.67 FOOD PRODUCTS 9 PERFORM FIRST AID FOR SHOCK 0.49 0.25 84.92 51.02 2 PREPARE ANTIGENS ĸ 32.49 0.77 0.25 85.17 36.29 46.95 23.60 27.92 15 PREPARE SPECIMENS FOR TRAINING OR REFERENCE 0.67 0.24 85.42 13 PERFORM URINALYSES FOR PHENYLPYRUVIC ACID TEST N 85.66 0.24 13 PERFORM URINALYSES FOR PHENYLPYRUVIC ACID TEST 1 SUPERVISE THE MAINTENANCE OF LABORATORY SUPPLIES 5 DIRECT THE MAINTENANCE AND UTILIZATION OF EQUIPMENT, 0.52 E 1.02 0.24 85.90 B 0.86 0.24 86.14 SUPPLIES AND WORK SPACE 30.96 **3 ASSIGN SPECIFIC WORK TO INDIVIDUALS** 0.24 86.38 0.78 18 RESOLVE TECHNICAL PROBLEMS OF SUBORDINATES C 86.62 28.43 0.83 0.24 N 19 PERFORM BIOCHEMICAL PROCEDURES FOR CREATININE 0.73 32.23 0.23 86.85 CLEARANCE TESTS D 8 INDOCTRINATE NEWLY ASSIGNED PERSONNEL 35.28 0.23 87.09 0.67 14 INVESTIGATE POSSIBLE SOURCES OF STAPHYLOCOCCUS OUTBREAKS C 87.32 28.43 0.82 0.23 25 PLAN WORK FLOW 25.13 0.92 0.23 87.56 C 9 EVALUATE WORK PERFORMANCE OF SUBORDINATES 0.22 23.35 0.95 87.78 15 PERFORM BIOCHEMICAL PROCEDURES FOR CARBON MONOXIDE M 39.09 0.22 0.57 88.00 DETERMINATIONS 1 8 PREPARE CULTURE MEDIA 29.70 0.22 88.22 0.73 11 DEVELOP OR REVISE THE ORGANIZATION OF THE SECTION 0.21 A 26.40 0.81 88.43 4 DIRECT SUBORDINATES IN THE DBSERVANCE OF SAFETY PRACTICES B 27.66 0.77 0.21 88.64 9 PERFORM HEMATOLOGY PROCEDURES FOR BLEEDING TIME, IVY METHOD 1 0.21 29.44 0.71 88.85 10 SHOW HOW TO LOCATE AND INTERPRET TECHNICAL INFORMATION D 0.20 25.89 0.78 89.06 18 PLAN AND SCHEDULE WORK ASSIGNMENTS 24.11 0.20 0.83 89.26 29 PERFORM BIOCHEMICAL PROCEDURES FOR SALICYLATE LEVEL 32.49 89.46 0.20 0.61 16 RECOMMEND SPECIAL CORRECTIVE ACTION FOR RECURRING PROBLEMS 26.65 C 0.72 0.19 89.65 C 8 EVALUATE THE MAINTENANCE AND USE OF EQUIPMENT, 23.86 0.80 0.19 89.84 SUPPLIES AND WORK SPACE 18 PERFORM URINALYSES FOR URINARY CHLORIDES 35.03 0.54 90.03 N 0.19 11 INSPECT AND EVALUATE ADHERENCE TO ESTABLISHED C 18.78 0.99 0.19 90.21 STANDARDS OF SANITATION, CLEANLINESS AND NEATNESS 12 PROCESS BLOOD FOR PACKED CELLS L 34.01 0.54 0.19 90.40 **17 ESTABLISH WORK PRIORITIES** 22.08 0.83 0.18 90.58 22 PERFORM HEMATOLOGY PROCEDURES FOR FIBRINOGEN ESTIMATIONS 35.28 0.49 0.17 90.76 Ε 6 MAINTAIN FILES OF LABORATORY CORRESPONDENCE 22.59 0.76 0.17 90.93 С 10 INITIATE UNSATISFACTORY REPORTS ON EQUIPMENT 24.37 0.70 91.10 0.17 8 12 SUPERVISE THE PREPARATION AND MAINTENANCE OF 0.17 19.04 0.88 91.26 **RECORDS AND REPORTS** 2 ASSIST OFFICERS OR SCIENTISTS IN RESEARCH ASSIGNMENTS 18.53 0.89 0.17 91.43 19 PERFORM URINALYSES FOR URINE ELECTROLYTES TESTS N 28.43 0.58 0.16 91.59 2 ASSIGN SPACE FOR EQUIPMENT AND SUPPLIES 26.40 0.61 0.16 91.75 D 9 INTERPRET POLICIES AND DIRECTIVES TO SUBORDINATES 23.60 0.68 91.92 0.16 26 PERFORM HEMATOLOGY PROCEDURES FOR PROTHROMBIN J 26.40 0.60 0.16 92.07 CONSUMPTION TEST 7 IDENTIFY PARASITIC AND DISEASE-CARRYING ARTHROPODS 0.15 I 25.89 0.60 92.23 41 UTILIZE METHODS FOR GRAVIMETRIC PROCEDURE 0.84 M 18.27 0.15 92.38 3 EVALUATE COMPLIANCE WITH ESTABLISHED WORK STANDARDS 16.50 C 0.91 0.15 92.53 **13 ESTABLISH PERFORMANCE STANDARDS** 15.99 0.87 0.14 92.67 8 MAKE LOCAL PURCHASE OF SUPPLIES Ε 0.79 0.14 17.51 92.81 D 1 ADMINISTER WRITTEN OR PERFORMANCE TESTS 17.01 0.79 0.13 92.94

. •

ERIC

•				SPCO	03 PAGE	5
K	10	PERFORM SEROLOGICAL PROCEDURES FOR COMPLEMENT FIXATION TESTS	19.04	0.70	0.13	93.08
F	17	COLLECT BIOPSY OR AUTOPSY SPECIMENS DIRECTLY FROM PATIENTS	21.32	0.62	0.13	93.21
J	10	PERFORM HEMATOLOGY PROCEDURES FOR BONE MARROW EXAMINATIONS	22.08	0.59	0.13	
6	- 7	MAINTAIN EILES DE DUBLICATIONE		0.77	0.13	
					0.13	
		ASSIST OFFICER IN CHARGE IN ESTABLISHING ORGANIZATIONAL POLICY HANDLE PROPERTY TURN-IN DIRECT SUBORDINATES IN MAINTAINING HIGH STANDARDS OF PERSONAL HYGIENE GIVE TRAINING OR LECTURES TO NON-MEDICAL LABORATORY PERSONNEL ASSIST IN EPIDEMIDLOGICAL INVESTIGATIONS PERFORM EKG TESTS PERFORM MICROFILARIAL EXAMINATIONS PREPARE WORK ORDERS OR WORK REQUESTS COMPOSE LOCAL MEDICAL LABORATORY SOPS EVALUATE ADHERENCE TO WORK SCHEDULES DEVELOP ON-THE-JOB TRAINING MATERIALS ESTABLISH SANITATION STANDARDS UTILIZE METHODS FOR ELECTROPHORESIS ASSIGN PERSONNEL TO DUTY POSITIONS PERFORM BING TESTS PLAN MEDICAL LABORATORY ACTIVITIES PERFORM BIOCHEMICAL PROCEDURES FOR LACTIC DEHYDROGENASE TESTS		••••	••••	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Ε	2	HANDLE PROPERTY TURN-IN	18.02	0.70	0.13	93.73
8	1	DIRECT SUBORDINATES IN MAINTAINING HIGH	17.77	0.68		93.85
		STANDARDS OF PERSONAL HYGIENE				
D	7	GIVE TRAINING OR LECTURES TO NON-MEDICAL	18.27	0.66	0.12	93.97
_		LABORATORY PERSONNEL				
F	1	ASSIST IN EPIDEMIOLOGICAL INVESTIGATIONS	20.30	0.59	0.12	94.09
F	8	PERFORM EKG TESTS	13.71	0.87	0.12	
I	4	PERFORM MICROFILARIAL EXAMINATIONS	23.60	0.49	0.11	
E	9	PREPARE WORK ORDERS OR WORK REQUESTS	18.27	0.62	0.11	
	6	COMPOSE LOCAL MEDICAL LABORATORY SOPS	18.02	0.63	0.11	
C	2	EVALUATE ADHERENCE TO WORK SCHEDULES	14.21	0,78	0.11	94.66
D	4	DEVELOP ON-THE-JOB TRAINING MATERIALS	15.99	0.69	0.11	94.77
	16	ESTABLISH SANITATION STANDARDS	13.45	0.00	0.11	94.88
M	39	UTILIZE METHODS FOR ELECTROPHORESIS	10.15	1.05	0.11	94.99
	1	ASSIGN PERSONNEL TO DUTY POSITIONS	18.53	0.57	0.11	95.09
F	7	PERFORM BMR TESTS	16.75	0.62	0.10	
	19	PLAN MEDICAL LABORATORY ACTIVITIES	15.23	0.67	0.10	
M	23	PERFORM BIOCHEMICAL PROCEDURES FOR LACTIC	13.45	0.75	0.10	
		DEHYDROGENASE TESTS				
M	22	PERFORM BIUGHEMICAL PROCEDURES FOR INSULIN TOLERANCE TESTS	16.24	0.61	0.10	95.50
K	3	PREPARE SPECIMENS FOR VIRUS ISOLATION	17.26	0.56	0.10	95.59
C	5	PREPARE SPECIMENS FOR VIRUS ISOLATION Evaluate procedures for storage, inventory and inspection of property items	11.42	0.83	0.10	95.69
•		INSPECTION OF PROPERTY ITEMS				
A	23	PLAN THE PHYSICAL LAYOUT OF THE MEDICAL LABORATORY	14.21	0.67	0.10	95.78
		FACILITIES				
J	23	PERFORM HEMATOLOGY PROCEDURES FOR GG TEST SUPERVISE ON-THE-JOB TRAINING PROGRAMS REVIEW TRAINING PROGRESS OF INDIVIDUALS RESOLVE PERSONAL PROBLEMS OF SUBORDINATES PERFORM SEROLOGICAL PROCEDURES FOR COLLOIDAL GOLD TEST DIRECT SUBORDINATES IN MAINTAINING SECURITY STANDARDS STAIN SPECIMENS FOR MICROSCOPIC STUDY ROTATE DUTY ASSIGNMENTS OF PERSONNEL PERFORM BACTERIOLOGICAL OR CHEMICAL EXAMINATIONS OF SEWAGE EVALUATE TRAINING EFFECTIVENESS	13.45	0.71	0.10	95.88
2	13	SUPERVISE UN-THE-JUB TRAINING PROGRAMS	12.44	0.75	0.09	95.97
Č	12	REVIEW TRAINING PRUGRESS OF INDIVIDUALS	12.69	0.73	0.09	96.07
	11	RESULVE PERSUNAL PRUBLEMS OF SUBORDINATES	15.48	0.60	0.09	96.16
	7	PERFURM SERULUGICAL PRUCEDURES FOR COLLOIDAL GOLD TEST	14.97	0.59	0.09	96.25
D		STAIN SPECIMENS COD MICHORCODIC COURTY STANDARDS	13.45	0.63	0.09	96.33
0	14	STAIN SPECIMENS PUR MICKUSCUPIC STUDY	7.11	1.19	0.08	96.42
E E	17	RUTATE DUTT AJJIUNTENIS UP PERSUNNEL	12.69	0.66	0.08	96.50
D	7	FERFURN DALIERIULUGICAL UN CHEMICAL EXAMINATIONS OF SEWAGE	14.97	0.52	0.08	96.58
D	2	EVALUATE TRAINING EFFECTIVENESS	10.15	V • 1 2	0.08	96.65
M	3	EVALUATE TRAINING EFFECTIVENESS CONDUCT CONFERENCES AND CLASSES PERFORM BIOCHEMICAL PROCEDURES FOR BARBITURATE LEVEL REPEORM BIOCHEMICAL PROCEDURES FOR BARBITURATE LEVEL	12.18	0.63	0.08	96.73
M	10	PERFORM BIOCHEMICAL PROCEDURES FUR BARBITUKATE LEVEL	14.21	0.54	0.08	96.81
M	12	PERFORM DIDUNEMICAL PROCEDURES FOR BLUUD PM (ESIS	17.26	0.44	0.08	96.88
0	7	PERFORM BIOCHEMICAL PROCEDURES FOR BLOOD PH TESTS PERFORM BIOCHEMICAL PROCEDURES FOR CALCULUS ANALYSES PREPARE ROUTINE STAINS PERFORM HEMATOLOGY PROCEDURES FOR ACID HEMOLYCINS TESTS SECTION TISSUE IN MICROSCOPIC BLOCKS PERFORM SEROLOGICAL TESTS FOR PARASITES USE MICROTOME	9.39	0.80	0.08	96.96
J	7	PEDECIDIA MENATALACY BAARERHAES EAD ACTA MEMORIACTALS TREAS	8.38	0.90		97.03
ŏ	12	SECTION TISSUE IN MICROSCOPIC BLOCKS	5.55	0.82	0.07	97.11
I	10	PERFORM SEROI OCICAL TESTS FOR BARACITES	7.52	1.51		97.18
ō	17	USE MICROTOME	12.14	0.59	0.07	97.25
J	16	PERFORM HEMATOLOGY PROCEDURES FOR CRYDGLOBULIN TESTS	5.84	1.24	0.07	97.32
D	10	MAINTAIN TRAINING RECORDS	17.21	0.51	0.07	97.40
-			11.17	0.65	0.07	97.47

•

٨

A CONTRACTOR OF A CONTRACTOR O

. •

.

•		•				
•	•			SPCO	03 PAGE	6
M	28	PERFORM BIOCHEMICAL PROCEDURES FOR PBI TESTS MAINTAIN PARASITE CULTURES Perform Hematology Procedures for coagulation times by Modified Nowell Method	6.60	1.08	0 07	97.54
I.		MAINTAIN PARASITE CULTURES	11.42	0.62	0.07	97.61
J	13	PERFORM HEMATOLOGY PROCEDURES FOR COAGULATION TIMES BY	10.91	0.63	0.07	97.68
		MODIFIED HOWELL METHOD			V.V/	7/ • 00
M		PERFORM BIOCHEMICAL PROCEDURES FOR BLOOD OXYGEN TESTS PREPARE TISSUE FOR FIXATION, DEMYDRATION, AND INFILTRATION OF PARAFFIN ARRANGE FOR TRAINING AIDS, SPACE AND EQUIPMENT USE AUTOTECHNICON INSPECT THE PHYSICAL LAYOUT OF THE MEDICAL LABORATORY FACILITIES	12.49	0.54	0.07	97.75
0	11	PREPARE TISSUE FOR FIXATION, DEHYDRATION, AND	6.35	1.04		97.81
~		INFILTRATION OF PARAFFIN				71.04
D		ARRANGE FOR TRAINING AIDS, SPACE AND EQUIPMENT	9.64	0.64	0.06	97.88
0 C	19	USE AUTUIECMNICON	6.85	0.90		97.94
6	13	MEDICAL LAPONATION CALLAYOUT OF THE	9.39	0.66	0.06	98.00
0		MEDICAL LABORATORY FACILITIES				
F	21	COLLECT SECTION IN PREPARATION FOR MICROSCOPIC STUDY	5.03	1.20	0.06	98.06
M	61	DEPENDENT SERVICE CAVITY SPECIMENS DIRECTLY FROM PATIENTS	10.15	0.57		98.12
	Ĭ	DESIGN DECANIZATIONAL OF PUNCTIONAL CUARTER	7.87	0.73	0.06	98.18
ō	Ā	SMRED TISSUE IN DADAEEIN	12.44	0.45	0.06	98.23
Ā	24	DIAN THE SECTION CLEETY DROGRAM	6.09	0.92	0.06	98.29
Ñ	36	UTILIZE METHODS FOR CHROMOTOCRADUM	8.63	0.65		98.34
F	16	COLLECT BILE SPECIMENS DISCTLY COOM DATIONTS	5.84	0.96		98.40
Ď	13	REVIEW TRAINING STATUS OF THE SECTION	7.87	0.71	0.06	98.46
ĸ	15	PERFORN SERVICICAL PROCEDURES FOR STAFE HE THE	7.87	0.70		98.51
D	15	SCHEDULE ON-THE-JOR TRAINING	10.66	0.52		98.57
Ĝ	4	PERFORM ANIMAL INCLUMENTIONS	8.12	0.64	0.05	98.62
Ö	13	STAIN PAP SMEARS	8.38	0.61	0.05	98.67
A	9	DETERMINE PERSONNEL REQUIREMENTS	7.11	0.70	0.05	98.72
D	18	USE MICROTOME KNIFE SHARDENER	9.39	0.51	0.05	98.77
8	9	MEDICAL LABORATORY FACILITIES MOUNT TISSUE SECTION IN PREPARATION FOR MICROSCOPIC STUDY COLLECT SEROUS CAVITY SPECIMENS DIRECTLY FROM PATIENTS PERFORM BIOCHEMICAL PROCEDURES FOR ALKALOIDS DESIGN ORGANIZATIONAL OR FUNCTIONAL CHARTS EMBED TISSUE IN PARAFFIN PLAN THE SECTION SAFETY PROGRAM UTILIZE METHODS FOR CHROMOTOGRAPHY COLLECT BILE SPECIMENS DIRECTLY FROM PATIENTS REVIEW TRAINING STATUS OF THE SECTION PERFORM SEROLOGICAL PROCEDURES FOR STREP MG TEST SCHEDULE ON-THE-JOB TRAINING PERFORM ANIMAL INOCULATIONS STAIN PAP SMEARS DETERMINE PERSONNEL REQUIREMENTS USE MICROTOME KNIFE SHARPENER SUPERVISE SUBORDINATE SUPERVISORS RECONMEND INDIVIDUALS FOR TRAINING PERFORM BIOCHEMICAL PROCEDURES FOR LIPIDS PROFILE PREPARE SPECIAL STAINS ESTABLISH RESEARCH PROCEDURES COLLECT SPINAL FLUID SPECIMENS DIRECTLY FROM PATIENTS MAINTAIN STATUS BOARDS OR CHARTS IDENTIFY VIRUSES AND RICKETTSIA	4.82	0.99	0.05	98.82
D	11	RECOMMEND INDIVIDUALS FOR TRAINING	2.28	0.85	0.05	98.86
M	24	PERFORM BIOCHEMICAL PROCEDURES FOR LIPIDS PROFILE	7.67	0.56	0.04	98.91
0	8	PREPARE SPECIAL STAINS	8.12	0.54		98.95
	15	ESTABLISH RESEARCH PROCEDURES	2.08	0.82		98.99
F	23	COLLECT SPINAL FLUID SPECIMENS DIRECTLY FROM PATIENTS	0.37	0.63		99.03
B	8	MAINTAIN STATUS BOARDS OR CHARTS	2.04	0.68	0.04	99.07
K	1	IDENTIFY VIRUSES AND RICKETTSIA PERFORM BIOCHEMICAL PROCEDURES FOR CATECHOLAMINE TESTS Schedule Leaves of Passes	6.35 6.60	0.62 0.59	0.04	
Ħ	16	PERFORM BIOCHEMICAL PROCEDURES FOR CATECHOLAMINE TESTS	5.33	0.69		99.15
		TANGAARA ERMARD ON LUDGED	7 94	0.69		99.19
K	4	PERFORM SEROLOGICAL PROCEDURES FOR ANTICOMPLEMENTARY	6.60	0.55		99.22
		REIEAIA		V.33	0.04	99.26
J	31	PERFORM HEMATOLOGY PROCEDURES FOR THROMBOPLASTIN	7.61	0.48	0.04	99.30
		GENERALIUN TESTS		V070	Vevt	77.30
M	18	PERFORM BIOCHEMICAL PROCEDURES FOR CORTISONE AND	3.55	0.99	0.04	99.33
•		STERULO STUDIES		•••	V • V 7	77.33
6	•	EVALUATE INDIVIDUALS FOR PROMOTION AND UPGRADING	6.60	0.52	0.03	99.37
L C	15	RECOMMEND CHANGES IN PUBLICATIONS	6.85	0.50	-	99.40
U	L.	EVALUATE INDIVIDUALS FOR PROMOTION AND UPGRADING RECOMMEND CHANGES IN PUBLICATIONS ASSIST IN PREPARATION OF GRDSS SPECIMENS FOR	7.87	0.43		99.44
		HEVICAL PHUIUGKAPHY				,,,,,,
2	2	MAINTAIN REFERENCE FILE OF ILLUSTRATIONS DECALCIFY SPECIMENS OF TEETH AND BONE PERFORM GENOTYPE OF ANIMAL BLOOD PREPARE FROZEN SECTION OF TISSUE COLLECT AND ASSEMBLE MEDICAL ILLUSTRATION MATERIAL PERFORM SEROLOGICAL PROCEDURES FOR MEMACCI UTIMATION	4.57	0.72	0.03	99.47
0	5	DELALLIFY SPECIMENS OF TEETH AND BONE	5.08	0.63		99.50
L	10	PERFURM GENUITPE OF ANIMAL BLOOD	4.57	0.63		99.53
0	0	TREFARE PRULEN SECTION OF TISSUE	3.81	0.75		99.56
P K	12	COLLECT AND ASSEMBLE MEDICAL ILLUSTRATION MATERIAL	5.33	0.52		99.59
~	16	PERFORM SEROLOGICAL PROCEDURES FOR HEMAGGLUTINATION INHIBITION TEST	4.57	0.57		99.61
		TAUTOTITAN 1221				

. .

÷ •

.

.

~

....

ERIC Full Exet Provided by ERIC ~

•					
. •				03 PAGE	E 7
6	DRAFT AND SUBMIT JOB DESCRIPTIONS PERFORM URINALYSES FOR LEAD TESTS PERFORM ANIMAL VIRULENCE TESTS SUPERVISE THE DISASTER CONTROL PROGRAM INSPECT AND EVALUATE THE MAINTENANCE OF STATUS BOARDS OR CHARTS	5.33	0.48	0.03	99.64
1 11	PERFORM URINALYSES FOR LEAD TESTS	5.84	0.43	0.02	99.66
5	PERFORM ANIMAL VIRULENCE TESTS	2.28	1.06	0.02	99.69
10	SUPERVISE THE DISASTER CONTROL PROGRAM	3.55	0.64	0.02	99.71
l 12	INSPECT AND EVALUATE THE MAINTENANCE OF	3.55	0.61	0.02	99.73
	STATUS BOARDS DR CHARTS				
	PLAN STATUS BOARDS OR CHARTS	3.81	0.52		99.75
10	PREPARE TISSUE FOR CELLODIAN EMBEDDING AND SECTIONING	1.78	0.95		99.77
	PERFURN FLUURESCENT ANTIBUDY TECHNIQUE	3.30	0.51	0.02	
	PREPARE AUTUGENUUS VAGGINES	3.05	0.47		99.80
13	PREPARE SPELIMENS FOR ELECTRON RICROSCOPY	1.52	0.86		99.81
	DISTRIBUTE MEDICAL ILLUSTRATION MATERIAL	2.79	0.45	0.01	
	SELECT AND ASSIGN INSTRUCTORS	2.28	0.49	0.01	
177	WRITE TECHNICAL PAPERS FOR PUBLICATION	2.03	0.50	0.01	
2	UPERATE SPECIRU-PLUURURETER	1.52	0.65		99.86
1	PLAN STATUS BOARDS OR CHARTS PREPARE TISSUE FOR CELLODIAN EMBEDDING AND SECTIONING PERFORM FLUORESCENT ANTIBODY TECHNIQUE PREPARE AUTOGENOUS VACCINES PREPARE SPECIMENS FOR ELECTRON MICROSCOPY DISTRIBUTE MEDICAL ILLUSTRATION MATERIAL SELECT AND ASSIGN INSTRUCTORS WRITE TECHNICAL PAPERS FOR PUBLICATION OPERATE SPECTRO-FLUOROMETER ASSIST MEDICAL RADIOLOGICAL LABORATORY OFFICER IN PREPARING AND COUNTING SAMPLES	1.27	0.75	0.01	99.86
12	PREPARING AND COUNTING SAMPLES DRAFT BUDGET ESTIMATES DRAFT AND PREPARE ILLUSTRATIONS DUPLICATE ILLUSTRATED MATERIALS SELECT INDIVIDUALS FOR SPECIALIZED TRAINING COURSES CONDUCT TESTS FOR PRESENCE AND MEASUREMENT OF RADIOACTIVITY DERECTION ATOCHEMICAL PROCEDURES FOR VITAMIN ACCANE				
14	DRAFT DUUGET EDITATED ARAET AND RREPARE THINKTRAFTONE	2.28	0.39	0.01	
	WART AND PREPARE ILLUSIKATIONS	1.27	0.69		99.88
17	SELECT INCLUDINALS FOR CRECIALIZED TRAINING CONSIGN	2.28	0.38	0.01	
2	SELECT INVIVUALS FUR SPECIALIZED TRAINING COURSES	Z.28	0.37	0.01	
25	CUMPUCI IESIS FUR PRESENCE AND REASUREMENT UP RADIOACTIVITY	1.27	0.55	0.01	
27	PERFORM SIDCHEMICAL PROCEDURES FOR VITAMIN ASSAYS PERFORM BIOCHEMICAL PROCEDURES FOR SERUM MAGNESIUM TESTS	1.27	0.47	0.01	99.91
31	RECORD AND SUMMARIZE DATA	1.52	0.35	0.01	
	RECORD AND SUMMARIZE DATA SUPERVISE THE HEALTH PHYSICS PROGRAM PERFORM BIOCHEMICAL PROCEDURES FOR NORADREMALINE STUDIES	0.76	0.64	0.00	
26	SUPERVISE THE HEALTH PHYSICS PRUGRAM	1.02	0.46	0.00	
20	COUNT FLUID SPECIMENS	0.76	0.61	0.00	99.93
12	LUNAT FLUIU SFELIMENS	0.76	0.56	0.00	99.94
14	NDE DEALE INSTAINENTS	0.51	0.69	0.00	99.94
	VALIDRAIE INDIRUTENID Use coverat and i touto cologia astoù aseggesta	0.51	0.68	0.00	99.94
	SECRECATE AND DESCREE AND ADDRETHE ADDRETHEN AND	0.25	0.63	0.00	99.94
7	COUNT FLUID SPECIMENS USE SCALING DEVICES CALIBRATE INSTRUMENTS USE CRYSTAL AND LIQUID SCINTILLATION DETECTORS SEGREGATE AND PREPARE RADIOACTIVE SPECIMENS FOR MEASUREMENT OF RADIOACTIVITY	0.51	0.31	0.00	99.95
	USE GEIGER-MUELLER EQUIPMENT				
••	ASE AETAEK-WAETEK EANTAMEN!	0.25	0.58	0.00	99.95

.

-

.

•

Mana Anala, Anala, and Anal