

# Machinist

## Interprovincial Journeyman Examination Information

<b>Apprentice Requirements:</b>	4 years and 7200 hours
<b>Tradesperson Requirements:</b>	6 years and 10800 hours
<b>Practical Examination:</b>	Yes

The interprovincial (IP) journeyman examination for this trade is developed by a national committee of worker and employer representatives. The content for IP Examinations is drawn from the Red Seal Occupational Standard (RSOS) For that trade and is based on industry's standards and expectations. You can download and print a free copy of the RSOS from the Red Seal website by visiting [www.red-seal.ca](http://www.red-seal.ca).

To write the interprovincial journeyman examination, you must either successfully complete an apprenticeship training program or meet tradesperson eligibility requirements. The pass mark is 70%.

### Red Seal Examination preparation resources:

To assist in the understanding of the development of all Interprovincial Red Seal examinations, Employment and Social Development Canada (ESDC) has developed the following information.

- A short explanation of the role of an occupational standard in the development of a Red Seal examination can be accessed on the Red Seal website at the following link: <http://www.red-seal.ca/resources/wh.1t.3sn.4.1-eng.html>
- The Getting Ready for the Examination document can be accessed through the Red Seal website at the following link: <http://www.red-seal.ca/docms/getready-eng.pdf>
- Red Seal examination sample questions can be accessed on the Red Seal website at the following link: [http://www.red-seal.ca/resources/s.1mpl.2\\_q.5.2st.3.4ns-eng.html](http://www.red-seal.ca/resources/s.1mpl.2_q.5.2st.3.4ns-eng.html)
- A trade specific skills assessment tool is available on the Red Seal website at the following link: <https://www.red-seal.ca/conf/assets/custom/docms/machinist/self-assessment.pdf>

Use of cell phones, electronic imaging/recording or communication equipment is **not** permitted. You will be required to leave immediately if any of these items are found on your person.

Please note that examinations and study information change frequently. The most recent information is available on our website at [www.saskapprenticeship.ca](http://www.saskapprenticeship.ca).

## Machinist – Red Seal Examination Breakdown

An Interprovincial Red Seal examination is based on the Red Seal Occupational Standard (RSOS) for the trade. The RSOS describes the skills and knowledge required to perform the duties of the trade. Each standard is divided into Major Work Activities (MWA), which are divided into Tasks, which are divided into Sub-tasks.

The Red Seal examination has a certain number of questions assigned to these sections. The number of questions are provided below. For more information, see the full Red Seal Occupational Standard for Machinist at:

[https://www.red-seal.ca/conf/assets/custom/docms/machinist\\_rsos2018\\_eng.pdf](https://www.red-seal.ca/conf/assets/custom/docms/machinist_rsos2018_eng.pdf)

**Total number of questions on the Interprovincial Red Seal examination - 135 questions\***

Subject	Percent	Number of Questions
<b>MWA A: Performs Common Occupational Skills</b>	9%	
<b>Task A-1:</b> Performs safety related tasks		2
<b>Task A-2:</b> Organizes work		3
<b>Task A-3:</b> Uses communication and mentoring techniques		2
<b>Task A-4:</b> Process workpiece material		4
<b>Task A-5:</b> Maintains machines, tooling and inspection equipment		2
<b>MWA B: Performs Benchwork</b>	8%	
<b>Task B-6:</b> Performs hand processes		8
<b>Task B-7:</b> Refurbishes components		3
<b>MWA C: Machines Using Power Saws</b>	6%	
<b>Task C-8:</b> Sets up power saws		5
<b>Task C-9:</b> Operates power saws		3
<b>MWA D: Machines Using Drill Presses</b>	7%	
<b>Task D-10:</b> Sets up drill presses		5
<b>Task D-11:</b> Operates drill presses		4
<b>MWA E: Machines Using Conventional Lathes</b>	21%	
<b>Task E-12:</b> Sets up conventional lathes		14
<b>Task E-13:</b> Operates conventional lathes		14
<b>MWA F: Machines Using Conventional Milling Machines</b>	21%	
<b>Task F-14:</b> Sets up conventional milling machines		15
<b>Task F-15:</b> Operates conventional milling machines		13
<b>MWA G: Machines Using Precision Grinding Machines</b>	8%	
<b>Task G-16:</b> Sets up precision grinding machines		6

<b>Task G-17:</b> Operates precision grinding machines		5
<b>MWA H: Machines Using Computer Numerical Control (CNC) Machines</b>	20%	
<b>Task H-18:</b> Performs CNC programming		12
<b>Task H-19:</b> Selects tooling and tool holders for CNC machines		8
<b>Task H-20:</b> Operates CNC machines		7
<b>Total</b>	100%	135

*\*The number of questions on an interprovincial examination, assigned to assess each major work activity of the RSOS, as derived from the collective input from workers within the trade across Canada.*

### **Suggested trade resources when preparing for the examination.**

To assist you, a list of reference textbooks is provided below. Note that ISBN numbers are subject to change. Please consult with your supplier to access their most current version of the textbook you are acquiring. It is not necessary to use these specific textbooks; you may find others which will be equally beneficial. You are encouraged to seek additional reference materials in all test areas.

- [Advanced Machine Tool Practice](#) TOOL 484 SKU 20124724
- [Advanced Machine Tool Theory](#) TOOL 482 SKU 20124748
- [Applied Mathematics Machinist Course Manual](#) MATH 104 SKU 20006785
- [Bevel Gears](#) 150302C VER 21.0 SKU 20136727
- [Boring Mills](#) 150402A VER 21.0 NAIT/SAIT SKU 20056490
- [CNC 2 Axis](#) MACH 386 SKU 20096069
- [CNC Machining 3 Axis](#) MACH 483 SKU 20116347
- [Computer Numerical Control](#) MACH 100 SKU 20069896
- [Cutting Tool Technology](#) TOOL 381 SKU 20106874
- [Dividing Head and Indexing](#) 150203c VER 21.0 NAIT/SAIT SKU 20186913
- [Gear Manufacturing Methods](#) 150302e VER 21.0 SKU 20055738
- [Grinding Theory/Grinding Practical](#) MACH 290 291 SKU 20112141
- [Inserts and Tool Holders](#) 150202d VER 21.0 NAIT/SAIT SKU 20270124
- [Lathe Theory/Lathe Practical](#) MACH 292 293 SKU 20112189
- [Machine Tools](#) TOOL 384 (Practical) SKU 20106911
- [Material Selection and Heat Treatment](#) MATE 481 SKU 20114145
- [Materials and Heat Treatment](#) MACH 285 SKU 20112165
- [Mathematics](#) MATH 386 SKU 20024024
- [Metal Specifications and Testing](#) 150210c VER 21.0 SKU 20058616
- [Milling Cutters](#) 150202B VER 21.0 SKU 20186852
- [Milling Operations](#) 150203b VER 21.0 SKU 20186890
- [Milling Machines](#) 150203a VER 21 NAIT/SAIT SKU 20186838
- [Milling Theory](#) MACH 294 SKU 20124700
- [Multi-start and Worm Threading](#) 150302F VER 21.0 SKU 20022532

- Power Transmission MACH 383 SKU 20094041
- Splines VER 5.1 150302J VER 21.0 SKU 20022341
- Spur Gears 150302B VER 21.0 NAIT/SAIT SKU 20264345
- Threading 150203D VER 21.0 NAIT/SAIT SKU 20022327
- Tool Theory TOOL 383 SKU 20106898

Individual Learning Modules (ILMs) for the Machinist trade may be ordered through the Saskatchewan Polytechnic Bookstore Call Centre: 1-866-569-8398 or through <https://ilm.nait.ca/home> under Machinist.

**Those studying for their Interprovincial examination may wish to refer to other Level booklists for additional study materials.**

\*Unless otherwise noted, books listed here are available through the Saskatchewan Polytechnic Bookstore Call Centre: 1-866-569-8398

NOTE: Textbooks **are not** usually available from libraries. When textbooks are being purchased, candidates should allow several weeks for delivery and several weeks for studying.

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This information is subject to change without notice.

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