

ODISHA SUB-ORDINATE STAFF SELECTION COMMISSION
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Tel-0674-2597149/2597152, Website: www.osscc.gov.in

ADVERTISEMENT

No. IIE- 139/2024/ 2264 /OSSCC

Dated 27th December, 2024

Invitation of online application for the post of Trained Graduate Teachers (TGT)-
Science (PCM) in Government schools under ST & SC Development,
M & BCW Department

Important Dates

Event	Start date	End date
Online Registration:- Fresh candidates (New User) who have not registered earlier for any previous recruitment of the Commission Re-registration:- Candidates who have already registered earlier (Registered User) for any other post of the Commission and got the User ID have to login and re-register for this post	29.12.2024	22.01.2025
Submission of Online Application:- Mere Registration/Re-registration does not mean filing of online application. Online Application shall be filed mandatorily after completing the Registration/Re-registration.	29.12.2024	31.01.2025

Applications are invited online through the OSSCC website www.osscc.gov.in from candidates for recruitment to 29 number of **District Cadre Group-B** posts of **Trained Graduate Teachers(TGT) Science(PCM)** in Government schools under ST & SC Development, M & BCW Department. The District-wise total vacancies for the post to be filled up by this recruitment and reservation for each category of candidates is indicated at **Annexure-I**. The recruitment will be conducted according to the Odisha Sub-Ordinate Staff Selection Commission (District Cadre) Rules, 2012 and Odisha Sub-Ordinate Tribal Welfare Education (Recruitment & Conditions of Service) Rules, 1993 as amended up to date.

1. Details of Post to be filled up:

- (i) The vacancies in the post of Trained Graduate Teachers (TGT) Science (PCM) are of district cadre. "District Cadre" means a candidate, after being selected, will be posted and transferred within the district concerned.
- (ii) **Exercise of choice of districts:** Applicants are required to indicate their choice for the districts in the online application form as per their order of preference. Candidates are advised to be careful while exercising choices/preferences of districts which shall be final as mentioned by them in the online application. No further request for change of such preferences/choices exercised shall be entertained thereafter. The applicants shall mandatorily exercise choice for all the

districts in order of preference for which the vacancies are advertised. **Allocation shall be made strictly on the basis of merit and choice/preference of districts, as exercised by the candidate in the online application.** However, mere exercise of choice of districts shall not confer any right upon the candidate for appointment in the said district, if selected.

- (iii) The number of vacancies to be filled up on the basis of this recruitment may undergo change without any prior notice at the discretion of the Government.
- (iv) Reservations of vacancies for candidates belonging to Scheduled Castes, Scheduled Tribes, Socially and Educationally Backward Classes, Women, Sportspersons, Ex-Servicemen and Persons with Disabilities categories shall be made in accordance with the provisions made under relevant Acts and Rules framed, Notifications, Resolutions, Orders and Instructions of Government of Odisha in force.

2. Post and Scale of pay:

The appointment to the post shall be made carrying the level of pay as given below in the table.

Name of the Post	Scale of Pay and Pay Matrix level
Trained Graduate Teachers(TGT) Science(PCM)	Pay Scale 35400-112400, Pay Matrix level-09, Cell-01

3. Eligibility Criteria:

A) Age & Educational Qualification: -

- (i) A candidate must have attained the age of 21 years and must not be above the age of 38 years as on 1st January 2024. Date of birth as recorded in the HSC certificate issued by the Board of Secondary Education, Odisha or equivalent certificate issued by any recognized Board/Council/Indian University shall only be accepted.
- (ii) While applying for the post the candidate should ensure that he/she possesses the minimum educational qualifications meant for the post **as on the date of advertisement** and he/she is eligible for the post which is mentioned below:

Educational Qualification	
i.	The candidate must have at least Bachelors' Degree in Science/B.Tech/BE with two school subjects (school subjects as defined in the proviso hereunder) from a recognized university having minimum 45% marks in aggregate for SEBC/SC/ST/PwD/Sportsperson/Ex-Servicemen candidates and minimum 50% marks in aggregate for candidates other than SEBC/SC/ST/PwD/Sportsperson/Ex-Servicemen candidates and Bachelor in Education (B.Ed)/3 year integrated B.Ed.-M.Ed./2 year B.Ed (Special Education) courses from any NCTE recognized institution. OR Four year integrated B.Sc. B.Ed. from any NCTE recognized institution with two school subjects (school subjects as defined in the proviso hereunder) having minimum 45% marks in aggregate for SEBC/SC/ST/PwD/Sportsperson/Ex-Servicemen candidates and

Educational Qualification	
	minimum 50% marks in aggregate for candidates other than SEBC/SC/ST/PwD/Sportsperson/Ex-Servicemen candidates. In any case the candidates must have passed the Bachelor's Degree with any two school subjects offered as Pass/ Honours/ Elective/ Optional/ Compulsory subject out of the followings: Physics, Chemistry, Mathematics
ii.	The candidate must have passed Odisha Secondary School Teacher Eligibility Test (OSSTET)

- Candidates possessing academic/ training qualifications from boards / universities / institutions outside Odisha shall have to produce the following documents failing which she/he shall not be considered eligible for selection.
 - a. Proof of equivalency from any recognised universities of the state of Odisha.
 - b. Affiliation of their institution to a recognised University, and
 - c. Recognition of such training course and institute by NCTE.
- A Candidate furnishing certificates, mark-sheets with grades and grade point shall have to furnish numerical equivalence of grades/ grade points from the examination bodies failing which she/he shall not be treated as eligible for selection.

(iii) Relaxation of upper age limit:

- a. The upper age limit is relaxable by 5 years for the candidates belonging to SC/ST/SEBC/Women category.
- b. The upper age limit is also relaxable by 10 years in case of Persons with Disabilities (PwDs).
- c. The upper age limit is relaxable by 5 years in case of Ex-Servicemen candidates. The persons in Defence Service having more than six months to retire or to be discharged from service as on the last date of the submission of online application are not eligible to apply for the post. Provided that those Ex-Servicemen who have already secured regular employment under the State Government in civil post and services would be permitted the benefit of age relaxation as admissible for Ex-Servicemen for securing another employment in any higher post or services under the State Government but such candidates shall not be eligible for the benefit of reservation, if any, for Ex-Servicemen in the State Government.
- d. A candidate who comes under more than one category shall be eligible for only one benefit of relaxation which shall be considered most beneficial to him/her.

Provided that Persons with Disabilities under SC/ST/SEBC category shall be entitled to **cumulative age relaxation of ten years on account of their disability over and above the normal relaxation** available to

them as SC/ST/SEBC candidate as specified under sub-rule 3(a)&(b) of the Odisha Civil Service (Fixation of Upper age limit) Rules, 1989.

- (iv) A candidate must be able to speak, read and write Odia and must have
- a. passed the Middle School Examination with Odia as a language subject;
or
 - b. passed Matriculation or equivalent examination with Odia as the medium of examination in non-language subjects;
or
 - c. passed in Odia as language subject in the final examination of Class-VII or above from a School or Educational Institution recognised by the Government of Odisha or Central Government;
or
 - d. passed a test in Odia in M.E. School Standard conducted by the School & Mass Education Department.

B) Other Eligibility Criteria: A candidate, in order to be eligible for the post, must fulfil the following conditions -

- (i) He/she must be a citizen of India,
- (ii) He/she must be of good character,
- (iii) If married, must not have more than one spouse living. Provided that the Government may, if satisfied that such marriage is permissible under the personal law applicable to such person or there are other grounds for doing so, exempt any person from operation of the rule.
- (iv) Applicant(s) claiming reservation as Sportsperson must possess Sportsperson ID card issued by the Sports & Youth Services Department, Government of Odisha and upload the scanned copy of original (not photocopy) Sportsperson ID card online. Sportsperson ID Card(s) issued by any other authority except the Sports & Youth Services Department, Government of Odisha shall not be accepted.

Applicants not having proper and genuine Sportsperson ID card issued by the Sports & Youth Services Department, Government of Odisha shall not be eligible for claiming reservation/benefit as Sportsperson and such applications shall be rejected prima facie. They shall not be allowed to participate as Sportsperson any further in the recruitment process.

- (v) Applicant(s) claiming reservation under Persons with Disabilities (PwDs) category must ensure that they possess Permanent Disability Certificate with not less than 40% disability and belong to the category and sub-category of disability along with suitable physical requirements and functional classification as required for which the post has been reserved. They must upload the scanned copy of the original (not photocopy) Disability Certificate granted on Unique Disability Identity Card Portal by the competent medical authority as notified by the State along with the UDID card. They must fill up the required data regarding the disability in the appropriate check boxes of the online application.

The DISABILITY CERTIFICATE/CARD issued by any authority other than UDID portal is not acceptable.

Details of physical requirements and functional classification has to be mentioned by the candidate having permanent disability in the appropriate box of the online application.

Applicants having TEMPORARY DISABILITY should not apply as PwDs candidates as they are not eligible and such applications shall be summarily rejected. Further, those who do not meet the minimum prescribed requirement such as percentage of disability, type and nature of disability, physical requirements and functional classification meant for the post, etc. shall be disqualified at any stage.

Further, to take the help of scribe in appearing the Examination, they need to take written permission of the ADM-cum-District Superintendent concerned, at least three days prior to the date of Examination as per procedure. Scribe, compensatory time as admissible shall be allowed as per rules.

- (vi) Applicant(s) claiming reservation as Ex-Servicemen must have possessed Discharge Certificate, ID card and other supporting documents in support of service rendered in defence services. He/She must furnish an undertaking to the effect that they have not availed of any re-employment under the Government of Odisha.
- (vii) If any candidate has, at any time been debarred from recruitment examination for a certain period by this Commission, he/she shall not be eligible for appearing the same for that specific period.
- (viii) All eligibility conditions should have been fulfilled as on the date of advertisement.

4. **Examination Fee:**

NO EXAMINATION FEE IS PAYABLE FOR APPLYING FOR THE POST.

5. **Last date of receipt of applications:**

The last date of receipt of online applications in response to this advertisement is **31st January, 2025**. The system will be automatically disabled and no application for the post will be made available thereafter. Incomplete application/paper application/application received after the last date shall be rejected prima facie.

6. **How to apply:**

- I) Step by step procedure for registration/ re-registration/ application can be viewed by clicking on "**How do I register/re-register/apply**" on the Home page of the Commission's website-www.osscc.gov.in. The **Instructions** for the same shall also appear on the computer screen by clicking on "Registered User" or "New User" as the case may be. These instructions must be read carefully before proceeding to fill up the **Registration Form first followed by filling up of Online Application Form which are separate operations, but corollary to each other.**



- a. **Registration-** Fresh candidates (**New User**) who have not registered earlier for any previous recruitment of the Commission shall have to register for the post by clicking on the button, "**Apply Online**" on the Home page.
- b. **Re-registration-** Candidates who have already registered earlier (**Registered User**) for any other post of the Commission and got the User ID have to login and re-register for this post by selecting the "**Re-registration**" option provided under the Applicant Menu.
- c. It may be reiterated that mere Registration/Re-registration does not mean complete filing of online Application. Hence the candidates are advised to fill up and submit the online Application as per the guidance of the system after completing the Registration/Re-registration.
- d. **Submission of online Application-** After completing the Registration/Re-registration, they have to login, furnish the data and information in detail as per documents in the appropriate fields as per guidance of the online system to fill up and submit online Application. Incomplete applications shall be summarily rejected.

II) Pre-Requisites for Registration/Re-registration and Online Application:

- a. Full Specimen Signature of the Applicant, scanned in "jpg/jpeg/png" format between the ranges of 20kbs to 50kbs shall be kept handy for up-loading prior to making Registration/re-registration for any Post.
 - b. Applicants shall keep their Certificates and Mark Sheets ready for filling in the details of the educational qualifications during Online Application.
 - c. In addition, they shall keep ready a copy of the recent passport size coloured photograph, scanned in the "jpg/jpeg/png" format between the ranges of 20 kbs to 100 kbs for uploading in the Online Application.
 - d. The photograph and full specimen signature scanned for uploading must be clearly identifiable/visible, otherwise the registration/ re-registration and application shall be liable to rejection and no correspondence on this account shall be entertained.
 - e. Applicants must have their own personal e-mail ID and Mobile/Cell Phone Number with validity till the completion of the recruitment process for receiving all important communication, like, Activation Key, various Alerts and downloading Admission Letters and other intended document(s) from the OSSSC Web Portal. Under no circumstances, an Applicant should share/change his/her e-mail ID and Mobile/Cell Number with any other person. In case, he/she does not have a valid personal e-mail ID, he/she shall create a new e-mail ID for applying online.
7. **Original Certificates/documents to be produced at the time of verification:**
- (i) HSC pass or equivalent, +2 pass or equivalent, +3 pass or equivalent educational Certificates and Mark sheets of qualifying Examinations.
 - (ii) Training pass Certificate and Marksheet (as prescribed for the post in clause-3(A) of the advertisement) issued by NCTE recognised College/Institution.
 - (iii) Candidates possessing Academic/ Training qualifications from outside Odisha must have produced required documents as mentioned in clause 3(A) of the advertisement.

- (iv) Certificate of passing B.Ed./ OSSTET etc. as per required educational qualification.
- (v) Certificate of passing Odia as a language subject in the final examination of Class-VII from any School/Educational Institution of Odisha or Central Government or passing a test in Odia language in Middle School Standard examination conducted by the School & Mass Education Department, Odisha.
- (vi) Sportsperson ID card issued by the Sports & Youth Services Department of Government of Odisha, if claimed, reservation as Sportsperson.
- (vii) Discharge Certificate, Identity Card and documents in support of service rendered in defence services in case of Ex-Servicemen. An undertaking to the effect that the person claiming benefit under Ex-Servicemen has not got any employment under Government of Odisha utilising the benefit under Ex-Servicemen.
- (viii) Candidates claiming reservation as SC/ST/SEBC category shall produce certificates issued for the purpose of service issued by competent authority.
- (ix) Persons with Disabilities (PwDs) shall produce permanent disability certificates along with proper functional classification and physical requirements meant for the post granted on Unique Disability Identity Card Portal by the competent medical authority as notified by the State along with the UDID card.
- (x) Residence Certificate issued by competent Authority.

8. **Place and Date of Examination:**

The date, time and venue of the Preliminary/ Main Examinations will be notified later in the Commission's website. The candidates are advised to visit the website of the Commission at regular intervals and also keep track of different notices to be published by the Commission to know about the detailed programme of the examinations.

9. **Admission Letters:**

Provisional Admission letters, containing intimation about the date, time and venue for the Preliminary/ Main Examinations shall be uploaded on the Commission's website- www.osscc.gov.in well ahead of the date of the Examinations. The date of Preliminary/ Main Examination shall be advertised in the Local News Paper for information of the candidates. Each eligible candidate shall have to download his/her Admission Letter **by using his/her User ID & Password** before the date of examination by visiting the Commission's website and clicking "**Download Admission Letter**" option under the Applicant Menu. The Commission will not send any printed Admission letter to any candidate through post or any other mode.

10. **Plan of Examinations:** The plan of examination is described hereunder in brief which is tentative. The details of the examinations will be finalised by the Commission after getting the exact number of applicants for the post after the last date of receipt of applications. There may be some modifications in the plan of the examination as will be expedient. The conduct of Preliminary Examination will be

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decided by the Commission after the last date of receipt of online application depending on the number of valid applications.

The recruitment examination comprises the stages as described below:

(A) Stage-I: Preliminary Examination (MCQ type in OMR/CBRT Mode*)

Name of Post	No. of Questions	Full Marks	Time	Subjects
Trained Graduate Teachers(TGT) Science(PCM)	100	100	1 ½ hours	Paper-I & Paper-II (as per syllabus at Annexure-II)

This examination is meant to serve as a screening test only. On the basis of performance in the Preliminary Examination, candidates will be shortlisted at least @ 5 times the number of vacancies advertised for the post, category / special category wise, as per merit and screened to appear the Main Examination. **The marks obtained in the Preliminary Examination by the candidates shall not be taken into consideration for determining their final order of merit for selection.**

In case of failure to appear in the Preliminary Examination, the candidate shall not be considered any further in the recruitment process.

(B) Stage-II: Main Examination (MCQ type in OMR/CBRT Mode*)

Name of Post	No. of questions	Full Marks	Time	Subjects
Trained Graduate Teachers(TGT) Science(PCM)	100	100	1 ½ hours	Paper-II (as per syllabus at Annexure-II)

***The exact mode of Preliminary/ Main Examination will be notified later.**

Main Examination shall comprise questions from the syllabus as indicated in the table above.

i) The detail syllabus is enclosed at Annexure-II.

ii) Negative marking

- There shall be negative marking in Preliminary and Main Examination.
- There are four alternatives for the answers to every question. For each question for which a wrong answer has been given by the candidate, one-third (0.33) of the marks assigned to that question will be deducted as penalty.
- If a candidate gives more than one answer, it will be treated as a wrong answer even if one of the given answers happen to be correct and there will be same penalty as above for the question.
- If a question is left blank, i.e., no answer is given by the candidate, there will be no penalty for that question.

iii) **Minimum Qualifying Marks** - In the Main Examination, the minimum qualifying marks for ST, SC, PwD, Ex-Servicemen and Sportsperson category of candidates shall be 30% and the minimum qualifying marks for candidates other than ST, SC,

PwD, Ex-Servicemen and Sportsperson category, shall be 35%. In case of failure to appear/qualify in the Main Examination, the candidate shall not be considered further in the recruitment process.

11. **Provisional Merit List & Screening list of the Preliminary Examination:**

The Provisional Merit List (Preliminary) of all the candidates who have appeared the Preliminary Examination shall be prepared in order of merit on the basis of marks secured by the candidates in the Preliminary Examination, from which candidates will be shortlisted at least @ 5 times of the number of vacancies advertised category / special category wise which will be published as a Provisional Screening List (Preliminary) and the candidates so screened shall be called for the Main Examination.

12. **Provisional Merit List & Screening list of the Main Examination:**

The Provisional Merit List (Main) of all the candidates who have appeared the Main Examination shall be prepared in order of merit on the basis of marks secured by the candidates in the Main Examination, from which candidates securing the minimum qualifying marks in the Main Examination will be shortlisted at least @ 125% of the number of vacancies advertised category / special category wise as per merit on the basis of performance in the Main Examination only which will be published as a Provisional Screening List (Main) and the candidates so screened shall be called for the document verification.

The marks obtained in the Preliminary Examination by the candidates shall not be taken into consideration for determining their final order of merit for selection.

13. **Provisional Screening list for Document Verification:**

The candidates finding place in the Provisional Screening List so screened shall be called for document verification.

It is clarified here that, the Commission is not verifying any original document for admission of the candidates to the examination. The candidates will be provisionally admitted to the examination based on the information submitted by them in online application along with declaration. The original documents of the shortlisted candidates shall be verified/validated with reference to the bio-data and application of the candidate by the Collectors concerned for validation of candidature before issue of appointment order. As such, the candidature of the applicant shall remain provisional till validation by appointing authority.

The verification of original documents and validation of Biodata of the Candidates shall be conducted on a fixed date in the office of the Collector and District Magistrate of each district. Ordinarily, no request for change of time of verification or venue is admissible.

The candidates will have to download the Intimation Letters by logging in the web portal of the Commission www.osscc.gov.in with their User ID and Password for document verification after the same is issued by the Commission and notified in the website. No hardcopy of Intimation Letter will be sent to any candidate by post.

All the candidates issued with Intimation Letters for the verification of original documents are required to mandatorily attend the document verification

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process before the District Level Board. If any candidate fails to attend document verification process, his/her candidature shall be rejected and he/she shall not be allowed to participate in the recruitment process any further.

Candidate must bring all the original documents/certificates required as per terms and conditions of advertisement in support of his/her claim.

It is also made clear that candidature of the candidates is purely provisional. The candidature is liable for rejection in the event of inadequacy/deficiency found at any stage. Mere participation in the document verification process does not confer any right upon the candidate for appointment.

After Document Verification, candidates will be selected @100% of the vacancies advertised out of the 125% candidates called for document verification.

14. **Select list:**

Provisional Select List shall be drawn out of screening list of eligible candidates after the document verification process separately for each district equal to the number of vacancies advertised category wise. Allocation shall be made strictly on the basis of merit and choice/preference of districts, as exercised by the candidate at the time of submission of online application.

15. **Results:**

District wise provisional results shall be published in due course in the Commission's website- www.osscc.gov.in. The results published by the Commission shall remain provisional till acceptance of candidature by the requisitioning authority / appointing authority.

16. **Cancellation/Disqualification of the candidature and imposition of Penalty:**

Any misrepresentation / suppression / furnishing of wrong information / manipulation by the candidate in the online application and impersonation/ adopting unfair means/ malpractice shall result in cancellation/disqualification of his/her candidature at any stage of recruitment process, even after issue of appointment order.

If the candidate fails to observe any of the instructions of the Commission or any officer authorised on behalf of the Commission up to invigilator or centre superintendent of the examination centre he/she shall be liable to be disqualified or debarred from the examination as well as future examination for employment or may be imposed with any other penalty/ punishment as per Act/ Rules of Government in force.

For better clarification the relevant provisions of OSSCC (District Cadre) Rules, 2012 is reiterated below.

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

- (i) Obtaining support for his candidature by any means; or
- (ii) Impersonation; 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 candidature for the examination, or

- (vii) Adopting unfair means during the examination; or
- (viii) Writing obscene language or pornographic matter, in the scripts; or
- (ix) Misbehaving with the fellow examiners or the invigilators in any manner in the examination hall; or
- (x) Harassing or causing bodily harm to the staff employed / engaged by the Commission for the conduct of the examination; or
- (xi) Violating any of the instructions contained in the admission certificates; or
- (xii) Attempting to commit or, as the case may be abetting the Commission of all or any of the acts specified in the foregoing clauses; shall be liable
 - (a) to be disqualified by the Commission from the examination for which he/she is a candidate;
 - (b) to be debarred, either permanently or for a specified period
 - (i) by the Commission, from appearing in any examination or selection held by them: or
 - (ii) by the State Government, from entering to any employment under them; or
 - (c) if he is already in service under Government, to disciplinary action under the appropriate rules.”

The decision of the Commission with regard to the eligibility or otherwise of a candidate in the entire process of recruitment shall be final and binding.

Candidates are advised to submit online applications well in advance without waiting for the last date in order to avoid the last hour rush in online application system.

By order of the Commission

Secretary



Odisha Sub-ordinate Staff Selection Commission (OSSSC)
Trained Graduate Teacher Science -PCM for the year 2024
(ANNEXURE - I)

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27/12/2024

VACANCIES

Sl No.	VACANCY IN	CATEGORY WISE VACANCIES									SPECIAL CATEGORY WISE VACANCIES (Included in Total of Column No. 11)										
		UR		ST		SC		SEBC		Total	EX-SERV	SPO RTS	*VI		*ST		*Ci		*MD		Total
			(W)		(W)		(W)		(W)					(W)		(W)		(W)		(W)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
1.	Angul	1	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
2.	Bargarh	-	-	-	-	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
3.	Cuttack	1	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
4.	Jharsuguda	1	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
5.	Kalahandi	1	1	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-
6.	Kandhamal	-	-	3	2	1	-	-	-	6	-	-	-	-	-	-	-	-	-	-	-
7.	Khordha	-	-	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
8.	Koraput	1	1	3	1	1	-	1	-	8	-	-	-	-	-	-	-	-	-	-	-
9.	Nuapada	-	-	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
10.	Rayagada	1	1	3	1	-	-	1	-	7	-	-	-	-	-	-	-	-	-	-	-
Total	Trained Graduate Teacher Science -PCM	6	3	11	4	3	-	2	-	29	-	-	-	-	-	-	-	-	-	-	-

*Notes:-

1) EX-SERV - Ex-Serviceman

2) SPORTS - Sportsperson


Secretary
27/12/24



Odisha Sub-ordinate Staff Selection Commission (OSSSC)
Trained Graduate Teacher Science -PCM for the year 2024

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Secretary

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TGT Science (PCM)

PAPER-I

SECTION-I

General Knowledge and Current Affairs

- i. Current events of State (Odisha), National and International Importance
- ii. History of Odisha / India and Indian National Movement
- iii. Indian and World Geography
- iv. Indian Polity
- v. Economic and Social Development
- vi. Everyday Science

SECTION-II

Arithmetic

- i. Number System
- ii. HCF and LCM
- iii. Squares and Square Roots
- iv. Cubes and Cube Roots
- v. Percentage and Averages
- vi. Simple Interest and Compound Interest
- vii. Profit, Loss and Discount
- viii. Partnership
- ix. Ratio and Proportion

SECTION-III

Reasoning Ability

- i. General mental ability
- ii. Logical reasoning and analytic ability
- iii. Decision making and problem solving
- iv. Basic numeracy
- v. Data interpretation

SECTION-IV

English

- i. Verbs, Tenses, Modal, Active and Passive voice, Subject-verb Agreement.
- ii. Connectors, Types of Sentences, Direct and Indirect speech, Comparison.
- iii. Articles, Noun, Pronouns, Prepositions.
- iv. Unseen passage (400-450 words in length) with a variety of comprehension questions.



SECTION-V

Computer Literacy

- i. Basic computer literacy skills for use of ICT in classrooms.
- ii. Concepts, terminology and operations that relate to general computer usage.
- iii. Basic Hardware of Computer
- iv. Common Applications,
- v. Networking and Internet
- vi. Social Networking
- vii. Digital Citizenship

SECTION-VI

Pedagogy, Educational Management, Policies & Evaluation (for TGTs- Arts, Science, Hindi & Sanskrit)

A. Child Development (Process of Growing Up)

- I. Growth and Development
 - Concept, Difference & Principles of Development
 - Factors affecting Development (Nutrition, Intelligence, Psycho-social, Diseases, Injury etc.)
 - Growth and development during Adolescence
 - Counseling services for Adolescents
- II. Factors Affecting Different Developmental Aspects
 - Cognitive
 - Social(Erikson Theory)
 - Emotional
 - Moral (Kohlberg theory)
 - Language Development
 - Needs and problems at childhood and Adolescence
- III. Approaches to Understanding the Nature of Intelligence
 - Psychometric approach (Thurstone, Guilford ,Gardener)
 - Information Processing Approach-Sternberg
 - Cognitive Development Approach-Piaget
 - Social Constructive Approach-Vygotsky

B. Learning Process / Pedagogy

- I. Understanding the Learning Process
 - Learning as a process and an outcome

- Approaches — Humanistic (Karl Rogers)
- Constructivist (Piaget and Vygotsky)
- Basic conditions of learning: Readiness, Maturation, Motivation, Task and Methods
- II. Organizing Learning
 - Teacher-Centric, Learner —Centric, Learning-Centric
 - Characteristics and Process
- III. Critical Pedagogy
 - Concept, Characteristics, Process, Stages
 - Approaches
- IV. Addressing Classroom Diversity
 - Using varieties of TLMs and AV Aids
 - Using context of the learner
 - Using variety of activities while group learning, small group learning and self-learning
 - Learner in the context of Inclusive Education

C. Educational Management

- Educational Management: Concept, Importance and Scope, Types of Management,
- Democratic and Autocratic, Centralized and Decentralized
- Management Structure at different levels, National/State/District/Sub-district (BRCs, CRCS/ SMCs, SMDC)
- School Development Plan (SDP): Concept, purpose, Key action by Headmaster, students, Parents and SMDC Steps in planning for school development
- Annual and prospective plan
- School Management: Role of Headmasters, Teachers, Community

D. Educational Policies and Programmes

- Kothari Commission 1968
- National Educational Policy 1986
- RTE Act, 2009
- National Curriculum Framework, 2005
- National Education Policy 2020
- SSA, RMSA and Samagra Shiksha

E. ASSESING THE LEARNER / PERFORMANCE (EVALUATION)

- I. Assessment and Evaluation
 - Assessment and evaluation in constructive perspective
 - Concept, Continuous and Comprehensive Evaluation , Formative, Summative and
 - Diagnostic Assessment
- II. Assessment and Learning
 - Assessment of Learning, Assessment for learning, Assessment as Learning



- Subject-based learning in a constructivist perspective
- Assessment tools and techniques —Projects, Assignments, Observation, Teacher made Tests
- Self-assessment, Peer-assessment
- Portfolios, rubrics

III. Test Construction

- Steps and Principles of Test Construction
- Development of blue print
- Preparation of test items
- Standardized and Teacher made Test

IV. Recent Developments in Assessment

- Grading
- Assessment in co-scholastic area
- Implementation strategy of Continuous and Comprehensive Evaluation
- Recommendations of NCF-2005



TGT Science (PCM)

PAPER-II

Section-I: PHYSICS

Unit-1 Motion

Newton's laws of motion, Kinematic Equations of motions with acceleration, Graphical representation of Kinematics Equations of motion, Relative velocity and relative acceleration, work energy and power, conservation of energy, collision problem and conservation of linear momentum, forces of nature, friction force.

Circular motion, Rotational Kinematics, Conservation of angular momentum, Moment of Inertia.

Motion under Gravity, project motion, Simple harmonic motion, and Kinematics of simple harmonic motion, simple pendulum.

Unit-2 Gravitation

Kepler's law of planetary motion, Newton's law of gravitation, Acceleration due to gravity, Gravitational field and potential, Escape velocity and satellite motion, Geo stationary Satellites.

Unit-3 Properties of Matter

Inter- atomic and intermolecular force, Elasticity, Stress, Strain and Hook's law, Elastic module

Kinetic theory of gases, concept of heat, pressure and temperature, specific heat, law of equipartition of energy, Universal Gas laws, measurement of Pressure

Surface tension, surface energy, angle of contact, excess pressure, capillarity, viscosity, Poiseuille's law, Stokes's Law, Bernoulli's Equation of fluid motion, Hydrostatics, Buoyancy, Archimedes Principle, Laws of flotation.

Unit-4 Sound

Waves, Progressive and stationary waves, mechanical waves, equation of a progressive wave, transverse vibration of a string, speed of sound waves, Newton's formula, Super-position of sound waves, Beats, Echo, Doppler's effect, Musical sound and its characteristics,

Unit-5 Optics

Laws of reflection and refraction in transparent medium, total internal reflection, refraction through prisms, Dispersion, Reflection and image formation plan and spherical mirrors, equation for object and image distances for spherical mirrors, image formation in convex and concave lenses, lens equation for convex and concave lenses, power of single and combination of two lenses. Image formation in the eye and defects of vision, microscope and astronomical telescope.

Wave optics, Huygens's principle, Coherent sources and interference, Young's double slit, Biprism, Newton's ring experiments, Diffraction of light through single slit and plane transmission grating.

Unit-6 Electrostatics

Coulomb's law and unit of charge, force on charge due to discrete and continuous charge distributions, lines of force and electric field, field due to a point charge and dipole, electrostatic potential, potential due to a point charge and an electric dipole, electric potential energy of a group of point charges, electric flux, Gauss law and applications, Capacitor, capacitance of parallel plate and spherical capacitors, combinations of capacitors in series and parallel.

Unit-7 Current Electricity

Ohm's law, current and voltage measurements, resistance and Resistivity, combination of resistances in series and parallel, electromotive force, grouping of resistors and cells. Kirchhoff's laws and their applications.

Electric energy and power, heating effect of electric current, Faraday's law of electrolysis.

Magnetic field and magnetic induction, Biot-Savart law, magnetic field due to a straight conductor, a circular coil and a solenoid carrying current. Ampere's circuital law, Lorentz force on a charge particle in uniform electric and magnetic fields. Force between two parallel conductors carrying current.

Unit-8 Electromagnetic induction

Faraday's law of electromagnetic induction, Lenz's law, eddy current, self and mutual induction, emf induced in a rotating coil. Alternating current, average and RMS values of alternating currents, simple AC circuits (RC, RL and RLC), concept of admittance and impedance. Transformers and simple AC devices (motor, dynamo).

Section-II: CHEMISTRY

Unit-1 Basic Concepts

Atomic, molecular and equivalent masses, mole concept, types of chemical reactions, calculations based on stoichiometry. Equivalent mass of acid, salt, oxidant and reductant.

Unit-2 States of Matter

Gas laws- Boyle's law, Charles' law, combined gas equation, ideal gas equation, Graham's law of diffusion/effusion, Dalton's law of partial pressure.

Characteristics of Liquids: Vapour pressure, viscosity and surface tension. Colligative properties of solutions (solute and solvent forming binary solution).

Unit-3 Structure of Atom

Bohr's model and its limitations, concept of shells and sub-shells, dual nature of matter and light. De Broglie's relationship, Heisenberg uncertainty principles, concepts of orbitals, quantum numbers, shape

of s, p and d orbital, rules of filling electrons in orbitals- Aufbau principle and Hund's rule, electronic configuration of atoms, stability of half filled and completely filled orbitals.

Unit-4 Classification and elements and periodicity in properties

Modern periodic law and the present form of periodic table, periodic trends in properties of elements- atomic radii, ionic radii, ionization enthalpy, electron gain enthalpy, electro negativity, valency.

Unit-5 Chemical bonding and molecular Structure

Ionic bond, covalent bond, polar character of covalent bond, covalent character of ionic bond, concept of hybridization, VSEPR Theory and shapes of some simple molecules, hydrogen bond and metallic bond,

Unit-6 Chemical reactions

Types of chemical reactions, redox reaction, Oxidation number calculations, balancing of redox equations by oxidation number and ion electron methods, neutralization reactions and volumetric analysis.

Unit-7 Chemical Equilibria and Ionic Equilibria

Equilibrium in physical and chemical processes, law of mass action, equilibrium constants (K_c , K_p , K_{OC}) relation among them, the reaction quotient and its relation with equilibrium. LeChateliers principle and its applications.

Theories of acids and bases, ionization of weak acids and bases, ionic product of water pH and other logarithmic terms, common- ion effect, solubility product and its application in salt analysis,

Unit- 8 General Principles of extraction of metals

Occurrence of metals, ores and minerals, concentration, calcinations, roasting, smelting, reduction methods (carbon reduction, aluminothermic process, electrolytic and self- reductions) and metal extraction, flux and slag refining of metal. Reactions involved in the Blast furnace for extraction of iron.

Unit-9 Some basic principles of organic chemistry

- a) Classification and IUPAC nomenclature of organic compounds
- b) Electronic displacement in covalent bond: inductive effect, electronic effect, resonance and hyper conjugation
- c) Homolytic and heterolytic fission of a covalent bond: free radicals, carbocations, carbanions, electrophiles and nucleophiles, types of organic reactions.

Unit-10 Hydrocarbons

Classification of Hydrocarbons.

- a) Aliphatic Hydrocarbons: general methods of preparation, properties and uses of alkanes, alkenes and alkynes.
- b) Aromatic Hydrocarbons: benzene, resonance aromaticity, chemical properties, directive influence of functional group in mono-substituted benzene.

Section-III: MATHEMATICS

1. **Set Theory and its Application**
 - Union, intersection, difference, complement, power set, number of elements in union and inter-section of finite sets.
2. **Relations and Functions**
 - Reflexive, Symmetric, transitive and equivalence relations, injective, subjective and objective functions, inverse of a function.
3. **Number System**
 - Natural numbers, integers, rational numbers, irrational number, real number, absolute values of numbers, triangle inequality,
4. **Quadratic & Linear Equations**
 - Fundamental theorem of Algebra, roots, discriminates, nature the roots, relation between the roots and coefficients.
5. **Calculus of One Variable**
 - Limit, continuity, derivative, tangent, normal, increasing and decreasing functions.
6. **Sequence and Series**
 - Arithmetic and Geometric progressions, monotonic sequence, exponential series, logarithmic series, Taylor's series, Maclaurin's series,
7. **Coordinate geometry**

Distance formula, section formula, area of a triangle, locus and its equation, straight line, circle, conic section.
8. **Analytical Solid Geometry**
 - Plane, straight line, Sphere
9. **Probability**
 - Trial, Sample point, Sample Space, Event, Addition Theorem, Binomial Distribution.
10. **Statistics**
 - Mean, Mode, Median, Mean Deviation, Standard Deviation, Variance
11. **Trigonometry**
 - Angles associated with 90, 180, 270,360 compounded angle formula, sub-multiple angle formula, Trigonometry Equations, Inverse trigonometric functions, Height and Distance.
12. **Mensuration**
 - Circumference of a circle, length of the arc of a circle, area of a circle, sector and segment, area of a circle annulus, area of a sectional region, area of segment, surface area and volume of a prism, right circular cylinder, cone and sphere.

