

State of California

MEMORANDUM

MM Ref. # 88-36

Date: March 23, 1989

To: PERSONNEL MANAGEMENT LIAISONS

NOTE: Please distribute a copy of this memo and attachments to your Departmental Personnel Office.

From: Department of Personnel Administration
Classification and Compensation Division

Subject: Board Item for Data Processing Classes

Attached for your review is a draft Board memo and revised specifications for the following class series:

Computer Operator
Data Processing Technician
Data Processing Analyst

The proposed revisions are the product of a classification committee which was established by the California Forum on Information Technology. The committee was assigned the responsibility of developing a proposal which would incorporate the tasks which are performed in support of mini and micro computer based information systems into existing data processing classifications; and to identify and define a mechanism for entrance, including entrance at higher levels, of individuals with information technology skills beneficial to the state. The attached Board memo describes all of the proposed changes in detail.

Also attached to this memo are the proposed "allocation guides" for the Data Processing Analyst series for office automation functions. It is planned to add these to the existing guides which are currently being used for this series. Updated allocation guides for all three series will be issued after the proposal has been adopted by the State Personnel Board.

The item has been tentatively scheduled for the June 13-14, 1989, State Personnel Board meeting. All questions and comments regarding the attached proposal from department staff should be coordinated with and submitted through the departmental Personnel Office. Questions should be directed to Duella Farmer of my staff on 324-9406 (ATSS 454-9406), and comments should be sent in writing to 1515 S Street, North Building, Suite 400, Sacramento, CA 95814, no later than April 21, 1989.


Frank Tanaka, Senior Section Manager
Classification and Compensation Division

Attachments

ALLOCATION GUIDELINES

INFORMATION SYSTEMS ANALYST

FUNCTIONS

5A. OFFICE SYSTEMS SUPPORT

- A. Configuration Planning
- B. Physical Planning
- C. Implementation of OA Systems
- D. Maintenance of OA Systems
- E. OA Hardware/Software Procurement and Installation
- F. OA Systems Administration
- G. OA End-User Training
- H. OA Standards and Procedures
- I. OA System Security, Recovery, and Backup

CLASS

SPECIALIST

SUPERVISOR

Associate	Full journey person performing standard and complex tasks in support of multifunction automated office systems.	Supervises a team of Asst. Information Systems Analysts and/or Information Systems Technicians performing standard and complex tasks in support of multifunction automated office systems. Team size: 3 to 5
Staff	High level specialist performing complex tasks in support of multifunction automated office systems in a complex environment.	Supervises a team of Asst. and/or Associate Information Systems Analysts performing complex tasks in support of large multifunction automated office systems in a complex environment. Team size: 3 to 6
Senior	N/A	Supervises a team of Staff and/or Associate and/or Asst. Information Systems Analysts in performing the most complex tasks in support of very large multifunction automated office systems in the most complex environment. Team size: 4 to 8

TO: STATE PERSONNEL BOARD

FROM: DUELLA M. FARMER, Assistant Section Manager
Classification and Compensation Division

REVIEWED BY: FRANK TANAKA, Senior Section Manager
Classification and Compensation Division

SUBJECT: Proposed specification revisions for the Data Processing Technician series, and title change to Information Systems Technician series; specification revisions for the Data Processing Analyst series, and title change to Information Systems Analyst series; specification revisions for the Computer Operator series; consolidation of the Senior Data Processing Technician class as Range C of the newly titled Information Systems Technician class, reallocation of all Senior Data Processing Technician incumbents to Range C, and abolishment of the Senior Data Processing Technician class; consolidation of the Senior Computer Operator class as Range C of the Computer Operator class, reallocation of all Senior Computer Operator incumbents to Range C, and abolishment of the Senior Computer Operator class; establishment of a new deep class of Information Systems Analyst; establishment of Alternate Range Criteria for each of the three series; abolishment of Alternate Range Criteria 22.

SUMMARY OF ISSUES:

The Data Processing Technician Series was established in 1960, the Computer Operator Series in 1965, and the Data Processing Analyst Series in 1975. Parallel supervisory classes were established for many of the classes in 1984. Over the years, many changes have taken place in the field of information processing technology. One of the major changes has been in the growth of mini and microcomputer information processing systems. The current specifications for these classes do not address all of the duties and responsibilities of personnel who support the variety of information systems currently being utilized by the state, such as data processing systems, microcomputers, and multifunction automated office systems.

In response to these needs, the California Forum on Information Technology (CFIT) established the Ad Hoc Committee on Personnel Classification. This Committee was assigned the responsibility of developing a proposal which would incorporate the tasks which are performed in support of mini and micro computer based information systems into existing data processing classifications; and to identify and define a mechanism for entrance, including entrance at higher levels, of individuals with information technology skills beneficial to the state. This classification proposal is the product of this committee.

CONSULTED WITH:

CFIT AD HOC COMMITTEE ON PERSONNEL CLASSIFICATION

Andrew Hesse, Office of Administrative Law
Frank Tanaka, Department of Personnel Administration
Max Zeigler, Department of the Youth Authority
Thomas V. Speer, Department of Water Resources
Dale Morgan, Department of General Services
Dan Lieberman, Air Resources Board
Dave Leighton, State Personnel Board
Joe Pujals, Department of Finance
Ron Kuhnel, Department of Finance

KATHY HANSEN, State Personnel Board
LUCIANO ORTIZ, State Personnel Board

RICK McWILLIAM, Department of Personnel Administration

GEORGE KARRER, CSEA, UNIT 1. In accordance with the terms of the DPA/CSEA contract, DPA has notified CSEA in writing of this proposed action.

CARL HEPPLER, California State Supervisors, CSEA

CLASSIFICATION CONSIDERATIONS:

The current class specifications for the Data Processing Technician Series and the Data Processing Analyst Series do not specifically address the duties and responsibilities of personnel who are engaged in the support of a variety of electronic information processing systems. Therefore, there is a need to revise the specifications to describe these duties and responsibilities, and to change the titles of the classes in order to more accurately describe the use of the class. Although incumbents in a variety of classes may be performing these duties, it is believed that most of the proposed duties are currently being performed by staff in the Data Processing Technician and the Data Processing Analyst series of classes. The Computer Operator series specification requires minor changes only, to update terminology.

In addition, it is proposed to consolidate the Senior level class in the Data Processing Technician series and the Computer Operator series into the existing deep classes which are the entry levels in each series. The criteria for determining when two or more classes may be appropriately consolidated into a deep class are (1) promotion to the highest level in the deep class is virtually automatic; and (2) a single test of fitness can be used for the classes included in the deep class. Promotions to the Senior level class in each of these series is virtually automatic, and a single test of fitness can be used for the classes included in the deep class; therefore, the proposed deep classes meet the above criteria.

1. Information Systems Technician Series (formerly Data Processing Technician Series).

- a. The title of this series of classes is being changed to more accurately reflect the variety of information systems being supported.
- b. The Information Systems Technician deep class (formerly Data Processing Technician) is being revised to add a Range C, which will incorporate the former class of Senior Data Processing Technician. The revised deep class will be the entry, trainee, and journey/working lead level in the series.
- c. The Minimum Qualifications are being revised to change the "open" experience patterns to be more general, so as to reflect experience gained in a variety of information processing systems. The only changes to the promotional patterns are to the promotional class titles, which are being changed with this proposal. Minor revisions are being proposed to the Minimum Qualifications for entry into the deep class, and the existing Minimum Qualifications for the Senior will be applied as the Alternate Range Criteria to determine movement between Range B and C. A new Alternate Range Criteria is attached to this proposal.
- d. The specification for the series is being revised to incorporate technical duties which are performed in support of the full range of electronic information processing systems, in addition to duties currently being performed. Additional support duties include such tasks as conducting on-the-job training and classroom instruction for system users; providing user support in methods of automated office system uses; operating all components of a computer system and peripheral equipment, except for mainframe consoles; installing new software and software upgrades on stand-alone microcomputers and multifunction information systems; coordinating equipment modification and installation tasks; developing, testing and implementing new and revised fourth generation programs; acting as technical consultant and troubleshooter on stand-alone information systems; and performing other related duties in support of information systems.

2. Computer Operator Series

- a. The Computer Operator deep class is being revised to add a Range C, which will incorporate the former class of Senior Computer Operator. The revised deep class will be the entry, trainee, and journey/working lead level in the series.
- b. Minor revisions are being proposed to the Minimum Qualifications for entry into the deep class, and the existing Minimum Qualifications for the Senior will be applied as the Alternate Range Criteria to determine movement between Range B and C. A new Alternate Range Criteria is attached to this proposal. The only

changes to the promotional patterns are to the promotional class title of Senior Computer Operator, which is being changed with this proposal.

3. Information Systems Analyst Series (formerly Data Processing Analyst)

- a. The title of this series of classes is being changed to more accurately reflect the variety of information systems being supported.
- b. A new deep class of Information Systems Analyst, Range A, B, and C, is being proposed to be used in place of the general Staff Services Analyst class, Range A, B, and C, which is currently used in some data processing organizations. The Minimum Qualifications and proposed Alternate Range Criteria parallel those of the Staff Services Analyst class in terms of the amount of experience and education required for each Range. The type of experience and education, however, has been tailored to recruit persons who have experience similar to the work to be performed by these classes, and whose education is in the field of management information or information systems. In addition, a promotional pattern of one year of experience performing the duties of an Information Systems Specialist I has been included in order to provide a career promotional pattern for the Information Systems Technician series.
- c. The specification for this series is being revised to incorporate a variety of analytical duties which are performed in support of the full range of electronic information processing systems. Incumbents will perform a variety of tasks in connection with the analysis, development, installation, implementation, procurement, or support of information processing systems, multifunction automated office systems, or microcomputer systems. This includes such duties as configuration planning; physical planning; procurement and installation of hardware and software; office automation systems administration; provision of information center services; development of standards and procedures; and systems security, recovery, and backup.
- d. The Minimum Qualifications are being revised to change the "open" experience patterns to be more general, so as to reflect experience gained in a variety of information processing systems. An additional open pattern is also being proposed for the Associate, Staff, and Senior levels, in order to recruit persons who have a combination of related experience and education, or 30 semester units of graduate work in information systems related courses. The only changes to the promotional patterns are to the promotional class titles, which are being changed with this proposal.

PROBATIONARY PERIOD:

The proposed probationary period for the Assistant Information Systems Analyst class will be 12 months, which is consistent with other deep classes. This period is needed in order to evaluate the full range of duties performed.

EMPLOYEE STATUS CONSIDERATIONS:

All incumbents of the existing Senior Data Processing Technician and the Senior Computer Operator classes will be reallocated by Board action to the new Range C of the entry level class of their series, which is equivalent in level to the Senior class, and will retain their current salary and salary anniversary dates.

Effective the same day as the reallocation, and upon recommendation of their appointing authority, incumbents of the current classes of Data Processing Technician and Computer Operator may be moved to the higher Alternate Range C if they meet the criteria. Upon such movement, the employees will receive a salary increase and new salary anniversary date as provided for by DPA Rule 599.676.

Incumbents of other classes who are performing duties which are described by the new or revised classes need to be identified by departments and moved into the appropriate class either by transfer or examination, whichever is the most appropriate.

RECOMMENDATIONS:

1. That the class of Assistant Information Systems Technician be established; the proposed specification as shown in the Information Systems Analyst Series specification in this calendar be adopted; and the probationary period be 12 months.
2. That the titles of the following classes be changed as indicated; and the proposed revised series specifications for these classes as shown in this calendar be adopted:

<u>From</u>	<u>To</u>
Data Processing Technician	Information Systems Technician
Data Processing Technician Specialist I	Information Systems Specialist I
Data Processing Technician Specialist II	Information Systems Specialist II
Data Processing Technician Supervisor I	Information Systems Supervisor I
Data Processing Technician Supervisor II	Information Systems Supervisor II
Associate Data Processing Analyst (Specialist)	Associate Information Systems Analyst (Specialist)
Associate Data Processing Analyst (Supervisor)	Associate Information Systems Analyst (Supervisor)
Staff Data Processing Analyst (Specialist)	Staff Information Systems Analyst (Specialist)
Staff Data Processing Analyst (Supervisor)	Staff Information Systems Analyst (Supervisor)
Senior Data Processing Analyst (Specialist)	Senior Information Systems Analyst (Specialist)
Senior Data Processing Analyst (Supervisor)	Senior Information Systems Analyst (Supervisor)

- 3. That the proposed revised series specification for the following classes as shown in this calendar be adopted:

Computer Operator
 Computer Operations Specialist I
 Computer Operations Specialist II
 Computer Operations Supervisor I
 Computer Operations Supervisor II

- 4. That the attached Alternate Range Criteria 278 for the class of Assistant Information Systems Analyst be adopted.
- 5. That a new Range C be established for the Information Systems Technician class, and the attached Alternate Range Criteria 280 be adopted.
- 6. That a new Range C be established for the Computer Operator class, and the attached Alternate Range Criteria 281 be adopted.
- 7. That Alternate Range Criteria 22 be abolished.
- 8. That the following resolution be adopted:

WHEREAS the State Personnel Board on ----- established the ranges indicated below in Column II; and the duties and responsibilities of incumbents in these ranges were substantially included in the previously existing classes indicated below in Column I:
 Therefore be it

RESOLVED, That any person with civil service status in the classes indicated below in Column I on ----- holding a position or who within a period of one year from the date of Board action is assigned a position which is classified as performing the duties of one of the corresponding classes indicated in Column II shall be deemed to have the same civil service status in such class without further examination; and be it further

RESOLVED, That any existing employment lists other than reemployment lists established for the classes indicated in Column I shall be used to certify to fill vacancies in the classes indicated in Column II until such lists are abolished, exhausted, or superseded by lists for the classes indicated in Column II, and persons on any existing reemployment lists for classes indicated in Column I shall also be placed on reemployment lists for the classes indicated in Column II until expiration of their eligibility on the reemployment lists for the classes indicated in Column I.

Column I

Column II

Senior Data Processing Technician

Information Systems Technician
Range C

Senior Computer Operator

Computer Operator, Range C

9. WHEREAS State Personnel Board Rule 431 states, "Unless otherwise provided by resolution of the board, the maximum rate of the lowest salary range currently authorized for a class is used to make salary comparisons"; and

WHEREAS an additional salary range within the classes of Information Systems Technician and Computer Operator is being established to replace that of the previously existing classes of Senior Data Processing Technician and Senior Computer Operator; and

WHEREAS in establishing this new range the Board does not wish to change or disrupt the discretionary movement of employees to or from the various levels within the class: Therefore be it

RESOLVED, That each salary range in the class of Information Systems Technician and Computer Operator may be used individually as if each represented the salary range of a separate class to make salary comparisons for discretionary actions between the class of Information Systems Technician or Computer Operator and other classes; and be further

RESOLVED, That for the classes of Information Systems Technician and Computer Operator the maximum currently authorized for the highest range of each class shall be the salary range used to make salary comparisons for mandatory actions.

10. WHEREAS State Personnel Board Rule 431 states, "Unless otherwise provided by resolution of the board, the maximum rate of the lowest salary range currently authorized for a class is used to make salary comparisons"; and

WHEREAS in establishing this new class the Board does not wish to change or disrupt the discretionary movement of employees to or from the various levels within the class: Therefore be it

RESOLVED, That each salary range in the class of Assistant Information Systems Analyst may be used individually as if each represented the salary range of a separate class to make salary comparisons for discretionary actions between the class of Assistant Information Systems Analyst and other classes; and be further

RESOLVED, That for the class of Assistant Information Systems Analyst the maximum currently authorized for the highest range of the class shall be the salary range used to make salary comparisons for mandatory actions.

11. That the following classes be abolished:

Senior Data Processing Technician.
Senior Computer Operator

ALTERNATE RANGE CRITERIA 278

Experience gained outside State service may be credited only if the appointing power believes the experience was satisfactory and comparable in type and quality to that of Assistant Information Systems Analyst.

When the requirements for the particular criteria are met and upon recommendation of the appointing power, the employee shall receive a rate under the provisions of Section 599.674 except that upon movement to Range C, the provisions of Section 599.676 will apply.

RANGE A: This range shall apply to those individuals who do not meet the criteria for Range B or Range C.

RANGE B: This range

- (1) shall apply to persons who have satisfactorily completed the equivalent of six months of Assistant Information Systems Analyst in the California state service; and
- (2) may apply to persons who have the equivalent of six months of satisfactory experience outside of State service performing a variety of tasks in the analysis, development, installation, implementation, procurement or support of information systems with duties similar to those of an Assistant Information Systems Analyst; AND who meet the education requirements as stated on the class spec.

RANGE C: This range:

- (1) shall apply to persons who have satisfactorily completed the equivalent of 12 months of Assistant Information Systems Analyst (Range B) or 18 months of Assistant Information Systems Analyst experience in the California state service; and
- (2) may apply to persons who have the equivalent of 18 months of satisfactory experience outside of State service performing a variety of tasks in the analysis, development, installation, implementation, procurement or support of information systems with duties similar to those of an Assistant Information Systems Analyst; AND who meet the education requirements as stated on the class spec; and
- (3) may apply to persons who have 30 semester hours of graduate work in information systems related courses; AND who meet the education requirements as stated on the class spec.

ALTERNATE RANGE CRITERIA 280

When the requirements for the particular criteria are met and upon recommendation of the appointing power, the employee shall receive a rate under the provisions of Section 599.676.

RANGE A: This range shall apply to those individuals who do not meet the criteria for Range B or Range C.

RANGE B: This range shall apply to persons who have satisfactorily completed one of the following:

1. Six months of experience in the California state service equivalent to the duties of an Information Systems Technician, Range A. This experience must be beyond that which is required to satisfy the minimum qualifications for Information Systems Technician; or
2. Twelve months of experience in the California state service performing the duties equivalent to Service Assistant (EDP Operations).
3. Twelve months of experience outside of State service performing duties comparable to an Information Systems Technician.

AND

Completion of at least two years at a recognized college or university. (Additional qualifying experience may be substituted for the required education on a year-for-year basis.) OR

Successful completion of an information systems operation or programming curriculum given by a resident school which includes the study of system control parameters and at least 200 hours of classroom instruction. (Partial completion of this requirement may not be combined with the other patterns to gain qualification.)

RANGE C: This range shall apply to persons who have satisfactorily completed one of the following:

1. One year of experience in the California State service performing duties comparable to those of an Information Systems Technician.
2. Two years of experience outside State service performing duties comparable to an Information Systems Technician. AND
Education: Same as for Range B.

ALTERNATE RANGE CRITERIA 281

When the requirements for the particular criteria are met and upon recommendation of the appointing power, the employee shall receive a rate under the provisions of Section 599.676.

RANGE A: This range shall apply to those individuals who do not meet the criteria for Range B or Range C.

RANGE B: This range shall apply to persons who have satisfactorily completed one of the following:

1. Six months of experience in the California state service equivalent to the duties of a Computer Operator, Range A. This experience must be beyond that which is required to satisfy the minimum qualifications for Computer Operator; or
2. Twelve months of experience in the California state service performing the duties equivalent to Service Assistant (EDP Operations).
3. Twelve months of experience outside State service performing duties comparable to a Computer Operator. AND

Completion of at least two years at a recognized college or university. (Additional qualifying experience may be substituted for the required education on a year-for-year basis.) OR

Successful completion of a computer operation or programming curriculum given by a resident school which includes actual computer operation experience and at least 200 hours of classroom instruction. (Partial completion of this requirement may not be combined with the other patterns to gain qualification.)

RANGE C: This range shall apply to persons who have satisfactorily completed one of the following:

1. One year of experience in the California State service performing duties comparable to those of a Computer Operator.
2. Two years of experience outside State service performing duties comparable to a Computer Operator. AND
Education: Same as for Range B.

C A L I F O R N I A S T A T E P E R S O N N E L B O A R D

S P E C I F I C A T I O N

PRESENT: DATA PROCESSING TECHNICIAN
PROPOSED: INFORMATION SYSTEMS TECHNICIAN
Series Specification
(Established June 28, 1972)

SCOPE:

The classes in this series are used to perform a variety of technical duties in support of the operation of ~~an electronic computer system~~ information systems, such as data processing systems, microcomputers, and multifunction automated office systems; and to supervise others in the performance of ~~data information processing duties~~ activities and related technical tasks. The factors that affect position allocation include the variety and complexity of work assignments, scope and consequence of decisions made and supervision exercised or received, size and complexity of the information system.

Entry into this series is typically from outside State service or from other State classes performing duties in support of ~~data~~ information processing activities.

Schem	Class	
<u>Code</u>	<u>Code</u>	<u>Class</u>
LN48	1360	Data Processing <u>Information Systems</u> Technician
LN46	1409	Senior Data Processing Technician
LN45	1562	Data Processing Technician <u>Information Systems</u> Specialist I
LN44	1408	Data Processing Technician <u>Information Systems</u> Supervisor I
LN43	1557	Data Processing Technician <u>Information Systems</u> Specialist II
LN42	1407	Data Processing Technician <u>Information Systems</u> Supervisor II

DEFINITION OF LEVELS

DATA PROCESSING INFORMATION SYSTEMS TECHNICIAN

This ~~is~~ deep class includes ranges comprising the entry, trainee, and journeyperson and working leadperson level levels in this series. Incumbents in lower ranges of the class work under close supervision ~~learn to perform~~ learning and performing a variety of the less complex ~~technical~~ technological duties ~~such as~~ supporting information systems such as, but not limited to,

~~data management, procedure writing, writing job control language statements, preparing and submitting routine directions for processing data, setup instructions; performing program librarian functions, and doing other duties as required in support of the systems analysis, programming and machine operations effort of an electronic computer system conducting on-the-job training for system users, facilitating system utilization, communicating on a regular basis with system users, operating all components of the computer system and peripheral equipment (except mainframe consoles), and requesting service on equipment as needed. As training progresses, incumbents of the class work under general supervision performing a variety of duties supporting information systems such as, but not limited to, conducting classroom instruction for system users, preparing lesson guides and evaluating the users' progress, providing user support in methods of system use in producing work more effectively and efficiently, developing and maintaining data guidance procedures, setting up job streams and utility programs, preparing and coordinating processing schedules and changes, installing new software and software upgrades on stand alone microcomputers, acting as technical consultant and troubleshooter on stand alone information systems, and performing other related duties supporting information systems.~~

~~SENIOR DATA PROCESSING TECHNICIAN~~

~~This is the working leadperson level in this series and under general supervision, both works with and provides general guidance to a small group of~~

~~Data Processing Technicians, provides leadership to the tape library operation or performs the more complex technical duties such as writing job control language statements and breaking down flow charts into jobs and restructuring these jobs when necessary, in support of the systems analysis, programming and machine operations effort of an electronic computer system.~~

~~DATA PROCESSING TECHNICIAN INFORMATION SYSTEMS SPECIALIST I~~

~~Under general supervision, incumbents work as individuals or as team members to create the more complex processing instructions, coordinate the processing of very complex systems, develop standards for processing, determine schedules, teach advanced courses in the general field in which Data Processing Technicians perform, or coordinate multiple on-line telecommunications systems. Incumbents may act in a lead capacity over a small technical staff.~~

This is the working lead and first technical specialist level. Under general supervision, incumbents perform information system support duties such as, but not limited to: developing operation instructions and procedures for projects run on multifunction information systems, developing and coordinating job stream tests for large/complex systems, checking production frequently and modifying schedules to improve system performance, performing tasks in support

of systems staff in system testing, maintaining operating records such as production and system performance reports, conducting training for users in automated office system uses, conducting classroom training in advanced application uses of the system, serving as the primary contact point for data processing analysts, programmers and system users in the design, development testing and ongoing production operation of multifunction information systems, installing new software and software upgrades thru multifunction information systems, developing basic reports using fourth generation languages, and acting as technical consultant and troubleshooter on multifunction information systems.

~~DATA PROCESSING TECHNICIAN~~ INFORMATION SYSTEMS SUPERVISOR I

~~Under direction, incumbents supervise the activities of the Data Processing Technician functions of a small- or medium-sized electronic computer installation or a remote processing terminal of a statewide electronic computer system or perform equivalent supervisory duties~~ a small group of Information Systems Technicians.

~~DATA PROCESSING TECHNICIAN~~ INFORMATION SYSTEMS SPECIALIST II

~~Under direction, incumbents work as individuals or as team leaders to create the most complex processing instructions, coordinate the processing of the~~

~~most complex systems or have lead responsibility for complex teleprocessing coordination, scheduling and other critical or sensitive support functions.~~

~~Incumbents may act in a lead capacity over a small technical staff.~~

This is the highest technical specialist level. Under general direction, incumbents work independently or as team leaders, and perform duties including, but not limited to: scheduling processing in a multiple system environment using appropriate scheduling software; coordinating processing of the largest most complex systems or having lead responsibility for complex teleprocessing across multiple organizations; investigating and resolving system performance problems; coordinating equipment modification and installation tasks; developing, testing and implementing new and revised fourth generation programs; and acting as technical consultant and troubleshooter on the most complex systems.

~~DATA PROCESSING TECHNICIAN~~ INFORMATION SYSTEMS SUPERVISOR II

Under general direction, incumbents plan, organize, and direct the activities of the ~~Data Processing Technician functions of a large electronic computer installation~~ a medium to large group of Information Systems Technicians and/or Specialists, and/or perform equivalent supervisory duties.

MINIMUM QUALIFICATIONS

ALL LEVELS:

Experience Requirements:

Experience applicable to one of the following patterns may be combined on a proportional basis with experience applicable to the other to meet the total experience requirement.

DATA PROCESSING INFORMATION SYSTEMS TECHNICIAN

Either:

1. Completion of at least two years at a recognized college or university. (Completion of 45 semester units or 67 quarter units in a recognized college or university will admit applicants but they must produce evidence of completion of 60 semester units or 90 quarter units before they can be considered eligible for appointment.) or
2. Two years of work experience at a level of responsibility no lower than Office Assistant II in the California state service and at least six semester units of college level training in ~~data processing~~ or mathematics information processing or a physical science; or

3. One year of experience performing ~~tabulating machine operations or technician duties in operation, quality control or scheduling on an electronic computer system~~ various information system duties; or

4. Successful completion of ~~a~~ an information systems operation or programming curriculum given by a resident school which includes the study of system control parameters ~~or job control language~~ and at least 200 hours of classroom instruction. (Partial completion of this requirement may not be combined with the other patterns to gain qualification.) or

5. Six months of work experience performing duties equivalent to Service Assistant (EDP Operations) and six semester units in ~~mathematics or data processing~~ information processing or a physical science; or

6. Six months of ~~data~~ information processing experience as an Occupational Technician (General), Range B.

~~SENIOR DATA PROCESSING TECHNICIAN~~ INFORMATION SYSTEMS SPECIALIST I AND ABOVE

Experience in California state service applied toward the "General Experience Pattern" must include at least one year of qualifying experience performing

the duties of a class at a level of responsibility not less than that in the promotional pattern.

~~SENIOR DATA PROCESSING TECHNICIAN~~

Either I

~~One year of experience in the California state service performing duties comparable to those of a Data Processing Technician.~~

Or II

~~Experience: Two years of experience writing technical processing instructions, reviewing input and output data, and acting as a liaison between the machine operations and the users in technical support of an electronic computer system, and~~

Education: Either

- ~~1. Completion of at least two years at a recognized college or university. (Additional qualifying experience may be substituted for the required education on a year-for-year basis.) or~~
- ~~2. Successful completion of a computer operation or programming curriculum given by a resident school which includes the study of system control~~

~~parameters or job control language and at least 200 hours of classroom instructions. (Partial completion of this requirement may not be combined with other patterns to gain qualification.)~~

~~DATA PROCESSING TECHNICIAN~~ INFORMATION SYSTEMS SPECIALIST I

Either I

One year of experience in the California state service performing duties comparable to those of ~~a Senior Data Processing Technician~~ an Information Systems Technician, Range C.

Or II

Experience: Three years of experience ~~writing technical processing instructions, reviewing input and output data, and acting as liaison between the machine operations and the users in technical support of an electronic computer system,~~ performing duties comparable to an Information Systems Technician, and

Education: ~~Same as Senior Data Processing Technician.~~

Education: Either

1. Completion of at least two years at a recognized college or university.
(Additional qualifying experience may be substituted for the required education on a year-for-year basis.)

2. Successful completion of an information systems operation or programing curriculum given by a resident school which includes the study of system control parameters and at least 200 hours of classroom instructions.
(Partial completion of this requirement may not be combined with other patterns to gain qualification.)

~~DATA PROCESSING TECHNICIAN~~ INFORMATION SYSTEMS SUPERVISOR I

Either I

One year of experience in the California state service performing duties comparable to those of a ~~Senior Data Processing Technician~~ an Information Systems Technician, Range C.

Or II

Experience: Three years of experience ~~writing technical processing instructions, reviewing input and output data, and acting as a liaison between~~

~~the machine operations and the users in technical support of an electronic computer system, performing duties comparable to an Information Systems Technician one year of which must have been in a supervisory capacity; and~~

Education: Same as ~~Senior Data Processing Technician~~ Information Systems Specialist I.

~~DATA PROCESSING TECHNICIAN~~ INFORMATION SYSTEMS SPECIALIST II

Either I

One year of experience in the California state service performing duties comparable to those of ~~a Data Processing Technician~~ an Information Systems Specialist I or ~~a Data Processing Technician~~ an Information Systems Supervisor I.

Or II

Experience: Four years of experience ~~writing technical processing instructions, reviewing input and output data and acting as liaison between the machine operations and the users in technical support of an electronic computer system, performing duties comparable to an Information Systems Specialist I.~~ and

Education: Same as ~~Senior Data Processing Technician~~ Information Systems Specialist I.

~~DATA PROCESSING TECHNICIAN~~ INFORMATION SYSTEMS SUPERVISOR II

Either I

One year of experience in the California state service performing duties comparable to those of ~~a Data Processing Technician~~ an Information Systems Supervisor I or ~~Data Processing Technician~~ Information Systems Specialist I.

Or II

Experience: Four years of experience ~~writing technical processing instructions, reviewing input and output data, and acting as a liaison between the machine operations and the users in technical support of an electronic computer system,~~ performing duties comparable to an Information Systems Specialist I two years of which must have been in a supervisory capacity; and

Education: Same as ~~Senior Data Processing Technician~~ Information Systems Specialist I.

KNOWLEDGE AND ABILITIES

ALL LEVELS:

Knowledge of: ~~electronic computer~~ Information systems and their use; ~~data processing including,~~ but not limited to, procedures, controls and documentations.

Ability to: Analyze and take effective action; perform arithmetical computations; speak and write effectively; work cooperatively with others and gain their respect and confidence; follow oral and written instructions.

~~SENIOR DATA PROCESSING TECHNICIAN~~

~~DATA PROCESSING TECHNICIAN~~ INFORMATION SYSTEMS SPECIALIST I

~~DATA PROCESSING TECHNICIAN~~ INFORMATION SYSTEMS SPECIALIST II

Knowledge of: In addition to the above, ~~system control parameters or job control language, techniques of computer operations scheduling, practices of job queuing and job prioritizing, assembling and processing complex programs~~ information systems hardware and software, techniques of system operation, installing and maintaining multifunction information systems.

Ability to: In addition to the above, coordinate ~~the~~ and work ~~and interface~~ with other personnel.

~~DATA PROCESSING TECHNICIAN~~ INFORMATION SYSTEMS SUPERVISOR I

~~DATA PROCESSING TECHNICIAN~~ INFORMATION SYSTEMS SUPERVISOR II

Knowledge of: In addition to the above, ~~system control parameters or job control language,~~ the principles of effective supervision and training; the

department's Affirmative Action Program objectives; a manager's role in the Affirmative Action Program and the processes available to meet affirmative action objectives.

Ability to: In addition to the above, supervise the work of technical and clerical assistants; effectively contribute to the department's affirmative action objectives.

SPECIAL PERSONAL CHARACTERISTICS

ALL LEVELS:

Willingness to work unusual shifts including evenings, nights and weekends.

CLASS HISTORY

<u>Class</u>	<u>Date Established</u>	<u>Date Revised</u>	<u>Title Changed</u>
Data Processing Information <u>Systems Technician</u>	6/28/72	4/17/84	
Senior Data Processing Technician	10/7/60	4/17/84	6/28/72
Data Processing Technician <u>Information Systems Specialist I</u>	3/20/84	4/17/84	

Data Processing Technician	10/7/60	4/17/84	6/28/72
<u>Information Systems</u> Supervisor I			
Data Processing Technician	3/20/84		
<u>Information Systems</u> Specialist II			
Data Processing Technician	10/7/60	3/20/84	6/28/72
<u>Information Systems</u> Supervisor II			

C A L I F O R N I A S T A T E P E R S O N N E L B O A R D

SPECIFICATION

PRESENT: DATA PROCESSING ANALYST

PROPOSED: INFORMATION SYSTEMS ANALYST

Series Specification

(Established July 24, 1975)

SCOPE:

Classes in this series are used to perform a variety of analytical activities in support of electronic information systems, such as data processing systems, microcomputers, and multifunction automated office systems. Incumbents ~~develop methods of computer problem solutions using information technology to the solution of problems~~ methods; to conduct feasibility studies concerning problems with possible solutions involving EDP; to act as project managers over information processing projects; work on analysis and support of multifunction office systems; provide information center services and information processing services; develop ~~data~~ information processing standards and procedures; to act as leadperson or supervisor over other technical personnel in the performance of information

processing tasks; and to do other related work.

This class series is differentiated from the Programmer Analyst series in that incumbents typically do not perform programming tasks and are not typically involved in the development of detailed program specifications.

Entry into this series is typically through the Programmer classification or through ~~the general class of Staff Services Analyst~~ open hiring into the Assistant Information Systems Analyst class.

Factors affecting position allocation include variety and complexity of work assignments, scope and consequence of decisions made, independence of action and decision, ~~and~~ leadership or supervision exercised and direction received; and the size and complexity of the information system.

Schem	Class	
<u>Code</u>	<u>Code</u>	<u>Class</u>
LM64	1479	<u>Assistant Information Systems Analyst</u>
LM65	1470	Associate Data Processing <u>Information Systems</u> Analyst (Specialist)
LM66	1471	Associate Data Processing <u>Information Systems</u> Analyst (Supervisor)
LM67	1312	Staff Data Processing <u>Information Systems</u> Analyst (Specialist)

implementation, procurement, or support of information processing systems, multifunction automated office systems, or microcomputer systems; and/or acts as project leader on information systems system studies, and/or participates with other analysts on information systems studies of complex nature or broad scope.

ASSOCIATE ~~DATA PROCESSING~~ INFORMATION SYSTEMS ANALYST (SUPERVISOR)

~~The incumbent,~~ Under general supervision, acts as supervisor on projects or systems studies of standard complexity.

STAFF ~~DATA PROCESSING~~ INFORMATION SYSTEMS ANALYST (SPECIALIST)

~~The incumbent,~~ Under general supervision, acts as a project leader on complex systems studies or studies of broad scope systems, and/or on complex data processing systems problems works independently as a technical specialist works on complex information systems problems, and serves as the advanced technical specialist performing complex analytical studies and activities on complex systems or projects.

STAFF ~~DATA PROCESSING~~ INFORMATION SYSTEMS ANALYST (SUPERVISOR)

~~The incumbent, under general supervision, acts as supervisor on complex systems studies or studies of broad scope. This is the working supervisor level. Under general supervision, supervises a small staff of analysts performing a wide variety of analytical activities in support of complex information systems.~~

SENIOR ~~DATA PROCESSING~~ INFORMATION SYSTEMS ANALYST (SPECIALIST)

~~The incumbent, Under general direction, acts as project leader on the most complex systems, studies or studies of the broadest scope, and/or works on the most complex data processing information system problems, works and independently as a high level technical specialist performs the most complex studies and activities on the most complex systems.~~

SENIOR ~~DATA PROCESSING~~ INFORMATION SYSTEMS ANALYST (SUPERVISOR)

This is the full supervisory level. ~~The incumbent, Under general direction, acts as supervisor on the most complex systems studies or studies of the broadest scope supervises a medium-size staff of analysts performing a wide variety of analytical activities in support of the most complex information systems.~~

MINIMUM QUALIFICATIONS

ALL LEVELS:

Experience requirement: State experience applied toward Pattern II must include at least one year in a class at a level of responsibility equivalent to that experience gained in Pattern I.

Education: The following education is required when general experience is used to qualify at any level: Equivalent to graduation from college with a minimum of 30 semester units in management information courses.

~~(Additional qualifying experience may be substituted for up to two years of the required education on a year-for-year basis.)~~

ASSISTANT INFORMATION SYSTEMS ANALYST

Either I

Education: Equivalent to graduation from college with a minimum of 30 semester units in management information courses. (Registration in a recognized institution will admit applicants to the examination, but they must produce evidence of graduation or its equivalent before they can be considered eligible for appointment.)

Or II

One year of experience in the California state service performing the duties of an Information Systems Specialist I.

ASSOCIATE ~~DATA PROCESSING~~ INFORMATION SYSTEMS ANALYST (SPECIALIST)

ASSOCIATE ~~DATA PROCESSING~~ INFORMATION SYSTEMS ANALYST (SUPERVISOR)

Experience applicable to one of the following patterns may be combined on a proportional basis with experience applicable to other patterns to meet the total experience requirement, provided that the combined qualifying experience totals at least 30 months. Education may not be used to reduce this 30-month limit.

Either I

One year of experience in California state service performing the duties of ~~Staff Services~~ Assistant Information Systems Analyst, Range C, ~~in a data processing function.~~ or

One year of experience in California state service performing the duties of a Programmer II. (Persons who have completed six months of service performing the duties of ~~a Staff Services~~ an Assistant Information Systems Analyst, Range C, or Programmer II, will be admitted to the examination but they must satisfactorily complete one year of this experience at this level before they can be eligible for appointment.)

Or II

Three years of progressively responsible experience above the trainee level in ~~electronic data processing systems study, design, and programming, at least one year of which shall have included responsibility on a project basis for analyzing operational methods and designing computer systems to meet desired~~

results performing a variety of tasks in the analysis, development, installation, implementation, procurement, or support of information systems with duties similar to those of an Assistant Information Systems Analyst.

Or III

Eighteen months of experience as described above in Pattern II, and 30 semester units of graduate work in information systems related courses.

STAFF ~~DATA PROCESSING~~ INFORMATION SYSTEMS ANALYST (SPECIALIST)

STAFF ~~DATA PROCESSING~~ INFORMATION SYSTEMS ANALYST (SUPERVISOR)

Experience applicable to one of the following patterns may be combined on a proportional basis with experience applicable to other patterns to meet the total experience requirement.

Either I

One year of experience in California state service performing the duties of an Associate ~~Data Processing~~ Information Systems Analyst (Specialist), or an Associate ~~Data Processing~~ Information Systems Analyst (Supervisor). or

Two years of experience in California state service performing the duties of an Associate Programmer Analyst (Specialist), or Associate Programmer Analyst (Supervisor).

(Applicants who have completed six months of service performing the duties as specified above will be admitted to the examination, but they must

satisfactorily complete one year of this experience before they can be eligible for appointment.)

Or II

Four years of progressively responsible experience above the trainee level in ~~electronic data processing systems study, design, or programming at least two years of which shall have included responsibility on a project basis for analyzing operational methods and designing computer systems to meet desired results~~ information systems analysis, development, installation, implementation, procurement, or support on microcomputers, multifunction office systems, or data processing systems at least two years of which involve responsibilities similar to those of an Associate Information Systems Analyst.

Or III

Two years of experience as described in Pattern II above, and 30 semester units of graduate work in information systems related courses.

SENIOR ~~DATA PROCESSING~~ INFORMATION SYSTEMS ANALYST (SPECIALIST)

SENIOR ~~DATA PROCESSING~~ INFORMATION SYSTEMS ANALYST (SUPERVISOR)

Experience applicable to one of the following patterns may be combined on a proportional basis with experience applicable to other patterns to meet the total experience requirement.

Either I

One year of experience in California state service performing the duties of a

Staff ~~Data Processing~~ Information Systems Analyst (Specialist), or Staff ~~Data Processing~~ Information Systems Analyst (Supervisor). or

Two years of experience in California state service, either (1) performing the duties of an Associate ~~Data Processing~~ Information Systems Analyst (Specialist), or Associate ~~Data Processing~~ Information Systems Analyst (Supervisor), or (2) in a supervisory assignment performing the duties of a Data Processing Manager I including responsibility for electronic data processing programming or systems analysis, or (3) performing the duties of a Staff Programmer Analyst (Specialist), or Staff Programmer Analyst (Supervisor).

Or II

Five years of progressively responsible experience ~~in electronic data processing systems study, design, or programming at least three years of which shall have included responsibility on a project basis for analyzing operational methods and designing computer systems to meet desired results above the trainee level in information systems analysis, development, installation, implementation, procurement, or support on microcomputers, multifunction office systems, or data processing systems at least three years of which involve responsibilities similar to those of an Associate Information Systems Analyst.~~

Or III

Thirty months of experience as described in Pattern II above, and 30 semester units of graduate work in information systems related courses.

KNOWLEDGE AND ABILITIES

ALL LEVELS:

Knowledge of: Principles of public administration, organization and management; ~~electronic data information systems~~ processing equipment and its capabilities, software, and practices; ~~electronic computer programming,~~ principles and techniques of studying work processes for new or revised ~~electronic computer applications and designing methods of processing data,~~ analytical techniques; technical report writing; ~~statistical methods.~~

Ability to: Analyze data and situations, identify and solve problems, reason logically, and draw valid conclusions; ~~and~~ develop effective solutions; apply creative thinking in the design of methods of processing data with electronic computers; monitor and resolve problems with information processing systems hardware, software and processes; establish and maintain cooperative effective working relationships with ~~responsible State officials and others contacted in~~ the course of the work; ~~speak and write~~ communicate effectively verbally and in writing.

ASSOCIATE ~~DATA PROCESSING~~ INFORMATION SYSTEMS ANALYST (SUPERVISOR)

STAFF ~~DATA PROCESSING~~ INFORMATION SYSTEMS ANALYST (SUPERVISOR)

SENIOR ~~DATA PROCESSING~~ INFORMATION SYSTEMS ANALYST (SUPERVISOR)

Knowledge of: All of the above, and principles of personnel management, supervision and training; the department's Affirmative Action Program objectives; a manager's role in the Affirmative Action Program and the processes available to meet affirmative action objectives.

Ability to: All of the above, and supervise technical personnel; and effectively contribute to the department's affirmative action objectives.

ADDITIONAL DESIRABLE QUALIFICATIONS

ALL LEVELS:

In appraising the relative qualifications of candidates for all levels, consideration will be given to the extent and type of experience with various electronic ~~data~~ information processing system functions and to the extent and type of pertinent education beyond that required under "Minimum Qualifications". Preferred additional education includes ~~courses in public administration, business administration, and computer science~~ equivalent to graduation from college with a degree in Computer Science or Management Information Systems.

CLASS HISTORY

<u>Class</u>	<u>Date Established</u>	<u>Date Revised</u>	<u>Title Changed</u>
Assistant Information Systems Analyst		--	--
Associate Data Processing <u>Information Systems</u> Analyst (Specialist)	9/1/75	12/4/84	12/4/84
Associate Data Processing <u>Information Systems</u> Analyst (Supervisor)	12/4/84	12/4/84	--
Staff Data Processing <u>Information</u> <u>Systems</u> Analyst (Specialist)	9/1/75	12/4/84	12/4/84
Staff Data Processing <u>Information</u> <u>Systems</u> Analyst (Supervisor)	12/4/84	12/4/84	--
Senior Data Processing <u>Information</u> <u>Systems</u> Analyst (Specialist)	9/1/75	12/4/84	12/4/84
Senior Data Processing <u>Information</u> <u>Systems</u> Analyst(Supervisor)	12/4/84	12/4/84	--

C A L I F O R N I A S T A T E P E R S O N N E L B O A R D

SPECIFICATION

COMPUTER OPERATIONS
Series Specification
(Established August 6, 1969)

SCOPE:

This series specification describes ~~six~~ five computer operations classes used in State service. Classes in this series operate the main computer console, multiple on-line teleprocessing systems, auxiliary consoles, and peripheral equipment on electronic computer systems, perform technical analysis, and may supervise or act as a leadperson for others in the performance of computer operating duties. The factors affecting position allocation include: the complexity, scope and variety of work; independence of action and decision; size, operating mode and sophistication of computer system; consequence of decision; supervision exercised and received. The degree and amount of responsibility for the operations of the main console on those systems characterized by multiprocessing, variable tasks operations or responsibility for coordination of multiple on-line teleprocessing systems and technical analysis are the basic factors.

Entry into this series is typically from outside State service or from other State classes performing duties in support of data processing activities.

Schem	Class	
<u>Code</u>	<u>Code</u>	<u>Class</u>
LN40	1353	Computer Operator
LN30	1352	Senior Computer Operator
LN25	1560	Computer Operations Specialist I
LN20	1351	Computer Operations Supervisor I
LN15	1561	Computer Operations Specialist II
LN10	1350	Computer Operations Supervisor II

DEFINITION OF LEVELS

COMPUTER OPERATOR

This ~~is deep class includes ranges comprising~~ the entry, trainee and first journeyman/~~working leadperson level levels~~ in this series, ~~and Incumbents in lower ranges of the class,~~ under close supervision, ~~learns learn~~ to operate the less sophisticated computer consoles or machine control panels; ~~or assists assist~~ in the operation of the more complex computer consoles or machine control panels; ~~Under supervision and~~ in response to messages from computer consoles, ~~operates operate~~ tape units, card readers, printers, disc drives and

related equipment; and ~~performs~~ perform other related work involved in computer operations.

~~SENIOR COMPUTER OPERATOR~~

~~This is the full journey person or lead person level in this series and As~~
training progresses, incumbents under general supervision, may works work with and ~~provides~~ provide general direction to a small group of computer operators engaged in the operation of an electronic computer system. ~~Has~~ Incumbents have primary responsibility for the operation of the main console on small- to medium-sized computer systems, and/or may perform technical duties in specialized areas.

COMPUTER OPERATIONS SPECIALIST I

Under general supervision, operates the main computer console on more complex multiprocessing variable task computer systems, coordinates complex, multiterminal teleprocessing systems and performs complex technical duties in other related areas as assigned, such as, use of utility programs, vendor coordination, scheduling functions, performing monitoring equipment maintenance tracking and procedure development, assist with planning and

implementing new or modified telecommunications networks/systems; installation and maintenance of computer/network hardware; developing and providing computer operations training. Incumbents may act in a lead capacity over a small technical staff.

COMPUTER OPERATIONS SUPERVISOR I

Under direction, ~~supervise the~~ supervises a small-medium sized group of computer operations staff in the operations phase of an electronic computer installation.

COMPUTER OPERATIONS SPECIALIST II

Under direction, in a large electronic computer installation, has primary responsibility for operating the main computer console on the most complex multiprocessing variable task computer systems or coordinating complex, multiterminal teleprocessing systems and/or performing complex technical duties in other related areas as assigned, such as assist with planning and implementing new or modified telecommunications networks/systems; develop and

provide computer operations training; installation and maintenance of computer/networks hardware; solves unusually complex problems requiring high vendor/user contact.

Incumbents may act in a lead capacity over a small technical staff.

COMPUTER OPERATIONS SUPERVISOR II

Under general direction, plans, organizes, and directs the activities of a major phase of the operations or administrative section of a large electronic computer installation or performs equivalent supervisory duties.

MINIMUM QUALIFICATIONS

ALL LEVELS:

Experience applicable to one of the following patterns may be combined on a proportional basis with experience applicable to the other to meet the total experience requirement.

COMPUTER OPERATOR

Either:

1. Completion of at least two years at a recognized college or university.
(Completion of 45 semester units or 67 quarter units in a recognized college or university will admit applicants but they must produce evidence of completion of 60 semester units or 90 quarter units before they can be considered eligible for appointment.)
2. Two years of work experience performing duties comparable to those of an Office Assistant II in the California state service and six semester hours of college level training in ~~data processing or mathematics.~~ information processing or a physical science; or
3. One year of experience performing tabulating machine operations or technician duties in operation, quality control or scheduling on an electronic computer system; or
4. Successful completion of a computer operation curriculum given by a resident school which includes actual computer operation experience and at least 200 hours of classroom instruction. (Partial completion of this requirement may not be combined with the other patterns to gain qualification.); or

5. Six months of work experience performing duties equivalent to Service Assistant (Electronic Data Processing Operations), and six semester units in ~~mathematics or data processing~~ information processing or a physical science; or
6. Six months of data processing experience as an Occupational Technician (General), Range B.

~~SENIOR COMPUTER OPERATOR~~ COMPUTER OPERATIONS SPECIALIST I AND ABOVE

Experience in California state service applied toward "Pattern II" must include at least one year of qualifying experience performing the duties of a class comparable to those described in the promotional pattern.

~~SENIOR COMPUTER OPERATOR~~

Either I

~~One year of experience in the California state service performing duties comparable to those of a Computer Operator.~~

Or II

~~Two years of experience operating an electronic computer system.~~

COMPUTER OPERATIONS SPECIALIST I

Either I

One year of experience in the California state service performing the duties comparable to those of a ~~Senior~~ Computer Operator, Range C.

Or II

Three years of experience operating an electronic computer system or operating a main console in multiprocessing, variable task computer system.

COMPUTER OPERATIONS SUPERVISOR I

Either I

One year of experience in the California state service performing duties comparable to those of a ~~Senior~~ Computer Operator, Range C.

Or II

Three years of experience operating an electronic computer system or operating a main console in a multiprocessing, variable task computer system, at least one year of which must have been in a supervisory capacity.

COMPUTER OPERATIONS SPECIALIST II

Either I

One year of experience in the California state service performing duties comparable to those of a Computer Operations Specialist I or Computer Operations Supervisor I.

Or II

Four years of experience operating an electronic computer system.

COMPUTER OPERATIONS SUPERVISOR II

Either I

One year of experience in the California state service performing duties comparable to those of a Computer Operations Supervisor I or Computer Operations Specialist I.

Or II

Four years of experience operating an electronic computer system, at least two years of which must have been in a supervisory capacity.

~~SENIOR COMPUTER OPERATOR~~ COMPUTER OPERATIONS SPECIALIST I AND ABOVE LEVELS

Education Requirement:

The following educational background is required of all competitors who wish to be given credit for experience under the open experience pattern for any level.

Either I

Completion of at least two years at a recognized college or university. (Additional qualifying experience may be substituted for the required education on a year-for-year basis.)

Or II

Successful completion of a computer operation or programming curriculum given by a resident school which includes actual computer operation experience and at least 200 hours of classroom instruction. (Partial completion of this requirement may not be combined with other patterns to gain qualification.)

KNOWLEDGE AND ABILITIES

ALL LEVELS:

Knowledge of: Principles, capabilities and operation of electronic computer systems and related peripheral equipment; key entry and control functions.

Ability to: Recognize and work out solutions for operational problems; speak and write effectively; analyze data; work cooperatively with others and gain their respect and confidence; perform arithmetical computations.

~~SENIOR COMPUTER OPERATOR~~

COMPUTER OPERATIONS SPECIALIST I

COMPUTER OPERATIONS SPECIALIST II

Knowledge of: Electronic computer hardware and operating techniques; basic concepts of; operating systems; modern office procedures and equipment; methods of devising standard machine and operator production rates.

Ability to: React promptly and appropriately to unique situations; maximize computer system operating efficiency and develop forms and procedures.

COMPUTER OPERATIONS SUPERVISOR I

Knowledge of: Computer operations procedures and equipment; methods of devising operator production rates; principles of effective supervision and training; the department's Affirmative Action Program objectives; a manager's role in the Affirmative Action Program and the processes available to meet affirmative action objectives.

Ability to: Plan, organize, and direct the operation of a small- to medium-sized electronic computer system; supervise the work of technical and clerical assistants; effectively contribute to the department's affirmative action objectives.

COMPUTER OPERATIONS SUPERVISOR II

Knowledge of: All of the above, and principles of organization and personnel management.

Ability to: All of the above, and supervise the work of technical and clerical assistants in a complex electronic computer system.

SPECIAL PERSONAL CHARACTERISTICS

ALL LEVELS:

Frequently assignments require work on rotation shifts, holidays, odd shifts and overtime including evenings, nights and weekends.

CLASS HISTORY

<u>Class</u>	<u>Date</u> <u>Established</u>	<u>Date</u> <u>Revised</u>	<u>Title</u> <u>Changed</u>
Computer Operator	6/3/65	3/20/84	--
Senior Computer Operator	6/3/65	10/4/78	--
Computer Operations Specialist I	3/20/84	4/17/84	--
Computer Operations Supervisor I	6/3/65	3/20/84	--
Computer Operations Specialist II	3/20/84	4/17/84	--
Computer Operations Supervisor II	6/3/65	3/20/84	--