



JAMMU AND KASHMIR PUBLIC SERVICE COMMISSION
Resham Garh Colony, Bakshi Nagar, Jammu
(www.jkpsc.nic.in)

NOTIFICATION NO: 06- PSC (DR-P) OF 2013
D A T E D : 1 4 . 0 3 . 2 0 1 3

1. Applications on prescribed form are invited (from the permanent residents of the J&K State only) for the posts of **Superintendent ITI** in Technical Education Department, **Lecturer** in Government Medical College, Jammu/Srinagar in Health & Medical Education Department & **Consultant** in Health & Family Welfare Department as per category-wise breakup, pay scale, educational qualification and age limit given below which should reach the Commission Office J&K Public Service Commission, Resham Ghar Colony, Bakshi Nagar, Jammu/Polo Ground, Srinagar on or before **15.04.2013**

(i) **Technical Education Department**

Item No.	Name of the Discipline	OM	RBA	SC	ST	ALC	SLC	Total
38	Superintendent ITI	05	-	-	-	01	-	06

Note: - The syllabus for the posts of Superintendent ITI is enclosed as "Annexure-A" to this Notification and also available on website of J&K PSC i.e. www.JKpsc.nic.in.

(ii) **Lecturer Government Medical College, Jammu in Health & Medical Education Department**

Item No.	Name of the Discipline	OM	RBA	SC	ST	ALC	SLC	Total
39	Lecturer Social & Preventive Medicine (S & PM)	01	-	-	-	-	-	01

(iii) **Lecturer Government Medical College, Srinagar in Health & Medical Education Department (1st Special Drive)**

Item No.	Name of the Discipline	OM	RBA	SC	ST	ALC	SLC	Total
40	Lecturer Physiology	-	01	-	-	-	-	01
41	Lecturer Bio-Chemistry	-	-	01	-	-	-	01
42	Lecturer Pathology	-	-	-	-	01	-	01

(iv) **Health & Family Welfare Department**

Item No.	Name of the Discipline	OM	RBA	SC	ST	ALC	SLC	Total
43	Consultant Pathology	01	-	-	-	-	-	01
44	Consultant Dental Specialist	08	-	-	-	-	-	08

Note: - In pursuance of Government Order No. 522-HME of 2012 dated 24.08.2012 issued by Health & Medical Education Department, re-designation the posts of B-Grade Specialist as Consultant.

Pay scale for item No. 38 = (Rs.9300-34800 with Grade Pay of Rs.4800)

Pay scale for item Nos. 39 to 42 = (Rs.9300-34800 with Grade Pay of Rs.5400)

Pay scale for item Nos. 43 & 44 = (Rs.15600-39100 with Grade Pay of Rs.6600)

Prescribed Qualification

Item No.	Name of the Discipline	Qualification	Experience
38	Superintendent ITI	Degree in Engineering	
39	Lecturer S & PM	MD in Social and Preventive Medicine/Community Medicine; Specialty board of Social and Preventive Medicine (USA); Dr. P.N (John Hopkins); Dr. P.M. (Harward) Dr. P.H. (California)	As Registrar/Tutor, Demonstrator/Tutor or a Senior Resident for a period of two years in a recognized Teaching Medical Institution recognized by the Medical Council of India or the University of Jammu/Kashmir. The teaching experience, if any, gained before or during post graduation studentship shall not be considered while determining the eligibility for the posts of Lecturers.
40	Lecturer Physiology	For Medical Persons: - Post-graduate degree in Physiology i.e. M.D., Ph.D., D.Sc. For Non-Medical Persons:- Ph.D in Physiology	As Registrar/Tutor, Demonstrator/Tutor or a Senior Resident for a period of two years in a recognized Teaching Medical Institution recognized by the Medical Council of India or the University of Jammu/Kashmir. The teaching experience, if any, gained before or during post graduation studentship shall not be considered while determining the eligibility for the posts of Lecturers.
41	Lecturer Bio-Chemistry	For Medical Persons: - Post-graduate degree in Bio-Chemistry i.e. M.D., Ph.D., D.Sc. For Non-Medical Persons:- M.Sc in Biochemistry	As Registrar/Tutor, Demonstrator/Tutor or a Senior Resident for a period of two years in a recognized Teaching Medical Institution recognized by the Medical Council of India or the University of Jammu/Kashmir. The teaching experience, if any, gained before or during post graduation studentship shall not be considered while determining the eligibility for the posts of Lecturers.
42	Lecturer Pathology	Post-graduate degree in Pathology i.e. MD Pathology/Path. And Bact., Ph.D., D.Sc. Specialty Board of Pathology (USA) or MRCP, Path.(UK)	As Registrar/Tutor, Demonstrator/Tutor or a Senior Resident for a period of two years in a recognized Teaching Medical Institution recognized by the Medical Council of India or the University of Jammu/Kashmir. The teaching experience, if any, gained before or during post graduation studentship shall not be considered while determining the eligibility for the posts of Lecturers.
43	Consultant Pathology	<p>1. MBBS or Possession of recognized graduate qualification included in the first or second schedule or part-II of the 3rd schedule (other than licentiate qualification) to the Indian Medical Council Act. 1956. Holders of educational qualifications included in the part –II of the 3rd schedule should fulfill the conditions stipulated in sub-section (3) of section (13) of Indian Medical Council Act 1956 and.</p> <p>2. Possession of Post Graduate degree qualification mentioned for the concerned subject in part "A" of the annexure to the J&K Medical (Gazetted) Service Rectt, Rules 2006 with 2 years experience in the profession in a responsible position connected with speciality.</p> <p style="text-align: center;">OR</p>	

		Possession of Post Graduate diploma mentioned for the concerned subject in part "B" of annexure to the J&K Medical (Gazetted) Service Rectt. Rules 2006 with four (04) years experience in the profession in a responsible position connected with specialty.
44	Consultant Dental Specialist	<p>Possession of Post Graduate Degree in Dentistry mentioned in part "A" of the Annexure to the J&K Medical (Gazetted) Service Rectt, Rules 2006 with three (03) years experience in a responsible position connected with the specialty.</p> <p style="text-align: center;">OR</p> <p>Possession of Post Graduate Diploma in Dentistry mentioned in part "B" of Annexure to the J&K Medical (Gazetted) Service Rectt. Rules 2006 with five (05) years experience in the profession on a responsible position connected with the specialty.</p>

Age as on 1st January 2013

Minimum	=	18 Years
Maximum	=	37 Years
Physically handicapped	=	39 years
RBA/SC/ST/ALC/SLC	=	40 years
In-service candidates	=	40 years
Candidates already working in		
Health & Medical Education Department	=	45 years
Ex-serviceman	=	48 years

2. Application Forms

- (a) Application Forms can be obtained from the office of the J&K Public Service Commission, Resham Ghar Colony, Bakshi Nagar, Jammu/ Polo Ground Srinagar on cash payment of ₹ 500/- (excluding processing charges of Rs.10/) in respect of General Category candidates and ₹ 250/- (Excluding processing charges of ₹ 10/-)in respect of Category candidates **through the counters of J&K Bank opened in the offices of J&K Public Service Commission at Polo Ground, Srinagar/Resham Ghar Colony, Bakshi Nagar, Jammu.**
- (b) The OMR Application Forms should neatly and correctly be filled in. A copy of passport size photograph should be pasted at the relevant space in the Application Form and duly attested by the Gazetted Officer.
- (c) The Application Form complete in all respects should be photo-copied. The photocopies of the certificates/testimonials be attached with photocopy of the Application Form. The OMR Application Form together with the photocopy of the Application Form and enclosures be submitted to the Commission office in the envelope provided by the Commission along with the Application Form.

Note: Application Form On Which Correction Fluid Is Applied, Shall Be Out Rightly Rejected.

3. The Application Forms complete in all respects must reach the Secretary, J&K Public Service Commission, Resham Ghar Colony, Bakshi Nagar, Jammu/Polo Ground, Srinagar on or before the last date i.e **15.04.2013** in an envelope provided by the Commission alongwith the Application Form. In case the last date is declared a public holiday, then the last date for receipt of Application Forms shall be the next working day.

Note: Candidates should clearly note that the Commission will, in no case, be responsible for non-receipt of their Application Forms or any delay in receipt thereof on any account whatsoever. No application received after **15.04.2013** will be entertained under any circumstances and all the late applications shall be deemed to have been rejected. Applicant should, therefore, ensure that their applications reach the Commission's office on or before **15.04.2013**.

Note: The in-service candidates shall submit their Application Forms after a certificate from the Head of the Office is to be recorded in the format given at the end of the Scanable Application Form and submit a photocopy of Scanable Application Form through their appointing authority.

4. **CERTIFICATES TO BE ATTACHED WITH THE PHOTOCOPY OF THE APPLICATION FORM**

Attested true copies of the following certificates are to be attached with the photo copy of the Application Form:-

- i. Date of Birth Certificate.
- ii. Permanent Resident Certificate.
- iii. Educational Qualification Certificate Prescribed for the Post.
- iv. Certificate of Higher/Additional Qualification, if any.
- v. Marks certificate of all semesters.
- vi. Attempt Certificate
- vii. Registration Certificate
- viii. Internship Completion Certificate.
- ix. Result Notification of BE/MS/MD Degree
- x. Registration of MS/MD Degree
- xi. Registration certificate from AICTE/MCI in case of Degree obtained from abroad.
- xii. Experience Certificate from the Head(s) of Organization(s)/Department(s) with duration of Experience/Employment i.e.(date/month/year).
- xiii. Valid Category certificate as per SRO 294 dated 21.10.2005 as amended from time to time and read with other relevant SRO's.
- xiv. For Physically Handicapped Candidates, Disability Certificate on the prescribed format.

5. **CANDIDATES WHO CLAIM TO POSSESS:-**

If candidates are in possession of the following certificates/testimonials, attach the photo-copies of the same should be attached with the Application Form for claiming any benefit at the time of Interview as prescribed in Rule 51 of J&K PSC (Business & Procedure) Rules, 1980.

- a. Distinction in NCC activities (Holder of grade 'C' Certificate).
- b. Distinction in sports (Certificate by Secretary, J&K Sports Council to be an outstanding sports person in terms of J&K (Appointment of Outstanding Sports Persons) Rules, 1998).
- c. Experience against the post in a Govt. /Govt. recognized institution including the institutions authorized by ICAR/ICVR/AICTE (Certified by the Head of Institution and in case of private institutions to be countersigned by the District/Divisional/State authority of the concerned Government Department and/or Director College Development Council/authorized Officer of the University granting affiliation, as the case may be). The weight-age shall be calculated at 0.25 points for every completed three

months should also attach attested copies of the above certificates/testimonials with the Application Form for claiming any benefit at the time of interview as prescribed in Rule 51 of J&K PSC (Business & Procedure) Rules, 1980 amended from time to time.

The last date for receipt of applications as indicated above i.e **15.04.2013** shall, for all purposes be the cut off date for determining the eligibility. Experience/improvement in the qualification/marks/additional qualification/distinction in sports/Games/NCC, if any, acquired by the candidate after the last date fixed for receipt of applications, shall not be taken into account nor given any credit.

6. **OTHER INFORMATION/INSTRUCTIONS**

All applicants must fulfill the essential requirements of the post and other conditions stipulated in the advertisement. They are advised to satisfy themselves before applying that they possess, at least the essential qualifications prescribed for the post. No enquiry for advice as to the eligibility will be entertained.

- i. The prescribed qualifications are minimum and mere possession of the same does not entitle the candidates to be called for interview. Further, the summoning of candidates for interview shall convey no assurance, whatsoever, that they will be selected. Appointment order of the selected candidates will be issued by the Government in accordance with the availability of vacancies.
- ii. Save as otherwise provided, in any other Act, Rules, or Regulations in force, where the Commission considers that the number of candidates who have applied for the post to be filled by direct recruitment, on the basis of interview, is large and it is not convenient, or possible, for the Commission to interview all the candidates, the Commission may restrict the number of candidates to be called for interview, to a reasonable limit as provided in rule 40 of J&K Public Service Commission (Business & Procedure Rules) 1980 by shortlisting in the manner as indicated below: -

a) Short listing through a written Screening Test

Where the number of applicants exceeds 350 against posts not exceeding 100 and where the number of applicants is more than 3 times against vacancies exceeding 100, the short listing in the proportion of 1 (post) : 3 (applicants) shall be done through a Written Screening Test.

b) Short listing by other methods

When the number of applicants for posts upto 100 is 350 or less, the short listing shall be done in the proportion indicated in the sub joined table on the basis of:

- (i) Percentage of marks secured in the qualifying examination; and
- (ii) Higher qualification, if any, in the relevant subject.

i	For 1-5 post	Five times the number of posts
ii	For 6-10 posts	Four times the number of posts subject to a minimum of 25.
iii	For 11 –100 posts	Three times subject to a minimum of 40.

Provided that, if the degree awarded for the minimum academic qualification prescribed for a post does not indicate the merit achieved by the holder in terms of grade or marks, and the applicants competing for the posts are more than the number required to be shortlisted as per table above, the Commission shall carry out short listing by a written Screening Test.

Provided further that the candidate (s) who have secured marks equal to those secured by the last candidate, shall also be called for the Interview over and above the number of candidates short listed according to ii(a) and ii(b) above.

In a situation, when a reserved category candidate secures, merit equal to or above the cut off merit, in open category, such candidates shall also be called for interview in the respective category.

Explanation:

Weightage for merit in the qualifying examination shall be 90% and for higher qualification in the relevant subject up to 10%.

- i. The marks secured by the candidates in the screening test shall not be taken into for determining the final order of merit.
 - ii. The place of interview/centre for screening test once chosen by the candidate shall not be changed in any case at later stage.
 - iii. Selections of the candidates shortlisted for the interview shall be made in accordance with rule 51 of J&K Public Service Commission as notified vide Notification No.PSC/Ex/11 dated 30.03.2011.
 - iv. The summoning of candidates for interview convey no assurance whatsoever that they will be selected. Appointment orders to selected candidates will be issued by the Government.
 - v. Candidates must be having sound bodily health. They must, if selected be prepared to undergo such medical examination and satisfy such medical authority as the Government may require.
 - vi. Candidates will be informed of the result of their applications in due course of time and any interim enquiries about the result are, therefore, unnecessary and will not be attended to. The Commission shall not enter into any correspondence with the candidates about reasons for their non-selection for interview/appointment.
- xiv. Canvassing, in any form, shall disqualify a candidate.

7. ACTION AGAINST CANDIDATES FOUND GUILTY OF MISCONDUCT

Candidates are warned that they should not furnish any particulars that are false or suppress any material information in filling up the Application Form. Candidates are also warned that they should, in no case, correct or alter or otherwise tamper with any entry in a document or its attested/certified copy submitted by them, nor should they submit a tampered/fabricated document. If there is any inaccuracy or any discrepancy between two or more such documents or their attested/certified copies, an explanation regarding this discrepancy should be furnished.

A candidate who is or has been declared by the Commission, to be guilty of:

- i. obtaining support of his/her candidature by any means, or

- ii. impersonating, or
 - iii. procuring impersonation by any person, or
 - iv. submitting fabricated documents or documents which have been tampered with, or
 - v. making statements which are incorrect or false or suppressing material information, or
 - vi. Resorting to any other irregular or improper means in connection with his/her candidature for the selection, or
 - vii. using unfair means during the test, or
 - viii. writing irrelevant matter including obscene language or pornographic matter, in the script(s), or
 - ix. misbehaving in any manner in the examination hall, or
- X. harassing or doing bodily harm to the staff employed by the Commission for the conduct of their test, or
- xi. attempting to commit or, as the case may be, abetting the commission of all or any of the acts specified in the foregoing clauses may, in addition to rendering himself/herself liable to criminal prosecution, be liable:
- a. to be disqualified by the Commission from selection for which he/she is a candidate, and/or
 - b. to be debarred either permanently or for a specified period: -
 - i. By the Commission from any examination or selection held by them.
 - ii. By the State Government from any employment under them, and
- c. if he/she is already in service under Government, disciplinary action under the rules.

IMPORTANT

1. Candidate must read the detailed instructions before filling up of the form. He/She must fill the form strictly according to the instructions.
2. Candidates must ensure that no column is left blank or wrongly filled, as information furnished therein would be used for deciding the eligibility and suitability of the candidate for being called for the interview. Application not filled correctly and as per the instructions is liable to be rejected and the onus of such rejection would be on the candidate himself/herself. The Commission will not entertain any claim in respect of such rejection.
3. Copies of the certificates should be attached in support of the information given in the form, where necessary. Any information contained in the attached certificates shall not be considered unless it is claimed in the Application Form.
4. Fee amount is payable in the shape of Bank Draft drawn from J&K Bank Limited only or by cash at J&K Bank counters opened in P.S.C Offices both at Jammu/Srinagar. No other mode of payment is acceptable.
5. Applications should be sent/delivered to the Secretary J&K Public Service Commission Reshamghar Colony, Bakshi Nagar, Jammu /Polo Ground Srinagar.
6. For any query visit the Commission's Website (www.jkpsc.nic.in & jkpsc.org) or Commission's facilitation centre at Jammu/Srinagar or dial Number 191- 2566710 (Jmu) and 194 - 2455089 (Sgr).
7. Moreover, in case of clarification, the candidates should mention the Notification No., Item No. and Bar Code No. of the Application Form along with specific information to be sought.

Sd/-
(Dr. T. S. Ashok Kumar) IFS
Secretary,
J&K Public Service Commission.

No: PSC/DR/Suptd. ITI/Lecturer/MRO/Consultant/2013 Dated:-14.03.2013.

CC:

1. Commissioner/Secretary to Government, Technical Education Department.
2. Commissioner/Secretary to Government, Health & Medical Education Department.
3. Director Information/Joint Directors Information, J&K Government, Srinagar/Jammu for favour of getting the notice published in atleast two local leading English dailies of Srinagar/Jammu.

4. General Manager, Govt.Press, Jammu for publication in extra ordinary issue of the Gazette.
5. Deputy Secretary/Under Secretary, J&K Public Service Commission.
6. Prl.Pvt.Secretary to Hon'ble Chairman, J&K Public Service Commission for information of the Hon'ble Chairman.
7. Private Secretary to Shri _____, Member, J&K Public Service Commission for information of the Member
8. PA to Secretary, J&K Public Service Commission for information of the Secretary.
9. In-Charge Camp Office, Srinagar.
10. I/C Website for uploading the notice on website. One hard & one soft copy.
11. Notice Board, J&K PSC, Jammu/ Srinagar.
12. Main file/Programme file.

Annexure-'A'

SYLLABUS FOR THE SCREENING TEST FOR THE POST OF SUPERINTENDENT ITI IN TECHNICAL EDUCATION DEPARTMENT

MATHEMATICS

MAXIMUM MARKS : 25

Chapter 1: Matrices and Determination

Concept of a matrix, types of matrices. Determinants of a square matrix, Applications of determinants in finding area of a triangle.

Chapter 2: Boolean Algebra

Boolean algebra as an algebraic structure.

Chapter 3: Functions, Limits and Continuity

Concept of a real function, limit of a function

$$\lim_{x \rightarrow 0} \frac{x^n - a^n}{x - a} = na^{n-1} (a > 0), \lim_{x \rightarrow 0} \frac{\sin X}{x} = 1$$

Limits at infinity.

Chapter 4: Differentiation

Derivative of a function, its geometrical and physical significance, Derivative of some simple functions from first principle. Logarithmic differentiation.

Chapter 5: Vectors (continued)

Scalar (or dot) product of vectors, vector (or cross) product of two vectors. Coplanarity of three vectors or four points using scalar triple product.

Chapter 6: Three Dimensional Geometry

Cartesian and vector equation of a line through (i) a point and parallel to a given vector, (ii) through two points. Angle between (i) two lines, (ii) two planes; (iii) a line and a plane.

Chapter 7: Linear Programming

Introduction, definition of related terminology such as constraints, Graphical methods of solution for problems in two variables.

Chapter 8: Applications of Derivatives

Rate of change of quantities, Tangents and normals, Rolle's theorem and Mean value theorem (without proof).

Chapter 9: Indefinite Integrals

Integration as inverse of differentiation. Integration by substitutions.

Chapter 10: Differential Equations

Definition; Order and degree, General and particular solution of a differential equation. Solution of linear differential equation of the type:

$$\frac{dx}{dx} + P(x)y = Q(x), \text{ where } P(x) \text{ and } Q(x) \text{ are functions}$$

of x , Solution of second order differential equations: $\frac{d^2y}{dx^2} = f(x)$

Chapter 11: Elementary Statics

Introduction, Basic concepts and basic Laws of mechanics, Triangle law of forces and its converse, Lami's theorem and its converse, Two parallel forces, Like and Unlike parallel forces.

Chapter 12: Elementary Dynamics

Speed and velocity, Motion of a particle along a line when moving with constant acceleration, Projectile motion- the path of a projectile

Chapter 13: Probability

Conditional probability, Recall of concept of random variables and its probability distribution, Binomial and Poisson's distributions, their mean, variance and applications of these distributions in commerce and industry.

CHEMISTRY

Maximum Marks : 25

Unit I: Atomic Structure and Chemical Bonding

Dual nature of matter and radiation, de-Broglie relation, Uncertainty Principle, Wave functions and quantum numbers, Atomic Orbitals and their shapes, Spin Quantum Number, Electronic configuration and atoms, Molecular orbital method (homonuclear diatomic molecules only) Concept of bond order, Hybridization involving s, p, and d-orbitals.

Unit II: The Solid State

Space lattice, Unit cells, cubic crystal system, close packing in crystals, X-ray studies of crystals, Structure of simple ionic compounds (AB and AB₂ type only). Imperfection in solids, Properties of solids, (electrical, magnetic and dielectric). Amorphous solids (elementary idea only)

Unit III: Solutions

Units of concentration, Vapour pressure of a solution, colligative properties (relative lowering of vapour pressure, elevation of boiling point, depression in freezing point and osmotic pressure) Determination of molecular mass, abnormal molecular mass.

Unit IV : Thermodynamics

First law (brief) Second law of thermodynamics; Entropy (criterion of spontaneous and non-spontaneous processes). Gibbs's free energy (criterion for spontaneity of a process), Standard entropies and free energy of formation. Free energy change and Chemical Equilibrium, Free energy change and non-mechanical work.

Unit V: Electrochemistry

Electrolytic and Galvanic cells, Electrolysis and laws of electrolysis, Electrolytic conduction- conductance, conductivity, molar conductivity, Kolrausch's law and its applications, Galvanic cells- electrode potential, Electromotive force, Nernst's equations, electrode potential and electrolysis Primary and secondary cells including fuel cells.

Unit VI: d and f -Block Elements

Photography (Chemistry of developing, fixing and printing)

Unit VII: Polymers

Classification of polymers, General methods of polymerization- addition and condensation. Copolymerisation, natural rubber, synthetic rubbers.

Condensation polymers

Some commercially important polymers.

Unit VIII: Chemistry in Every day Life

Dyes-classification with examples – indigo, methyl orange, aniline yellow, alizarin, malachite green

Detergents-Classification, some important examples.

rocket propellants- characteristics, chemicals used.

PHYSICS

MAXIMUM MARKS : 25

Unit I: Electrostatics

Coulomb's law-forces between two point electric charges, forces between multiple electric charges; superposition principle and continuous charge distribution;

Electric field and its physical significance.

Equipotential surfaces, electric dipoles in an electrostatic field.

Energy stored in a capacitor, Van de Graff generator.

Unit – II: Current Electricity

Drift velocity and mobility and their relation with electric current; Ohm's law.

Temperature dependence of resistance.

Kirchoff's laws-illustration by simple applications.

Potentiometer-principle and its application.

Thermoelectricity- origin, elementary ideas of seebeck, Thomson and Peltier effects; thermocouple.

Thermo emf, neutral and inversion temperatures.

Unit – III: Magnetic Effects of Current and Magnetism

Biot-Savart law, Force on a moving charge in uniform magnetic and electric fields, Cyclotron; moving coil galvanometer- its current sensitivity and conversion to ammeter and voltmeter.

Torque on a magnetic dipole (bar magnet) in a uniform magnetic field; Magnetic field lines: earth's magnetic field and magnetic elements.

Unit – IV: Electromagnetic Induction and Alternating Current

Faraday's law, induced emf and current, Lenz's law. Eddy currents, self and mutual inductance.

Peak and rms value of alternating current voltage, reactance and impedance; LC oscillations, LCR series circuit (phasor diagram)-Resonant circuits and Q-factor; Power in circuits, Wattless Current, AC generator and Transformer.

Unit – V: Optics

Refraction of light, total internal reflection and its applications, lens maker's formula; determination of refractive index of the material of prism.

Compound microscope, Astronomical telescope.

Reflection and refraction of plane wave at a plane surface using wave fronts (qualitative idea); Interference -Young's double slit experiment and expression for fringe width, coherent sources and sustained interference of light.

Unit VI: Atoms and Nuclei

Composition and size of a nucleus, atomic masses, isotopes, isobars; mass-energy relation. Mass defect binding energy per nucleon and its variation with mass number; Nature of the nuclear forces.

Nuclear fission and fusion; Energy source of stars (concept only).

Unit VII: Dual Nature of Radiation and Matter

Photo-electric effect, Einstein's Photo-electric equation, Particle nature of light, photo cells and their applications.

Unit VIII: Semi-conductor Devices

Energy bands in solids (qualitative ideas only), difference between metals, insulators and semi conductors using band theory.

Unit IX: Communicating Systems

Space communication: Sky and space wave propagation; Satellite communication; Application in Remote Sensing.

Line Communication: 2 wire lines, cables, telephone links; optical communication (optical fibre, use of Laser), elementary principle of light modulation.

INFORMATION TECHNOLOGY

MAXIMUM MARKS : 25

Chapter 1: The Computer as a Tool

After Completing this Chapter a student is expected to:

1. Explain how computers are used as a tool that help people write, learn, create art and music.
2. Explain how calculations are performed in the operation of computer programs such as Spread sheets (MS Excel) and Photo Deluxe.
 - 2.1 Explain the role of calculation in rotating, shrinking, expanding and modifying images in Photo Deluxe.

- 2.2 Define pixels.
- 3. Identify how computers can be used for the Physically Disabled.
 - 3.1. Explain how computers have been adapted to assist physically disabled people.
- 4. Identify how computer can be used for information Management.
 - 4.1. illustrate with an example how people are finding it harder to perform their jobs due to information overload.
 - 4.1.1 explain how a garment manufacturer can use the internet for his/her job.
 - 4.1.2 explain how computers can be used as a storage device.
 - 4.1.2.1 name some computer equipment that can be used as storage devices.
- 5. Define a wizard.

Chapter 2: Computer Sense and Safety

- 1. Define copyright laws.
- 2. Explain the meaning of software piracy.
- 3. Identify the importance of using original software.
 - 3.1. list reasons to purchase and use only original software.
- 4. Define a computer virus.
- 5. Define an anti-virus software.
- 6. Explain how an anti-virus software works.
- 7. Reason why people create viruses.
- 8. Give some examples of viruses.
- 9. State the worst virus problem that ever hit India and describe what it did.

Chapter 3: Word Processing Wizard

Students can

- 1. Define word processing.
- 2. Edit a document.
 - 2.1. explain what editing means.
 - 2.2. use the short cuts of copy and paste.
 - 2.3. use the "Undo" and "Redo" features.
 - 2.4. apply the "Find" and "Replace" feature.
- 3. Format a document.
 - 3.1. list a few formatting feature such as bold, underline, italics, font size and alignment.
 - 3.2. create a bullet list.

4. Create a table.

Chapter 1: The Information Superhighway

Students can.....

1. Define a LAN.
2. Define the Internet.
3. Explain how computers are used for accessing information.
 - 3.1. define the World Wide Web (WWW).
 - 3.2. Find information on the Internet.
 - 3.2.1 Describe how a person can find information in a directory.
4. Explain how computers are used for displaying information.
 - 4.1. name two programs that help create web pages.
5. Explain how computers are used for communication.
 - 5.1. define e-mail.
 - 5.2. define the term "ISP".

Chapter 2: Multimedia in Action

Students can

1. Define multimedia.
2. Identify a need for multimedia.
3. Define following term: Processor, RAM and Byte.
 - 3.1. Reason why a faster processor is better with respect to multimedia.
4. Identify terms such as kilobyte, megabyte gigabyte.

ENGLISH

MAXIMUM MARKS : 20

A. Communication Skills

Comprehension questions, Composition, Paragraph Writing, Grammar, Pronunciation and usage aimed at improving the language skills of students of technology.

B. Writing Skills

Technical/Project Report Writing

- (i) Meaning & Importance
- (ii) Aspects of Technical Report Writing/Project report Writing

C. Oral Presentation

- (i) Importance of Oral Presentation
- (ii) Preparing for Oral Presentation
- (iii) Elements of Oral Presentation

- (iv) Effective Delivery of Oral Presentation
 - a. Role and effective use of voice
 - b. Use of body language
 - c. Art of summing up

Sd/-
(Dr. T. S. Ashok Kumar) IFS
Secretary,
J&K Public Service Commission.